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VOLUME VI
JULY–DECEMBER, 1903

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AMERICAN-MEDICINE PUBLISHING COMPANY

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PHILADELPHIA

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PUBLISHED WEEKLY AT 1321 WALNUT STREET PHILADELPHIA BY THE AMERICAN-MEDICINE PUBLISHING COMPANY

VOL. VI, No. 1. JULY 4, 1903. $5.00 YEARLY.

"The Demise of the Philadelphia Medical Journal."—There seems a remarkable and unexplainable difference of opinion as to the cause of the death of the *Philadelphia Medical Journal*. If correctly reported, the president of the publishing company says that the cause of the death was "too much ethics." The late editor-in-chief, if we epitomize his statements correctly, is of the opinion, to put it mildly, that the cause was "too much commercialism." The undertakers of the demised journal seem certain that there has been no death, only a transmigration, translation, or transfiguration. The diagnosis of "too much ethics" throws a deal of reflected light into the minds of many diagnosticians and into many editorial sanctums. Naturally, the layman who makes this diagnosis cannot mean that death came from living too rightly, from too much morality—that is admittedly impossible—but means that those responsible for the homicide had false ideas and ideals of morality, bad methods of slaughter. And more than all, he means that a professional journal, in order to avoid death, should divert its advertising and reading columns to the exploitation of antiprofessional commercialism. The editor-in-chief should know what killed his journal, and he states that his journal died precisely and only because its officers were not allowed to carry out such vicious exploitation. This would seem, while attempting to controvert, to make the diagnosis of "too much ethics" in a way appear true. There is only one way out of such an incomprehensible condition. It is demonstrated every week that journals owned and controlled by commercial interests may be great financial successes through the frank business sale to the highest bidder of the editorial, reading, and advertising columns. It is equally well proved that professionally owned journals may more than pay expenses by refusing to do this. To do both things at the same time is impossible, is hypocrisy; has ended, and will forever end in disaster. The medical journal cannot serve both the God of right living and high ideals and the Mammon of commercialism. The two are distinct; and that their journalistic exponents must be so, this one disastrous experiment has proved. The chapter is closed.

Life Insurance Companies and the Public.—The public should open its eyes to an encroachment upon its rights which has grown up under the guise of a blessing. Life insurance is undoubtedly a great scheme and a boon to those who benefit by it. But the object of the life insurance companies, just like that of the merchant, broker, or speculator, is not the conferring of blessings upon certain members of the community, but the making of money. No fault can be found with them for that, so long as their business from the medical aspect (and we only concern ourselves with that aspect) is carried on (1) without infringing the privileges of the applicant, *i. e.*, the general public, and (2) in accordance with the established standard of medical etiquet. The medical examiner of a life insurance company holds the fate of applicants absolutely in his hands. He may be an experienced or an inexperienced physician, or he may from ignorance, carelessness, or honest mistakes be prompted to diagnose a symptom adversely to the applicant, with the consequence that the latter, may he be ever so healthy an individual, will by the blunder of the examining medical man be debarred from enjoying the privileges of an institution to which he is as much entitled as any of his more fortunate fellows. There are, *e. g.*, numerous cases on record in which the presence of certain urinary constituents were mistaken for glucose, a careless decision which a really competent man would never have passed; many other similar occurrences might be cited. And yet on the mere uncorroborated statement the applicant's fate is decided. This is bad enough, but conditions are rendered worse by other practices of the life insurance companies. If in any other walk of life a person desirous of purchasing an article finds that he cannot procure it at one place nothing prevents him from obtaining it somewhere else. Not so in life insurance; here the failure of the initial quest frequently precludes him from succeeding on subsequent ones. Not only have applicants to state whether they have been rejected by any other company, but the company already possesses that knowledge from the lists of rejected candidates they exchange.

Violation of Professional Secrecy.—Upon request, life insurance companies freely interchange copies of the medical reports about any given applicant, while the latter is under the impression that such data obtained by private examination for the purpose of obtaining insurance in this one particular company at a specific period, will of course be treated as confidential matter. This is

by no means the case. What company would be audacious enough to tell applicants that it is understood that they assume and exercise the right of freely disseminating these private and confidential papers? As it is, the medical examination is already a sore point to many applicants, especially ladies, and if there was the merest hint that their infirmities were not treated as inviolable secrets, this would preclude negotiations on the part of the insurable public. This euphemistically baptized operation of exchanging "courtesies" does not take place between the companies as such, but between their medical directors who make the request for copies of the medical reports in their capacity as "colleagues." Is there any decent medical man in the world, outside of the life insurance business, who would comply with a request of that kind? Is there the slightest question that compliance with it would be tantamount to an unequivocal violation of professional secrecy? Then whence comes the right to deviate from the universally established standard of professional etiquet in favor of life insurance companies, which are business institutions, like those of any bankers or merchants? Financial institutions certainly refuse to run undue risk, and it is no more than proper that life insurance companies should do the same, but they have no right in order to attain that end to deprofessionalize their medical officers.

A Life Insurance Trust.—It is comparatively rare that an applicant who has been refused by one company is accepted by another, although it is possible, for instance, that the presence of abnormal constituents in the renal excretions considered by the first—less experienced—examiner as sufficient cause for refusing the application, is looked upon by the second—more experienced—man as of no special significance. Even temporary disturbances, present on the first but not on the second occasion may, after receipt of the copy of the first medical report, cause the rejection of the second applicant. For it appears to be the rule of the companies nearly always to accord preferential belief to the least favorable report, regardless of possible mistakes, blunders or other animadverting causes. It will thus be seen that the life insurance companies practically form a trust among themselves, operating in a way absolutely to exclude a large percentage of the community from the benefits of what may be termed a public institution. There is thus generated a trust inciting to a breach of trust in the daily pursuance of their business!

Medical Reforms in Life Insurance.—To remedy the state of things described, the people have a right to demand: 1. That the insurance department of every State create a special medical board to supervise the medical departments of the life insurance companies, and to examine and license physicians who wish to devote themselves to life insurance work. 2. That the medical departments of the insurance companies shall be forbidden to communicate to each other any knowledge as to the physical condition of an applicant obtained through his examination; that such a communication shall be considered a breach of a privileged communication; that it shall be deemed a conspiracy between the insurance companies in thus imparting and receiving such communications, and be punishable as such.

The following propositions, if constitutionally authorized, would still more assist the advocated cause: (*a*) That each and every insurance company file an authoritative statement with the State Department of Insurance setting forth its clauses of insurance, its standards and limits for the acceptance of applicants; (*b*) that the State Department of Insurance may deputize one or more physicians to inquire into the state of health of a rejected applicant, provided the same applies to the department on a prescribed formula, signed by two reputable practitioners of medicine who state why an official examination should be made; (*c*) that the insurance companies be compelled to insure the applicant if the medical examination ordered by the department of insurance pronounce him eligible, and that he shall enter that class of insurance for which he is conditionally qualified.

Fish Diet and Leprosy.—Unwholesome fish used as food has long been claimed by Mr. Jonathan Hutchinson to be the cause of leprosy. His persistent and insistent advocacy of this view, we had almost said *his* view for he practically stands alone in this respect, has brought upon him severe criticism. Notwithstanding, he serenely and frequently adduces new evidence. Late issues of English journals contain a brief account of Mr. Hutchinson's recent trip to India in search of information on the subject in question. He partially went over the ground covered 12 years ago by the special commission appointed to investigate leprosy in India and claims to have exposed many fallacies that might easily mislead the members of a commission. Among these are mentioned the statements of medical superintendents of leper asylums that certain inmates, previous to the contraction of the disease, had eaten no fish. Personal questioning of these individuals in one asylum reduced the number from forty, as reported, to one. The prevalence of leprosy among the fish-eating people of certain islands and the few cases among the inhabitants of neighboring islands whose surrounding waters have no fish is considered to be a strong support of the theory. According to the *Lancet* Mr. Hutchinson's general conclusion is that as regards leprosy in India there are no facts which controvert or render untenable his hypothesis and there are some which afford to it a support that he considers unassailable.

To our mind the most significant point presented by Mr. Hutchinson is that regarding the Salsette Christians. Among these people leprosy has greatly increased since their conversion and adoption of the food of Christians. This is particularly true of those who have adopted Catholicism. In a certain leper asylum there should be, in proportion to the population of the district supplying it, 1419 Hindus, 372 Mussulmans and 9 Christians. The actual numbers are 365 Hindus, 45 Mussulmans and 60 Christians. Other asylums show like proportions. In short, the change to Christian food by the poorer classes of India has been powerfully productive of leprosy. These apparent facts require careful investigation to determine their true value. After all, the point that

needs elucidation is the manner in which fish, or diseased fish, cause leprosy. The chairman of the meeting at which Mr. Hutchinson presented his findings spoke wisely when he said that until the lepra bacillus was demonstrated in the fish in question there was little use in carrying on discussions.

Birds of a Feather Quack Together.—With the invitations to attend the commencement exercises of a quack nursing school is enclosed a two column long mixture of sentimentalism and high-falutin' writing cut from what is said to be a New York medical magazine concerning the angelic, almost divine, certainly superhuman "ministry" of Miss Clara Barton. As to the President of the Red Cross and the recent sorry history of this sorriest of organizations we recently presented a little summary. From the "medical" editorial we learn that Miss Barton is to speak of the advantages of proprietary medical schools over those supported and endorsed by the medical profession, of theoretic over practical instruction in nursing; of short courses over long ones, etc. It is not put just that way in the program and in the "medical" editorial. Instead of that it is said that, Miss Barton feels that "the schools" trained workers may become of more importance to the country than the entire National Guard." She will therefore speak regarding "This Dawning Opportunity of Womanhood." Surely there is some error here: one would say that the giving of testimonials for newspaper puffs of patent medicine nostrums, and at least the accounting for Red Cross funds, is of as great importance as the products of proprietary nursing schools? However, all three are to disappear, for says the "medical magazine" editorial:

> Women always work best under the shadow of the cross, even though it is a red cross—stained with blood and wet with tears. But He whose blood first stained the Cross shall by and by wipe away all tears, and there shall be no more crying, no more disease, and no more death. Even now it appears that physical ills can be greatly diminished, suffering lessened and death postponed.

The Drug Store and Its Soda Water Fountain.—The degeneration of many of the modern commercial drug stores is evident in their accepted function of distributing agencies of the nostrum manufacturers. But it now turns out that in the materials furnished by themselves at their soda water fountains there is fraud and possible injury to health. The investigation of the Illinois Pure Food Commission, says the New York *Evening Post*, shows that chemicals injurious to health are freely used, at least in Chicago. Not only are acids such as salicylic and benzoic and the preparation known as formalin utilized as preservatives of syrups and fruit juices, but aniline dyes are not uncommonly employed for mere purposes of coloring. The arrest of a number of Chicago drug-store proprietors will probably follow the investigations being made by the commission. In one of the places visited the interior of the tank was covered with verdigris. A bottle of flavoring extract labeled "extract of banana," was found to be composed of amyl acetate, a chemical substitute for the banana flavor, and salicylic acid, used as a preservative, while there were indications that aniline dye had been used to strengthen the color. A half-dozen other drug-store fountains in the same district were inspected, and some "pure-fruit" flavors were taken for analysis. It has generally been supposed that flavors of which the fruit itself was a part could not be impure. The Pure Food Commission's chemists have demonstrated that this is not true. Some of the analyses show an even greater degree of acid and dye in the fruit flavors than in the extracts. "Pure fruit" strawberry and cherry samples were found to contain reddish aniline dye to maintain the color of the fruit and benzoic acid to keep it from decaying. How can the drugs of the prescription department of these "pharmacists" be trusted when they are thus proved dishonest in the articles of food or drink supplied by themselves?

A Homeopathist on High Potency.—Even *similia* is no longer held sacred by the modern followers of Hahnemann and "the single drug" is ridiculed by almost all. "Psora" has of course no longer any vogue and there remains only the high potency theory upon which to base a "school." But Dr. Shrewsbury (*North American Journal of Homeopathy*, March, 1903) thus disposes of that:

> If there is any idea that the high potency contains enough of the drug whose name it bears to produce a medicinal effect we would call attention to a simple calculation in round numbers which shows where we land. If we were to take one grain of crude arsenic and triturate it all up to the thirtieth we should require this quantity of sugar of milk—63 quintillions 775 quadrillions 510 trillions 204 billions 081 millions 632 thousand and 653 decillions 061 nonillions 224 octillions 489 septillions 795 sextillions 918 quintillions 367 quadrillions 346 trillions 938 billions 775 millions 510 thousand 204 tons. These are not the stingy, short tons which the coal man gives us either. They are long tons avoirdupois of 2,240 pounds each. The 200th would require nearly seven times as many figures.
>
> We have made bold to speak thus plainly because we feel that the high potency idea, both in theory and practice, is a mistake, a delusion, an infatuation; because we are a homeopath full of belief in the past and future of our system, and because nothing has so retarded the general acceptance of homeopathy and brought so much ridicule and derision on its followers as this same high potency business—a derision which is just, a ridicule which is deserved.
>
> If these considerations and reasonings can be overthrown we are satisfied. Let them go. If they cannot be we will instantly recant what we hold and have said. We ask not an exact demonstration, but give us some reasonable argument, some analogy in nature to which trembling fingers of faith may cling.

This seems needlessly cruel, but one cannot forbear inquiry as to the further existence even of the grin of the Cheshire cat. In a city of brotherly love certain wards of the city hospital have been given over to the charge of homeopathic physicians. The test of therapeutics is not the sole, though an important one, for obvious reasons; one cannot therefore prevent the inquiry as to the distinctive kinds of treatment to be instituted; without such conditions clearly set forth of what value can the test have? The time has come to ask, *what is homeopathy?*

Murder, Mania, and the Sale of Poisons.—There are constantly appearing accounts of murders, suicides and self-drugging which witness to the evils of the

unrestricted sale of poisons. A particularly morbid and nauseating tale comes from a Michigan town in which a woman is believed to have killed eleven persons by strychnin. It would appear as if she was able to buy the poison as easily as baking powder. The creature's confession is in part as follows:

I didn't intend harm to any of them; I did give the baby the strychnin. It woke up and cried while its mother was gone, and I mixed up a little strychnin in a glass with some water, and gave a spoonful to the baby. I didn't mean to harm the little thing at all. I confessed all to the Lord this afternoon and I feel that he has forgiven me. I really didn't mean to harm any of them. When Gertrude came home and found the baby dead she got awfully nervous. She came to me and said: "Mary, can't you give me something to quiet me, something that you take yourself?" I said that I would, and I really didn't think that it would hurt her if I gave her one of the capsules. She had spasms right after that, and I suppose that it was the strychnin that killed her. I really didn't mean to hurt her though. Then John seemed to feel so bad about it, so broken up, that I often thought after Gertie died that it would be better if he were to go, too. John was feeling bad one night a couple of weeks after Gertrude died. He came to me and wanted something to quiet him. I had two or three of the capsules on my dresser, and I told him to go and get one of them. I didn't mean to hurt him, but I thought that it would soothe him, and then I thought it would be for the best if he were to go anyway. He helped himself. I don't know whether he took one or two. Then he went to bed, and by and by he called me. Mother came, too, and he began to have those same spasms. I suppose that the strychnin was working.

Tetanus and the Toy Pistol.—During the first two weeks of June eleven cases of tetanus were reported in Pittsburg and immediate vicinity. With one exception the wounds were caused by the blank cartridge or toy pistol, and a large majority of them were inflicted on Decoration day. Ten of the victims were boys from seven to seventeen years of age, and many of them had not been attended by a physician until the acute symptoms developed. The incubation period in these cases was from five to fourteen days. Considering the large number of accidents that occur in that city every year, the deathrate from tetanus has been comparatively low. For the thirteen years ended January 1, 1903, eighty deaths were reported, and for the five months preceding June only two deaths occurred. Following July Fourth we are certain to see a number of cases reported in every large city. Every precaution should be taken with wounds caused by explosives however trivial they may appear. The wounds made by wads from blank cartridges are most frequently in the palm of the hand, and are much deeper than one would be inclined to think. They usually go down to, if not through, the palmar fascia and contain paper, of which the wads are made, together with more or less burnt powder. The tetanus bacilli or their spores are thus carried deep into the wound, the nature of which greatly facilitates their growth. Under no circumstances is one justified in continuing to treat a patient who will not allow thorough opening and cleansing of the wound. As a further prophylactic measure, from 5 cc. to 10 cc. of tetanus antitoxin should be injected.

University of Iowa.—Dr. Walter L. Bierring, of the University of Iowa Medical Department, has been appointed to the chair of theory and practice of medicine and clinical medicine, *vice* the resignation of Doctor Littig.

AMERICAN NEWS AND NOTES.

GENERAL.

American Congress on Tuberculosis.—A circular has been sent out by the secretary of the Congress to the members of the medical profession, stating that after a conference of the officers of the advisory committee at the meeting at New Orleans in May it was decided to change the plan for a meeting of the Congress at St. Louis in 1904, to a meeting in Washington, April 4, 5, 6, 1905. The particular reason for this change was that a number of members would probably be absent at the International Congress on Tuberculosis in 1904, and would thus be prevented from attending the meeting which was contemplated at St. Louis.

Reward Offered for the Discovery of Foot-and-mouth Disease.—Hon. James Wilson, Secretary of Agriculture, has caused a careful investigation to be made in the New England States, where foot-and-mouth disease prevailed and no case was found. In consequence, and to make sure that the disease is thoroughly and effectually stamped out, he has decided to offer a reward for each case reported up to July 1. His statements with reference to the reward are as follow: "A reward of $250 will be paid to any person who shall, before June 30, 1903, first report to the chief of animal industry, Washington, D. C., the existence of any specific case or cases of foot-and-mouth disease (epizootic aphtha) in any animal or animals in either Massachusetts or New Hampshire. The nature of the disease must be confirmed by the inspectors of this department."

Tuberculosis and Other Diseases in Cuba.—The monthly report of Dr. C. J. Finlay, chief sanitary officer of Cuba, has been made public. In part it says: "The showing for 1902 and the beginning of 1903 is very satisfactory, not only in regard to the complete exemption from yellow fever and smallpox, but also in the number of deaths from malaria and in the total mortality. There has been no smallpox on the island since July, 1900, nor yellow fever since September, 1901, and the progressive decrease of malaria has continued without interruption. The condition regarding tuberculosis is not, however, so satisfactory. There has been an increase of 5% to 6% in deaths from that disease in each of the years 1901 and 1902, and at the present time the proportion of deaths from that cause to the general mortality amounts to over 16%. The Superior Board of Health is making serious efforts to increase the efficiency of sanitary measures in that direction."

Loss of Life in the First Half of 1903.—The following gives a brief review of the loss of life from various disasters in the first half of 1903, but makes no mention of the enormous loss of property and of suffering aside from the fatalities: On January 27, at Westfield, N. J., a railway collision occurred which killed 23 people; on February 19, a trolley car collision occurred at Newark, N. J., killing 9 persons; on March 20, a collision occurred on Long Island Sound between two boats in which 6 persons were killed; on April 9, a tornado in Arkansas and Alabama killed 21 people; on April 29, a landslide occurred in S. W. Alberta, Can., which killed 56 people; on May 30, and the following days floods along the Missouri and Des Moines rivers caused the death of 75 people; on June 1, the tornado at Gainesville, Ga., killed in the neighborhood of 100 people; on June 6, at Clifton, S. C., a cloudburst killed 58 persons; on June 8, the breaking of a levee at Granite City, Ill., on the Mississippi river, killed 35 people, and on June 9, an embankment broke at East St. Louis, by which 30 persons were lost; on June 14, a cloudburst at Heffner, Ore., caused a loss of life which is estimated at 500 persons.

Bids for Opium Privileges.—As previously stated in these columns, the Philippine government is preparing to sell to the highest bidder the privilege of handling opium in the archipelago. It is stated that this contemplated action is based on the theory that it will restrict the use of the drug to Chinamen, who are accustomed to its use and prevent its indiscriminate sale to Americans and Filipinos. Colonel Edwards, chief of the Bureau of Insular Forces, has the following to say of the plan: "Opium is now smuggled into the islands in immense quantities and sold almost openly to Americans and Filipinos, as well as to Chinamen and Chinese half-breeds. The bidders will be confined to Chinamen, and the highest bidder will get the privilege for a year. Public hearings on the subject have been going on in the Philippines for three months, and no better plan could be suggested. After the privilege is sold opium can be sold in the Philippines only by the Chinaman who gets the contract and his agents. The contractor will be under heavy bonds to guarantee compliance with the restrictions imposed and so will his agents. They can sell the drug only to Chinamen more than 25 years old who have used it all their lives. All the opium will pass through the custom house and pay duty. Any one can import opium, but it can be sold only by the successful bidder for the privilege of handling it and his agents. I presume the sale of the privilege will bring $100,000 or more. The proceeds will be devoted to sending Filipino youths to the United States to attend school, to build schools and other educational purposes."

NEW YORK.

Trachoma Epidemic in Buffalo.—News from Buffalo states that trachoma is epidemic in that city. According to the statement of a Marine-Hospital official over 100 cases of the disease has been found among the employes of the Lackawanna Steel and Iron Company. It is believed that the disease was brought to Buffalo by foreigners coming by way of Canada.

Antitoxin for July Fourth.—The Bulletin of the State Health Department of New York states that the department will furnish antitoxin for use in cases of Fourth of July gunshot wounds to those who apply. It also states that the antitoxin laboratory will, this summer, cooperate with the Rockefeller Institute in investigation into the cause and treatment of dysentery.

PHILADELPHIA, PENNSYLVANIA, ETC.

Lorenz Operates in Philadelphia.—Professor Adolph Lorenz operated June 29 at the Jefferson Medical College Hospital on two patients having unilateral congenital dislocation of the hip-joint.

Milk Inspectors Named.—Dr. Martin, of the Health Department, has announced the appointment of the following four additional milk inspectors: Frederick Hublitz, John P. Dougherty, Geo. Kearney, and George W. Winters.

Meningitis at League Island, Philadelphia.—Cerebral spinal meningitis, from which several sailors at League Island Navy Yard suffered some weeks ago, still continues to some extent. An additional case has been reported on board the torpedo boat destroyer "Hull."

A Spitting Ordinance.—Superintendent Quirk has issued an order to the police lieutenants requiring a strict enforcement of the ordinance which prohibits spitting on the sidewalks, in public conveyances, or public resorts under a penalty of $1 for each offense. Few arrests have been made so far, but the authorities are determined to enforce the ordinance.

Smallpox Chart for Philadelphia.—The officers of the Health Department, owing to the spread of smallpox and the recent rapid increase in the number of cases, are preparing a chart of the city which will show the wards in which cases of contagious diseases appear, which will thus enable the officers to direct more efficient means against the occurrence of them.

Victims of Beriberi Blame Food.—The five sailors afflicted with beriberi, who were landed from the Dutch bark "Amsterdam" at the Delaware Breakwater some days ago, are still in quarantine at Lewes, Delaware. They assert that their illness is due to bad food and salt meat and that they were stricken with beriberi three weeks before the vessel reached the breakwater. Despite their illness they were compelled to continue at work.

Lack of Funds for Health Bureau.—Dr. Abbott, of the Health Bureau, is quoted as saying: "Typhoid fever and smallpox will increase to a very alarming degree unless the Health Bureau has sufficient means to combat them. Money is also needed to keep up the standard of meat and milk. Most of the milk that is sold in this city today is diseased and breeds sickness. To overcome this it will be necessary to increase the number of inspectors."

To Combat Typhoid Fever.—Director Martin has conferred with his associates regarding typhoid fever conditions. It was decided that some action should be taken at once to lessen pollution of the Schuylkill river, and thus of the city's water-supply, and accordingly a trip was planned to be taken by the city's health officials to towns along the river. It will be the purpose of the inspecting party to induce the governments of towns, the sewage or harmful substances of which are emptied into the Schuylkill, to adopt means by which this polluting material may be made harmless by some oxidizing agent.

Appeal for Aid.—Pursuant to a meeting recently held the following is in part that which was signed by the Mayor as chairman and given to the public:

The recent information received by this committee from Kansas City and Topeka state that the sufferings and distresses are more widespread than has been generally known, and that the floods will leave in their trail much sickness and many deaths. The need of assistance is very urgent. Information from presidents of western banks have verified this information. The Citizens' Permanent Relief Committee of Philadelphia has, through the generous citizens of Philadelphia and vicinity, relieved famine, fire, epidemics of disease of all kinds throughout the entire world. At the time of the terrible flood at Johnstown the people of Kansas and the West responded most liberally and promptly to its appeal. We have never appealed to the citizens of Philadelphia in vain when a calamity has overtaken our fellow-citizens in our own or foreign lands, and we ask for immediate and liberal contributions. The funds of the Citizens' Permanent Relief Committee have been entirely exhausted. Contributions made will be used for the relief of those in distress in the flooded districts, and we trust this will enable the committee to replenish its reserve fund, so essential in emergencies. Contributions and checks should be sent and made payable to the order of Drexel & Co., Treasurers.

The Board of Education Committee on Hygiene Have Adopted Rigid Rules Respecting Applicants for Teachers' Certificates.—Applicants will be required to sign blanks specifying whether they have been ill within the year previous, whether parents, brothers, sisters, or roommates ever had tuberculosis; whether troubled with any diseases of throat, eye or ear, and whether addicted to the use of narcotics or spirituous liquors. A physician familiar with the applicant's health record will also be asked to state whether the prospective teacher has had tuberculosis, leprosy or contagious diseases of the skin or mucous membrane, any irremediable defect of hearing, or any disease which would probably disqualify the applicant from performing satisfactorily the duties of teacher.

Pasteurized Milk for Philadelphia's Poor Children.—Nathan Straus, of New York, who recently presented to Chicago a plant for sterilizing milk and furnishing the same to the city's poor children, has presented a like plant to Philadelphia, which is to be installed at once and the distribution of sterilized milk to the children begun. Mr. Straus is quoted as saying to a Philadelphian: "I am now ready to install the plant. I want you to study the work under my men so that you will be able to take charge of it, as I have no man to spare owing to the work of getting the Chicago plant ready. You must do this work on a big scale to be at all successful, and your city needs a big work." The work is to be carried on after the plant is installed by public subscription. An appeal is made to the generosity of Philadelphia to continue the work.

The New Castle Medical Society Advocates "Press Committee."—The New Castle County Medical Society of Delaware, held its annual meeting June 19, and the appropriate officers were elected. Provision was made to have within the Society a "Press Committee," whose function shall be to write as occasion may demand popular articles on important medical subjects, particularly hygiene and sanitary science; (2) to control so far as possible the reporting of medical news in the local papers: (3) to endeavor to influence lay editors in favor of properly handling medical subjects editorially and otherwise. The suspicion of self-advertisement, which is attached to signed articles written by medical men, will thus be avoided, since any article written by a member of the Press Committee will simply be signed by "The Press Committee," and the public will have no knowledge of the individual writer.

SOUTHERN STATES.

Big Sanitary System for New Orleans.—In the presence of a large assembly of citizens, Mayor Paul Capdevielle has turned the first spadeful of earth in the work of constructing a vast system of sewerage, water, and drainage for New Orleans. The total cost roughly is $18,000,000, and the undertaking is to be finally completed within the next five years. There are to be built such systems of sewerage and water supply as only have been developed in other cities of similar size by gradual growth extending usually through several generations. They will ultimately accommodate more than double the present population.

WESTERN STATES.

Announcement.—The next annual meeting of the Academy of Ophthalmology and Otolaryngology (formerly the Western Ophthalmologic and Otolaryngologic Association) will occur in Denver, Colo., August 24, 25 and 26, 1904.

Ordinance Respecting Hospitals in Chicago.—The council passed the ordinance modifying the terms under which hospitals for contagious diseases, and all hospitals other than general ones like Mercy and the Presbyterian are to be operated. The present ordinance requires the consent of all the frontage on both sides of the streets to operate such hospitals in blocks which are three-fourths residence districts, and the amended ordinance reduces this consent to a majority of the frontage on both sides of the street. It was explained that under the present law it was impossible to get the necessary consent. Alderman Novak got in an amendment that all buildings over two stories must be of fireproof construction.

Mortality of Michigan.—During May, 1903, the total number of deaths returned to the Department of State was 2,733. This number was 12 fewer than the number returned for the preceding month. The deathrate for the month was 13.0 per 1,000 estimated population. Deaths at certain ages were as follows: Under 1 year, 447; 1 to 4 years, inclusive, 173; 65 years and over, 818. Important causes of death were as follows: Tuberculosis of lungs, 199; other tuberculosis, 29; typhoid fever, 42; diphtheria and croup, 45; scarlet fever, 25; measles, 28; whoopingcough, 34; pneumonia, 254; cancer, 125; accidents and violence, 205. There was 1 death from smallpox during the month in the city of Detroit. There were 3 deaths reported from lightning.

For Pure and Wholesome Milk.—The Bulletin of the Chicago Health Department says: "The increased public interest in the work of improving the conditions of Chicago's milk supply, which the department has been pursuing during the past six or seven years, is gratifyingly shared in by the

milk producers, shippers and dealers themselves. The current issue of the *Milk News*—the organ of the milk industry—quotes an 'experienced dairyman' as expressing surprise that milk can be sold at all in Chicago 48 hours old and after traveling 100 miles or more under the usual conditions of the railways, and indorses the remarks of State Analyst Eaton in a recent address before the Illinois Dairymen's Association: 'If every milk train entering Chicago were equipped with refrigerator cars, especially built to handle the milk traffic; if every milk station were equipped with coolers and a steam sterilizing plant for empty cans; if dealers were required by law or ordinance to wash cans before returning to train, a great improvement could be made in Chicago market milk, and at little, if any, additional expense to the consumer.' Each of these conditions is important, but the most important is the refrigerator car. As the editor asserts, 'Chicago has the poorest transportation facilities for bringing in milk of any city of its size in the country. And yet it might be supposed that the magnitude of the traffic would ensure that the transportation facilities would be the best."

Milk Committee Report.—The preliminary report of the milk committee of the Chicago Medical Society appointed some time ago is as follows:

There are 628,000 quarts of milk supplied to Chicago daily, a per capita quantity of approximately two-thirds of a pint. To produce this some 50,000 cows are required, or between 5,000 and 6,000 dairy farms. At present the chemic quality of the city's milk is under control of the Department of Health. By persistent vigilance a good quality from the chemic standpoint is easily maintained. Now only one sample is found below grade to 10 or 15 found below grade at the beginning of the inspection 10 years ago. Bulk milk will vary most in quality from the irregular mixing. Bottled milk is uniform because a large volume is mixed and filled quickly into bottles. Few persons know of the skimmed milk tag, and many, therefore, get low grade milk, while the dealer is protected against prosecution. Today coloring, or preservatives, are rarely found in milk. What is lacking is sanitary control of the dairy. We can force the farmer to change present uncleanly methods only by educating the public to purchase such milk as has been produced under most approved sanitary methods.

In its instructions for the home care of milk the report says:

No milk should be accepted unless bottled and sealed and delivered from wagons with coolers. The bottle should be placed immediately on ice, or, in the absence of ice, should be wrapped loosely in old newspapers and kept in the coolest corner. Never remove more milk or cream from the bottle than is needed for immediate use, and replace the cover at once. The cover should be handled with a clean fork.

Dr. Hutchinson's Method of Sterilizing Chinatown.—From his report to the Oregon State Board of Health of the plague condition in San Francisco, we quote Dr. Hutchinson's recommendation as to the cleaning of Chinatowns:

Yet it is my profound conviction, from a careful daily inspection of the district covering nine consecutive days, that Chinatown can never be cleaned except by fire. Sterilization by dry heat at 400° is, in my judgment, the only cure for its filthy condition; and the same may be said of our local Chinatown in Portland, and also that in Seattle. This has been now officially recognized by the State Board of Health of California and several schemes are on foot looking to the transplanting of the Chinese swarm to a new hive, which can be both built according to the most stringent sanitary specifications, and regularly patroled, the present buildings to be condemned by the city, torn out and destroyed, and the space converted into a park. This, in my opinion, is not only the ideal, *but the only practical and safe course*, not alone in San Francisco, but also in Portland, in Seattle, in Los Angeles, and in every American community, where the Chinese colony exceeds 1,000. We might just as well endeavor to secure an ideal sanitary condition in a rat hole, or an oldfashioned bee-gum, as in the rookeries which the Chinese will make out of the ordinary business building. In our own Portland Chinatown there are rooms not to exceed 10x12 feet, which have neither windows nor air shafts, nor connection with the outside air of any sort or description, save a door opening into a dark passage barely 30 inches wide, and 30 feet long, which opens into a very moderately lighted hallway. In such a Black Hole of Calcutta as this, from five to seven Chinamen will live, cook, eat, and sleep. No white man, I am satisfied, could live through the night confined in such a hole. Nor can we afford to dismiss the problem with the airy statement which we frequently hear, that the Chinese have become adjusted to such conditions and can live and thrive just as well in them as we do in our airier surroundings. I have frequently heard the statement from even physicians and health officers that the mortality of Chinatown was no higher, and in fact, indeed lower, than that of the rest of the community; but I find from a careful study of the figures of Dr. Blue for the San Francisco Chinatown that the mortality is 37 to 45 per 1,000 per annum, while the deathrate of the rest of the city is barely 20 per 1,000 per annum. And this discrepancy is still higher when we remember that the population of Chinatown is practically an adult male population, and under normal conditions should not show a deathrate to exceed 6 to 8 per 1,000 per annum. The same condition of affairs appears to hold true in Portland Chinatown. The deathrate there being from 30 to 40 per 1,000 per annum, while the general deathrate of the city barely exceeds 9 per 1,000 per annum. The truth is the actual mortality of the "acclimated" Chinaman in Chinatown is from *two to four times that of the rest of the community*, chiefly by tuberculosis (60%). These pest-holes are not only unsanitary in themselves, but a serious and constant danger to the whole surrounding community. I was horrified to find that a large percentage of the Chinese employed as servants in the city of San Francisco spend the day only at the home of their employers and go back to Chinatown to sleep at night; all the Chinese in the city, including those employed in laundries, hotels, restaurants, etc., spend all their spare time in Chinatown. The commercial relations between Chinatown and the rest of the community are alarmingly intimate. Just before my arrival in San Francisco, one of the most fashionable restaurants there had actually been convicted of buying its meat in the Chinese shops, and diseased meat at that.

FOREIGN NEWS AND NOTES

GENERAL.

The Plague Checked in Yokohama.—Only four cases of plague have occurred at Yokohama in five weeks, and there is no sign of the disease spreading in face of the drastic preventive measures taken by the authorities. There were 117 cases of plague and 99 deaths the week ended May 31 at Hong Kong. The number of cases to date is 678.

Apparently a New Disease.—Several deaths which have occurred in works erected at Clydach, near Swansea, for extracting nickel ore by the Mond process, have puzzled leading British physicians, who have gone there to investigate the matter. The men were evidently poisoned by gases or fumes, but the postmortem examinations showed no trace of poison, while the symptoms prior to death were unfamiliar and seemed to point to a new disease.

Suicide Among Doctors Increasing.—From London comes the following news: Suicides are increasing remarkably among the doctors in Great Britain, and the reason is not far to seek, according to statistician, who points out that a physician who might calculate on an income of over $2,000 a few years ago can count today in corresponding circumstances on only something above $1,000. Of the two chief causes of this depreciation of income the first and most important is the improved health of the country, as shown by the diminishing deathrate. The medical profession is working in these days of preventive medicine toward its own extinction. The second cause is the multiplication of universities, which are turning out more doctors than there is demand for.

OBITUARIES.

A. B. Richardson, of Washington, D. C., June 27, aged 56. He was graduated from the Bellevue Medical College, New York City, in 1876. A short time after he became connected with the Athens Asylum for the Insane in the capacity of assistant physician, which place he occupied for about three years. In 1881 he was appointed medical superintendent of the Asylum for the Insane at Athens, Ohio, remaining in this position for nine years. He then resumed private practice, establishing himself in Cincinnati until 1892, when he was chosen superintendent of the Hospital for the Insane at Columbus, Ohio. In 1898 he accepted an appointment as the superintendent of the State Hospital for the Insane at Masillon, Ohio, and opened that institution for the reception of patients. In 1899 he became superintendent of the Government Hospital for the Insane, and occupied this position until his death. He was a member of the Ohio State Medical Society, of the Medicolegal Society of New York, and of the American Medico-Psychological Society. He was elected president of the last-named oranization at the recent meeting of the American Medical Congress. Dr. Richardson was also a contributor to medical literature, writing a number of papers relative to insanity.

Columbus L. Redwine, at Atlanta, Ga., June 8, aged 71. He was graduated from the New York University in 1855, and served as a surgeon in the Confederate service during the Civil war.

Stephen J. Dunn, in Hartford, Conn., June 22. He was graduated from the Baltimore Medical College in 1896 and was a member of the Hampden and Massachusetts Medical Societies.

Millard Maybee, of Riverside, Cal., June 10. He was graduated from the faculty of Queen's University and Royal College of Physicians and Surgeons, Kingston, Ont., in 1887.

Nathaniel P. Washburn, formerly of Stamford, Conn., died in San Antonio, Tex., June 22. He was graduated from the New York University, in 1891.

Hiram K. Jones, of Jacksonville, Ill., June 16, aged 82. He was graduated from the medical department of Illinois College, Jacksonville, in 1846.

Chester W. Scott, in Lawrence, Mass., June 11, aged 71. He was graduated from the Hahnemann Medical College, Philadelphia, in 1854.

Andrew J. Newell, in South Webster, Ohio, June 5, aged 64. He was graduated from the Medical College of Ohio, Cincinnati, in 1866.

Theodore R. Noyes, in Kenwood, N. Y., June 1, aged 62. He was graduated from the medical department of Yale University, in 1867.

Christopher C. White, of Forest City, Ark., June 13, aged 32. He was graduated from the Vanderbilt University, Nashville, in 1892.

Grally Henderson, at Magnetic Springs, Ohio, June 9. He was graduated from the Starling Medical College, Columbus, in 1893.

W. A. Woollen, in Rondleman, N. C., June 5, aged 67. He was graduated from the Vanderbilt University, Nashville, in 1883.

John C. Halstead, of New York City, June 17. He was graduated from the New York University, in 1883.

SOCIETY REPORTS

SIXTH TRIENNIAL CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS.

Held in Washington, May 12, 13 and 14, 1903.

ASSOCIATION OF AMERICAN PHYSICIANS.

[Specially reported for *American Medicine*.]

THIRD SESSION (CONTINUED).

The Adrenal Gland and Its Active Principle in Their Relations to Cytolysis and Antitoxin Production.—A. C. ABBOTT (Philadelphia) from an experimental investigation to determine if the serum of rabbits immune from guineapig's adrenal glands possesed destructive affinity for the guineapig's adrenal *in situ*, and if the tolerance of rabbits to repeated injections of the active principle of the adrenal glands was or was not to be regarded as immunity in the sense of being an antitoxin, concluded that it is doubtful if the repeated intraperitoneal injection of rabbits with macerations of fresh guineapig's adrenals results in the elaboration of a substance in the rabbit's serum that is destructive to the guineapig's adrenals *in situ;* that the most marked effect of the injection of guineapigs with the serum of rabbits after such treatment is blood destruction. The hemolytic activity of the rabbit's serum for guineapig's erythrocytes is much increased; that in no case were the adrenal glands of guineapigs demonstrably affected, beyond more or less congestion, by the intraperitoneal injection of the serum of rabbits that had received repeated injections of guineapig's adrenals; that the serum of rabbits treated with guineapig's adrenals *in vitro* was actively hemolytic for guineapig's erythrocytes, and also caused more or less pronounced agglutination of fresh macerations of the adrenal glands; that the serum of rabbits immune from guineapig's adrenals differs from that of rabbits immune from guineapig's blood in being less toxic; that the remarkable variations in the susceptibility of rabbits to the toxic action of the active principle of the adrenal gland made it impossible to determine the minimum lethal dose of this substance by intraperitoneal injection of the substance in solution; that the repeated injection of rabbits with increasing doses of the active principle of the adrenal results in more or less tolerance, but the serum of such animals has neither more nor less neutralizing effect upon solutions of the active principle than has the serum of normal rabbits. That the condition is perhaps not one of immunity, and that it is questionable if antitoxins are elaborated as a result of such injections.

An Experimental Study of the Nephrotoxins.—R. M. PEARCE (Philadelphia) dealt with the effects of the injection of nephrotoxins in the dog, rabbit, guineapig, and rat. The socalled nephrotoxins were obtained by causing degeneration of the kidney in loco and by introducing kidney tissue under sterile conditions into animals of the same and different species. The blood sera from the inoculated animals was supposed to contain specific toxins for kidney cells—denominated auto, iso, and hetero nephrotoxins. The effects of these sera were studied by observations on the urine, examining microscopic sections of the kidney and by means of kymographion tracings. The results, so far as blood-pressure was concerned. were negative.

Studies Upon the Capsule of the Kidney.—S. J. MELTZER (for HAVEN EMERSON, New York) reported on observations on the changes following decapsulation of the kidneys of dogs and rabbits and studied the capsule of the kidney of the dog in its relation to absorption.

Report of a Successful Decapsulation of the Kidney.—JAS. TYSON and CHAS. H. FRAZIER (Philadelphia) reported a case of high grade, chronic, parenchymatous nephritis of long standing and following scarlet fever in a girl of 10. She had albuminuria with ascites and general dropsy. The abdomen refilled after a number of tappings and all efforts toward relief of the patient failed. Operation was performed upon the right kidney with beneficial effect upon the anasarca and the quantity and quality of urine. This was followed two months later by operation upon the left kidney with good results as before. The patient is now in apparently good health.

Discussion.—MCPHEDRAN (Toronto) reported a case occurring in the Children's Hospital in a boy of 10 with anasarca and ascites, who had been tapped several times. The result of the decapsulation was entirely satisfactory and the boy was apparently well. CUTTER had had three cases, two in adults and one in a child, in which the results of the decapsulation were eminently satisfactory.

Paroxysmal Hematinuria.—W. G. THOMPSON (New York) said that many of the cases considered had been produced solely by muscular fatigue, and not by exposure to cold or wet. Mental emotion was a factor in some of the cases. A large proportion had been in those having hereditary syphilis. The author concluded that it is a profound neurosis, and he referred incidentally to the necessity for diagnosis from malarial hematinuria, and gave some practical suggestions as to treatment.

Observations on Some Points in the Pathology of Thyroid and Parathyroid.—W. G. MACCALLUM (Baltimore) referred to the development of the conception of the independent nature of the parathyroids and the studies of their function as contrasted with that of the thyroid; the production of a specific cytolytic serum for thyroid and for parathyroid separately and the effects of the sera. He studied the effect upon the thyroid of extirpation of the parathyroids and the changes in the remaining parathyroids after partial parathyroidectomy, together with the nature of the symptoms resulting from complete parathyroidectomy. The results of the writer were discouraging so far as the production of a cytotoxin was concerned.

The Influence of Different Varieties of Fat on the Formation of and Excretion of Acetone.—E. P. JOSLIN (Boston) said that in his experiments the acetone in the urine and breath of a healthy individual was estimated as a control; it was then estimated in the same individual with the administration of tripalmatin, tristearin or triolein. Before starvation, 10 mg. a day was excreted; during the first day of starvation, 100 mg.; on the second day, 300 mg. With oleic acid the acetone increased to 900 mg. With palmitic and stearic acids, no increase. With sodium carbonate the increase was as great as with oleic acid. With triolein or tristearin the amount of acetone was less in the one case and the same in the other as in the control experiment. If fats are increased in diabetes it should be slowly on account of the increase of acetone.

Pulsating Empyema Necessitatis.—F. P. HENRY (Philadelphia) stated that this was a case observed in 1880, but not before reported in full. It had been referred to in the course of discussion at a meeting of the Philadelphia County Medical Society in 1881. There were three strongly pulsating tumors. The only other case in which there was an equal number being that of Chyostek, which figured as Case 28 in Wilson's series. There was coincident pneumothorax. The cause of pulsation in these cases was discussed, the author considering the most important factors to be left-sided and large effusion, paresis of intercostal muscles and somewhat forcible heart beat.

Pulsating Serous Pleurisy.—A. MCPHEDRAN (Toronto) detailed this case, occurring in a woman aged 50, with symptoms recurring after three aspirations. There was chill and fever, pleural effusion and pulsation on the left side. When at first aspirated it consisted of blood-stained serum, but was later purely serous. Pulsation in the axillary region was marked. The thoracic wall was not what would be termed paretic.

A Case of Extensive Pulmonary Infarction.—A. MCPHEDRAN and J. J. MACKENZIE (Toronto) reported the case of a man aged 55, with extensive infarction of the right lung, giving the history of the case in detail, with full account of the changes in the lung and other parts of the body.

The Third and Final Report of a Case of Presystolic Mitral Murmur, Complicating Pregnancy, etc., with Exhibition of a Specimen, Showing Triple Valvular Lesion.—JAMES TYSON (Philadelphia) stated that this case had been reported first in 1899, again in 1901, and this constituted the concluding report, with exhibition of the heart showing a triple lesion, viz., lesion of the mitral, aortic and tricuspid valves.

AMERICAN SURGICAL ASSOCIATION.

[Specially reported for *American Medicine*.]

THIRD SESSION (CONTINUED).

Thyroidectomy and Sympathectomy for Exophthalmic Goiter.—B. FARQUHAR CURTIS (New York) referred to the fact that the surgical treatment of this condition has excited much interest of late owing to the fact that medical treatment failed in many cases, although he believed if the disease had not progressed too far and the patients circumstances were such as to permit systematic treatment for a sufficient length of time, rest, hygienic measures, and proper medication will generally produce a cure, or at least hold the symptoms in check, but there are many cases amenable to surgical treatment that cannot be cured by medicine. However, this treatment is not unattended by dangers, especially acute exacerbations of the symptoms known as thyroidism, which is just as liable, however, to be produced by operation in any other part of the body. The various operative measures which have found favor are: 1. Thyroidectomy of one-half of the gland. Resection of a smaller portion and enucleation of the situs of the tumor appear to be much more dangerous in these cases on account of the greater danger of hemorrhage (Kocher). 2. Ligation of the arteries. 3. Erythyreopexy. 4. Excision of the sympathetic nerve or partial or total excision of the cervical ganglia. In conclusion, he stated that exophthalmic goiter could be cured by both thyroidectomy and cutting of the sympathetic, a perfect result being secured in about 60% of the cases of thyroidectomy, and an immediately good result appears to be the rule in excision of the sympathetic. Sufficient time has not elapsed to judge of the permanence of the cure, but the immediate results are far superior to those of thyroidectomy. The relative mortality of the two would seem to favor excision of the sympathetic (Kocher, 4 deaths in 59 cases of thyroidectomy and ligation only; Jonnesco, no deaths in 14 cases of bilateral excision of the sympathetic), although in his own cases the result is the opposite. He believed that local anesthesia should be employed, and excision of the sympathetic should be performed only on

one side at a time, a sufficient time being allowed to elapse for the patient to recover from the effects of the first operation.

Prostatectomy and Galvanocaustic Prostatotomy (Bottini's Operation); Their Present Status in the Radical Treatment of the Hypertrophied Prostate Gland.—WILLY MEYER (New York) summed up as follows: 1. The operations making a direct attack upon the enlarged prostate gland are preferable to those aiming to exert an indirect influence. 2. We have two useful operative procedures for the direct treatment of the enlarged prostate, *i. e.*, prostatectomy and galvanocaustic prostatotomy (Bottini's operation). 3. In selecting the method indicated in the given case, we must individualize and be guided by anatomic, pathologic and social conditions. 4. Prostatectomy is, of course, the most radical and most surgical procedure; it should be the operation of choice whenever promising success. 5. Perineal prostatectomy offers advantages over the suprapubic method, since it enables the operator to do the operation under the direct guidance of his eyes. 6. Debilitated patients who seem unfit subjects for the more radical operation should not be relegated to catheter life, nor should prostatectomy be performed in order "to let them down easy;" they should be advised to have Bottini's operation done. 7. Surgeons should familiarize themselves with both methods in order to be in a position to do justice to their patients. 8. It is the duty of those refusing to do Bottini's operation under any circumstances to nevertheless advise patients who ask for more radical relief to have Bottini's operation done, if the operation with the knife seems contraindicated. 9. Further carefully compiled statistics as to the late results of both operative procedures, preferably in the hands of one man, are desirable in that they will increase our knowledge with reference to the proper selection of the proper method of the individual case.

Diffuse Gonococcus Infection of the Entire Upper Extremity.—CHARLES A. POWERS (Denver) said his patient was a man of 28, who developed a very extensive phlegmon in the neighborhood of the right elbow-joint with concomitant swelling and edema of the entire limb from the pectoral region and shoulder to the ends of the fingers. The gonococcus was recovered from pus liberated by early free incisions and was also found in a thin serous fluid, which escaped at the sight of other openings. The course was protracted over many weeks, the patient recovering with stiffened joints. The author emphasized the fact that systemic gonorrheal infection may invade the tissues in wide variety, the gonococcus having been found in the peritoneum, the pleura, the pericardium, myocardium, endocardium, meninges of the brain and spinal cord, periosteum, perichondrium, muscles and tendon sheaths, bursas, fascia, the skin, the parotid gland, the kidney, and the blood-current as well as the joints.

Myositis Ossificans Traumatica.—J. F. BINNIE, (Kansas City, Mo.). Bone may be formed in muscle or tendons under several distinct conditions. There may be a process of ossification attacking one muscle after another—myositis ossificans progressiva—producing the ossified man of the freak shows. Oft repeated slight traumas give rise to bone growths in muscle or tendon. Examples of such growths are "rider's bone," "drill bone," "cavalryman's bone," "fencer's bone." Lastly, there is the socalled myositis ossificans traumatica, where a mass of bone forms in a muscle after a single injury. It is with this condition that the present paper deals, and the subject may be introduced by the recitation of an individual case. The case in question was that of Mr. O., aged 41. September 5, 1902, while boxing received a severe blow on right forearm and arm. Swelling and ecchymosis were marked but soon disappeared under domestic remedies, but two weeks after noticed tumor in upper arm and pain on extending elbow. At the junction of middle and lower thirds of arm there is a tumor which passes down toward elbow, and is elongated, hard, size of a large thumb, movable laterally not vertically, fairly tender, close to but not evidently attached to humerus beneath the biceps. There is no pulsation in the tumor, and no radiating pains. Elbow flexion is normal; extension slow and painful. On September 26, 1902, the tumor was slightly larger and disability greater. Incision was made over the tumor, and the tumor was separated from the muscle by blunt and sharp dissection. At its upper end it was attached to the humerus, but was easily separated by a blunt periosteal elevator, leaving an area of humerus an inch square denuded of periosteum but *not* rough, though the corresponding surface of the tumor was rough. A considerable part of the muscle was removed with the tumor. The tumor is hard, measures 2 inches in length by ⅝ by ½ of an inch. On longitudinal section it presents the gross appearance of a medullated bone with a narrow, red marrow cavity. Consistence is not very hard, can be cut with a knife but contains much gritty material. Microscopic examination by Dr. Frank Hall shows that there is no line of demarcation between muscular envelop and osseous center. It is composed of spicules of bone, islands of cartilages, normal and degenerated muscle fibers are seen lying in masses of intermuscular connective tissue. In parts bone is formed directly from fibrous tissue, in other parts cartilage is first formed. *Theories of Origin.*—1. Transformation of effused blood directly into bone. 2. Periosteal origin. (*a*) Severe blow. Pulping of muscle. Limited injury to adjacent periosteum. Proliferation of periosteal cells and their escape into pulpy tissue there to develop. (*b*) Muscle in action receives blow, some of its fibers tear periosteum off bone and pull the fragments into body of muscle where they develop. (*c*) Flap of periosteum is torn loose and develops in the muscle or becomes rolled up and forms a blood cyst. 3. Cahen's theory involves the Cohnheim doctrine of fetal remnants which when injured develop into tumors. 4. Ziegler assumes both for the progressive and traumatic variations of the disease a congenital diathesis so that muscles, tendons, fascias, etc., become endowed with the powers of the periosteum. Reichert thinks that all tissues, composed of cells lying in a ground substance, are morphologic equivalents each capable, under suitable conditions, of replacing the others. When the socalled myositis ossificans is limited to one muscle and is the result of a single trauma, there can be little or no doubt that the ossification may be due to the injured, *i. e.*, the stimulated, periosteum, but that this is true in all cases is hard to believe. In this case ossification is as advanced in the distal as in the proximal portions, around and throughout the tumor there is great proliferation of the intramuscular connective tissue, ossification is both of the fibrous and cartilaginous type, muscle fibers in every stage of degeneration are scattered here, there and everywhere, lying in the connective tissue, in among the islands of cartilage and hugged by the trabeculas of bone. There is no evidence of inflammation. If this case is one of purely periosteal origin, then the scattering of the periosteal cells or grafts must have been through a territory extraordinary in length and in latitude wonderfully limited. Its origin from a separated periosteal flap is simply inconceivable in view of its relations to the innumerable discrete and degenerating muscle fibers. Examination of even this one case forces one to admit the possibility and probability of the bone tumor being the result of proliferation and metamorphosis of the intramuscular connective tissue. Rothschild has only seen one case, where, as a result of trauma, there was isolated ossification of tendon, and he has found no reports of such cases, although ossification of tendon is the same in principle as that of muscle. J. M. T. Finney has been kind enough to report to me a case of osteoma in the tendo-Achillis apparently of traumatic origin. From current literature and personal communications Binnie has been able to collect 86 cases of traumatic osteomas connected or unconnected with the skeleton. Among these there are many considered, by the writers reporting them, traumatic exostoses. Undoubtedly many of the cases classed as "myositis ossificans traumatica" are truly exostoses and one may well consider all cases which are of purely periosteal origin to be such, but the difficulty or impossibility of clinically separating the tumors of one origin from those of the other makes it convenient to class them together and then, to avoid the introduction of theories into nomenclature we might label such cases "traumatic osteomas" connected or unconnected with the skeleton.

Method of Instruction in Surgical Pathology.—J. C. BLOODGOOD (Baltimore). See *American Medicine*, May 30, 1903.

Intestinal Localization.—GEORGE H. MONKS (Boston, Mass.) reported a series of investigations on 40 cadavers. The small intestine and mesentery in 24 of these cadavers were examined in reference to such characteristics of the different parts as might be of use in assisting the surgeon to determine the *position* of any loop of intestine in reference to the rest of the tube, and also to ascertain the *direction* of the tube in the loop (that is to say, which end of the loop was nearest the duodenum and which the ileocecal valve). Tests were made through various abdominal incisions on 16 other cadavers to determine with how small an error a loop could actually be localized. Of the 180 loops localized the average error proved to be about two feet. The attempt to ascertain the direction of the gut was made in 90 different loops in 15 different cadavers. In 8 the direction proved to be wrong; in 82 (or 91%) it was right. An intestinal loop was localized principally from the characteristics of the loop itself or from those of the adjacent mesentery, or from the relation of the loop to the deeper parts of the mesentery. The direction was ascertained by reference to the mesenteric root, which is an infallible guide, although on account of the twists in the mesentery it was occasionally difficult to properly apply the test. A number of diagrams were exhibited illustrating the characteristics of the different parts of the intestina tube and of the mesentery. The writer had on a number of occasions determined the position and direction of an intestinal loop on the living subject by this method with success, due allowance being made for the different conditions.

The Lesions that Augment the Development of Tetanus and Other Infections in Gunshot Wounds.—LOUIS A. LAGARDE (Washington, D.C.) expressed the opinion that the lesions would depend upon (1) the sectional area of the bullet; (2) its velocity; and (3) the resistance encountered on its impact. The greater the sectional area or velocity of the bullet, the greater will be the lesion. Hematomas especially predispose to infection and increase the danger from tetanus, as is also the case when the wound is burned by powder, etc. He reviewed the observations of Dr. Lardy in the Greco-Turkish war, and also contrasted the lesions made by the various kinds of bullets. He referred to the experiments of Muller and Koller, on which they essayed various methods of treatment of the channel track in gunshot wounds caused by projectiles that were primarily infected, namely: (1) Controls, for which nothing was done; (2) those treated with a glass drain; (3) those treated with iodoform gauze drain; (4) those

irrigated with 5% solution of carbolic acid; (5) those treated by rubbing with a cotton mop soaked in tincture of iodin; (6) those treated by cauterizing the wound. All the wounds were dressed with a clean sterile dressing, and the results showed that the animals treated by simple dressing did best of all, and that those treated by radical measures, such as swabbing with iodin and the application of the thermocautery, gave evidence of suppuration in every instance.

Note on the Operative Treatment of Old, Unreduced Dislocations of the Elbow.—EMMET RIXFORD (San Francisco, Cal.) remarked that the keynote to the situation was sounded by Stinson in a paper read before this Association in 1891, in which he showed that the socalled fragments of bone which had frequently been observed within the joint, while unquestionably the chief obstacle to the reduction of the dislocation, were in a great majority of cases not fragments broken off the humerus or ulna by complicating fracture, but newgrowths of bone from stripped up periosteum. He felt that if the bone be reduced to its normal position shortly after the injury, which is nearly always possible, the function is practically in every case restored, but if allowed to remain displaced until this new bone has formed, manipulative reduction is impossible, and should never be attempted if force is required. The reason that congenital dislocations treated by manipulative force recovered, he felt was due to the fact that this newgrowth of bone had not formed, and also that the operation being done in children the joint would often recover from the traumatism. He then reported cases in which he had employed the Kocher incision, but because of the difficulty in reducing the dislocation, and fear of loosening the peritosteum, he had added the procedure of Trendelenburg of section of the olecranon. He commented on the value of the x-ray as a diagnostic aid.

Drowning of Patients in Fecal Vomit During Operations for Intestinal Obstruction and Septic Peritonitis.—E. WYLLYS ANDREWS (Chicago, Ill.), after reporting two cases which had occurred in his own practice and referring to several cases that had happened in the practice of others, summed up as follows: (1) Flooding of the air passages by fecal vomit is a real danger, and probably has caused many unexplained deaths; (2) resuscitation is impossible or very difficult; (3) the fluid may flow by gravity through the relaxed stomach sphincters directly out of the intestines, where it has accumulated in enormous quantities; (4) the accident occurs with great suddenness with a stomach supposedly empty. The suffocation may be so complete that no outcry is made and it may not be noticed by the attendant; (5) it may occur as late as an hour after anesthesia, or at any time until consciousness is restored; (6) we have no evidence that it can occur during consciousness, even in extremis; (7) after septic laparotomy patients, when returned to bed, should be watched, without even momentary intervals, to full consciousness; (8) a suggestion made by Dr. McArthur that as many as possible of such cases be operated upon under cocain anesthesia seems to me sound in the light of the above report, as well as for other reasons. Andrews has tried both spinal and local cocain anesthesia in several recent cases and is convinced that it is a life-saving measure.

The Pathology and Treatment of Tardy Postoperative Intestinal Obstruction, with a Report of Cases.—ELLSWORTH ELIOT (New York) called attention to the fact that it is not a rare occurrence, being most frequently caused by paralysis of peristaltic action from a spreading or septic peritonitis; it occurs less frequently after a laparotomy from a nonpurulent condition, even although no infectious material has been introduced at the time of the operation. In this latter group of cases the obstruction is usually of a mechanic nature, and is due to the angular adhesion of one or more loops of intestine to the parietal peritoneum, to each other or to the stump of some recently resected pedicle of omentum or ligated base of tumor, to a possible volvulus or to the protrusion of a coil of intestine through some accidental orifice in the mesentery or some other peritoneal structure. The symptoms indicating the obstruction develop shortly after the operation and before restoration of the intestinal function has taken place. Careful exclusion of any kind of mechanic, thermal, or chemic irritants from the contents of the abdomen during the primary observation should be observed. Ligatures should not be needlessly employed, drainage should be carefully managed and changed early with subsequent diminution in its amount, or, if possible, its complete removal, while the actual treatment does not differ from the treatment of obstruction arising from any other cause. Several cases resulting from various causes, among them being two following operation for appendicitis, were reported.

Nerve Injuries to the Shoulder-joint.—F. E. BUNTS (Cleveland) called attention to the distinguishing clinical feature of these injuries, which is a striking deformity resulting from the muscular atrophy and the loss of function depending upon the nerve injured and the muscle involved. He directed particular attention to (1) paralysis of the circumflex nerve; (2) paralysis of the long thoracic nerve, and (3) paralysis of the suprascapular nerve. He then gave in detail the symptoms produced by injuries to each of these nerves, giving a careful review of the literature on the subject, together with a tabulated report of cases showing the various diagnostic and prognostic points.

A Contribution to the Surgery of Cerebral Tumors.—GEORGE WOOLSEY (New York) called attention to the fact that only a small proportion of all cerebral tumors were fit to be made the subject of radical operation, varying from 2% to 8%, according to various observers by the autopsy records, and averaging about 16%, judging from the records of those clinically diagnosed. He felt that this small percentage of operable cases depended largely upon our imperfect means of exact diagnosis and localization and on the inaccessibility of certain parts of the brain to surgical operation. In arriving at a diagnosis, we must consider first the general or pressure-symptoms, and second the focal or localizing symptoms. He then gave a careful review of the history of 101 cases reported by various authors during the past five years, and after going at some length into the diagnosis, prognosis, and operative technic concluded as follows: 1. The sphere of operation for cerebral tumors may be and has been extended to those parts of the cortex where the tumors are accessible and localizable, *i. e.*, to the prefrontal, parietal, and occipital regions in addition to the motor area. 2. The prognosis, both immediate and remote, is as good, or even better, than in operations for malignant growths in some other locations. 3. This prognosis has improved with the improvements in localization and operative technic, and with the limitations of radical operations to cases accurately localized. 4. The palliative operation is strongly indicated to relieve the symptoms where localization cannot be accurately made, or the tumor cannot be removed. The exploratory operation is contraindicated. 5. Practically all circumscribed growths of moderate size are suitable for operation. 6. The osteoplastic method should be employed and the most rapid and perfect technic adopted which the circumstances allow.

The Treatment of Surgical Shock by Adrenalin.—EDWARD MARTIN (Philadelphia) referred to the experiments of Reichert, which have shown that adrenalin intravenously injected is a direct stimulant to the heart, and to both the centric and peripheral vasomotor systems. He also notes that it is a stimulant to the respiratory center and that it increases general metabolism and body temperature. The brilliant experiments of Crile corroborate these findings and would seem to point toward adrenalin as a potent medication in the treatment of shock or collapse. He also referred to the fact that in so far as the immediate lethal effects are concerned the drug is not markedly toxic, at least in the doses in which it would ordinarily be administered, since while .0005 dram will markedly increase the blood-pressure, this dose increased a hundredfold simply accentuates the increase, nor is there subsequently a compensating drop. He gave a full review of the experiments with this drug upon animals, and then followed a series of several clinical cases in which it had been used, one being a typhoid perforation and another a case of amputation at the hip-joint required by osteomyelitis. He felt that the case of typhoid perforation spoke strongly in favor of the employment of this drug, as he stated he had never before seen a surgical patient so profoundly septic and collapsed make an operative recovery. He did not feel that the results of laboratory experiments should be taken as absolute indications of what the effect might be when employed on the human subject, and because of its power of lessening the bacteriolytic power of the blood of animals he recommended that it be used in cases of infection in the human subject with caution until its exact effect has been demonstrated.

Localization of Foreign Bodies in the Brain.—W. W. KEEN and WM. M. SWEET (Philadelphia) reported the case of a boy of 15, who, on October 24, 1902, was shot in the forehead. The bullet entered the right side of the forehead, a half inch above the eyebrow and did not emerge. The wound was cleansed and a sliver of bullet removed from just above the wound of entrance. The left leg became entirely paralyzed, and on the day after the accident he had half a dozen severe epileptiform convulsions, but none since then. In the course of three months he was able to get about and when first seen by the authors, April 9, 1903, the only remnant of the injury was a slight weakness in the left leg. Dr. Sweet made a skiagraph of the head and located the principal portion of the ball at a point 2.2 cm. to the right of the middle line and 1.5 cm. back of the fissure of Rolando and at a depth of 5 cm. from the top of the head. The position of the ball corresponded with Plate No. 15, of Dalton's Transverse Sections of the Brain, and measurements showed that the ball lay just above the right lateral ventricle. In addition to this large fragment, there were seven other minute fragments, the largest one being about the size of a medium-sized pin's head. These lay 2 cm. to 3 cm. above a line running from the wound of entrance to the present position of the ball. The ball was not lying in the leg center. The conclusion reached, therefore, both by reason of the finding of the fragment 2.5 cm. *above* the wound of entrance; the position of the smaller fragments *above* a direct line from the wound of entrance to the present position of bullet; the boy's statement that his head was only slightly bent at the time of the accident, and by the injury of the leg center, that the ball went upward and backward, struck on the inside of the skull at a point corresponding to the leg center and was deflected downward and backward to its present location. It was decided, therefore, that it would do more harm at present to attempt to remove the ball than to let it alone, but that if symptoms of an abscess or a single epileptic attack should follow, the ball should be removed at once. Dr. Sweet described in detail his new modified apparatus for the exact location of such foreign bodies. W. JOSEPH HEARN (Philadelphia) showed a skiagraph of a case in which opera

tion was shown by Sweet's method to be advisable, and was performed successfully.

The following papers were read by title: **The Toilet of the Peritoneum After Operations of the Biliary Passages.**—EDWARD MARTIN (Philadelphia). **An Unusual Form of Sarcoma of the Tendons.**—ROBERT F. WEIR (New York). **Removal of Heavy Silk Ligature from Around the Pneumogastric Nerve: Clinical Symptoms Before and After Removal.**—CHARLES A. POWERS (Denver). Also a paper by R. H. HARTE (Philadelphia).

The following officers were elected for the year 1903-1904: President, Dr. N. P. Dandridge, Cincinnati; secretary, Dr. Dudley P. Allen, Cleveland; treasurer, Dr. George R. Fowler, Brooklyn; recorder, Dr. Richard H. Harte, Philadelphia.

The next meeting will be in St. Louis some time in May, 1904.

AMERICAN MEDICAL ASSOCIATION.

Fifty-fourth Annual Meeting, Held at New Orleans, La., May 5 to 8, 1903.

[Specially reported for *American Medicine.*]

Section on Surgery and Anatomy.

SIXTH SESSION (CONTINUED).

Operative Treatment of Exophthalmic Goiter.—T. C. WITHERSPOON (St. Louis) reported nine cases of exophthalmic goiter in which he had operated. Six of the patients were operated upon under local anesthesia, with recovery in every case; in three cases general anesthesia was employed, chloroform being used in one case. In one case Jonnesco's operation of excision of the cervical ganglia of the sympathetic was performed with a fatal result. Reference was made to the importance of the use of a local anesthetic and of securing the great vessels supplying the thyroid gland early in the operation. RIXFORD (San Francisco) divided exophthalmic goiter into two varieties; those in which the affection is primary and those in which the symptoms of Graves' disease appear after enlargement of the thyroid. Cases in the latter class are much more easily treated than the former. An important reason for using a local instead of a general anesthetic is that any injury to the recurrent laryngeal nerve during the operation is readily detected. The relief obtained by operation in these cases is often very great. HORSLEY (El Paso) reported a case in which he performed Jonnesco's operation with improvement for several months, but later on the patient's condition became as bad as before. WITHERSPOON, in closing, stated that operations should be advocated only after the methods of internal medicine have been tried without success. He had not had sufficient experience with Jonnesco's operation to state positively about its value, but had not been favorably impressed with it in the cases which he had observed.

Subcutaneous Injections of Paraffin for Deformities of the Nose.—F. G. CONNELL (Leadville, Col.) reported the case of a man whose nose was injured by an ax, causing necrosis of the nasal bones. Complete collapse of the right ala and typical saddle-nose resulted. The man wore an aluminum support, which improved his condition very much. Under local anesthesia with 1% cocain, 30 drops of paraffin were injected, which greatly improved the appearance of his nose, and made it unnecessary for him to wear the metal support. There was considerable dilation of the capillaries, causing local redness, for which he was obliged to use face powder freely. To support the collapsed right ala of the nose a second injection was made. While the paraffin was hardening the ala was held in position by the metal support, and iced compresses were applied. The paraffin did not give as good an appearance as when the patient wore the metal support, however. In a second case the paraffin injected was used to build up a nose one-third of which had been bitten off with great resulting deformity. Connell believes that it is better to inject the paraffin in small amounts and with intervals between the injections rather than at one large injection. He credits the introduction of this method to Corning, of New York, rather than to Gersuny, who commonly gets the credit for the introduction of the method. He believes injection treatment is not justifiable if the deformity is slight. In any case the injection should be made under strict antiseptic precautions. Local anesthesia is sufficient. The paraffin should be molded as it is injected, and for injection a special screw piston syringe is best.

Discussion.—MORTON (San Francisco) has used this method in 26 cases, and photomicrographs from sections of tissue in which the injections were made were shown, showing that the paraffin is contained in the tissues first in the form of large drops, which later became encapsulated: leukocytes are found in the mass still later on and finally only connective tissue spaces are to be seen. WILLIAM J. MAYO (Rochester, Minn.) stated that his brother, Charles Mayo, had treated a large number of cases of saddle-nose by paraffin injections with such great improvement that the deformity was scarcely noticeable in many cases. The older methods of treatment were often worse than useless. He suggested the advisability of loosening the tissue preliminary to injection by the injection of normal saline solution.

Abscess of the Spleen.—WALTER M. SPEAR (Rockland, Me.) reported the case of a man who was taken with severe pain in the lower part of the left thorax and tenderness on pressure over the left side. At first the condition was thought to be caused by influenza. The patient was lost sight of for some time and when seen later a hard nonfluctuating tumor, which was thought to be malignant, was found in the left side of the abdomen, extending from the costal border to the crest of the ilium and inward to the median line. On opening up the abdominal cavity the mass was identified as spleen and on incision two quarts of pus were evacuated. The patient died a short time later from an unknown cause; a postmortem examination was not allowed. The most probable etiologic factor was thought to be a embolus of the terminal vessels of the spleen. From the literature 65 cases of abscess of the spleen were collected. Malaria was found to be the most common cause of these cases, typhoid fever was also frequently mentioned as a cause. The prognosis should be good if the condition is recognized and early operation is performed. Spear considers splenectomy the preferable operation when it is possible.

The Administration of Anesthetics.—MELLISH (El Paso) does not find justification for the employment of any one anesthetic, as the anesthetic should be suited to the case under treatment. Cases may be divided into three groups, those in which there is definite indication for local anesthesia, those in which there is absolute indication for general anesthesia and the doubtful cases. In all cases in which general anesthesia is to be employed a blood examination should be made and if the hemoglobin is below 40%, general anesthesia is not advisable. Nitrous oxid gas as a general anesthetic is satisfactory for short operations in skilled hands and has the smallest mortality of any anesthetic. Ethyl chlorid answers very well for a general anesthetic for short operations. In all operations in which general anesthesia is employed the body should be kept warm and care should be taken in transferring the patient from the operating-room to the bed. Gastric lavage is of value in preventing any nausea and vomiting and should be employed in emergency cases in which the patient has taken his meals and comes to the operating table with a full stomach. Chloroform Mellish considers distinctly more dangerous than ether. He advocates a preliminary dose of strychnia in all cases before the administration of chloroform; as a preliminary to ether anesthesia a hypodermic injection of morphin and atropin was advocated. Mixed anesthetics were not considered as safe as single anesthetics. Ethyl chlorid and bromid were not considered safe preliminary anesthetics. Rectal etherization is feasible but not safe. If the jaw is properly managed there is seldom need for tongue-forceps or mouth-gag. The cumbersome apparatus for measuring the dose of anesthetics as they are administered Mellish considers usually dangerous. It is important that the minimum amount of anesthetic be administered. The weight of evidence is overwhelmingly in favor of ether as the safest of general anesthetics and Mellish believes that statistics do not really indicate the dangers of chloroform, for many fatal cases are not reported. An entirely safe anesthetic has not yet been found. Very much depends upon the anesthetist and the importance of employing special anesthetists was urged.

Discussion.—MOORE (Minneapolis) stated that for 30 years he had used chloroform in over 90% of his cases without a single death. He believes that most of the deaths from chloroform come from its administration by those unskilled in its use. OCHSNER (Chicago) believes that more depends upon the anesthetist than upon the anesthetic used. In resuscitation of patients who have stopped breathing during chloroform anesthesia the chest should be compressed before the arms are lifted from the side, otherwise more fresh chloroform is drawn into the lungs and the patient is still more deeply poisoned. MAYO (Rochester, Minn.) stated that he had been using chloroform in a much greater proportion of cases of recent years. In the estimation of the hemoglobin the cause of anemia should be kept in mind as low hemoglobin from malignant disease is very much more dangerous than from hemorrhage. The quality of the blood is of as great importance as the percentage of hemoglobin. MELLISH, in closing, mentioned the statistics of 6,000 cases of anesthesia in one of the Chicago hospitals, showing the influence of skilled anesthetists; in the first 3,000 cases anesthetized under skilful anesthetists there was not a single death; in the second 3,000 with anesthetists of less experience there were three deaths: one from chloroform and two on changing to ether in a mixed anesthesia.

Section on Obstetrics and Diseases of Women.

FOURTH SESSION (CONTINUED).

Discussion.—CLARK (Philadelphia) believed that the paper presented, pointed out the necessity for operation early in fibroids. NOBLE has taken the ground that operation should be done in all cases of fibroid. He should like to know the conclusion pointed to in the study, as to the percentage of myomas in which degeneration takes place. His rule is to leave the ovaries and a part of the uterus when operating upon myomas, and the question arises as to whether the results of this study should influence to a different procedure. DUNNING (Indianapolis) asked as to the influence of such findings upon the operation of myomectomy, whether Cullen has statistics regarding partial removal of the uterus. THIENHAUS (Mil-

waukee) stated that in a large series of myomectomies reported there were 10 cases of malignant recurrence. BONIFIELD (Cincinnati) mentioned an interesting case upon which he had operated. It was one of ectopic gestation in which missed labor had occurred years before. An immense fibroid was present undergoing degeneration. The patient died from recurrence. CULLEN, closing, said he could not give the exact percentage in which sarcomatous degeneration takes place. He thought in 1.5% to 2%. Carcinoma of the body of the uterus he believed relatively common in such conditions. He believes in early operation before adhesions occur. He cautions against bisecting the uterus. As to the performance of myomectomy, he thinks that when the tubes and ovaries are healthy and the mucous membrane has not undergone change, myomectomy is justifiable. Giant cells in myomas should arouse suspicion of malignancy.

Inhibited Tubal Peristalsis; a Cause of Ectopic Gestation.—O. G. PFAFF (Indianapolis). The function of the ciliated epithelium has been made much of as the chief, if not the sole, mature force, in the transportation of the ovum into the uterine cavity. Tait and others have attempted to show that in the destruction of the cilia by inflammatory diseases of the oviducts, the function of the tubes is destroyed and the resulting inertia is the prime factor in the production of tubal pregnancy. According to several prominent men, the most frequent site of the chorionic attachment is at the isthmus, indicating that this has been the site of greatest inflammation, which is not in accordance with the observed facts of salpingitis. There are many instances of tubal pregnancy in which the cilia appear to be present in normal condition and abundance. Sacculations diverticulums and other pathologic conditions of the tubes, overlooked by the followers of Tait, may justly be accredited as direct causative agents in the production of extrauterine pregnancy. It is a reasonable conclusion that ectopic pregnancies occur in some instances in healthy tubes. We may, therefore, question the position that the ciliary motion is the force which carries the ovum into the uterine cavity, and are compelled to seek some other explanation of the performance of this function. The oviduct is in a sense an excretory canal, and is similar in its anatomy to the ureter, gallducts, and intestines. The latter are known to engage in active peristalsis when stimulated by the presence of materials within them. There is apparently every reason to suppose that the similar function of the oviducts is performed in identically the same manner by peristalsis. The cilia in the tube are believed to be provided for an entirely different purpose than that commonly ascribed to them. The cilia provide a bed of velvet upon which the ovum rests, thus protected in the peristaltic action of the tube, the cilia conveying the signal to the presiding nerve-centers and the rythmic muscular contractions are inaugurated. If peristalsis plays an important part in the transportation of the ovum, then inflammatory adhesions, mechanic constrictions, and abnormal fixation are potent factors interfering with function. The reflexes must not be ignored. Psychic effects are of noteworthy importance. The menstrual function has been permanently abolished by some profound mental shock; the hope or fear of pregnancy sometimes generates the subjective symptoms, and many of the physical signs of the condition. There is evidence that similar agencies produce in the tubes results of a like quality. A case was cited, operated upon by the essayist in which a pregnant left tube was firmly attached by the fimbriated extremity to the transverse colon. The uterus was apparently suspended in this manner. There seems but one explanation of the condition. The tube was undoubtedly carried upward in a previous pregnancy and became adherent to the colon. The attachment was firm. The tube weighted by the uterus was constantly stretched and there was not a possibility of peristaltic action, there was no force capable of propelling the ovum, hence the chorionic attachment near the fimbriated extremity of the tube. The logical conclusion is that the abnormal location of the gestation sac was due to the inhibition of tubal peristalsis.

Discussion.—DUNNING (Boston) said that the etiology of ectopic gestation cannot be dismissed by the remark "We know nothing." We know several conditions favorable to its development, such as crippled tubes, loss of cilia, and thickening of the tubes. EHRENFEST (St. Louis) regarded the theory presented similar to that of an English physician. The latter regards lack of peristalsis as having much to do with the lodgment of the ovum; also a lack of sexual feeling as failing to stimulate peristalsis. Reference was made to a series of 23 cases carefully studied microscopically, in which characteristic changes of inflammation were present, accompanied by little folds of mucous membrane. These conditions are probably causative factors of extrauterine pregnancy. MASSEY (Philadelphia) claimed that the paper emphasized the value of electric treatment of conditions underlying ectopic gestation. In many of these cases such treatment would stimulate motility and nutrition. CARSTENS (Detroit) called attention to the chronic nature of the adhesion in the case presented and the unusual position of the tube. Almost every such case operated upon shows an adherent tube as a result of old disease. Such adhesion prevents peristaltic action. LAWRENCE (Columbus) raised questions he would like answered. Since the interstitial form of ectopic pregnancy is common, as is also the situation of the ovum at the distal end, he inquired as to how the lack of peristalsis would affect these conditions. The case emphasizes the danger of tubal trouble. He had never seen a case of extrauterine pregnancy without previous tubal trouble. PFAFF believes that in most cases there is preexisting tubal disease, though extrauterine pregnancy does occur in absolutely normal tubes. That interstitial ectopic pregnancy is common supports the theory presented in the paper, peristalsis at this point being lessened normally.

Nonabsorbent Gauze: The Proper Material for Tamponades in Surgical and Obstetric Hemorrhages.—RUDOLPH WIESER HOLMES (Chicago) said that Lester's earlier dressings were distinctly nonabsorbent. By various experiments with chemicals he secured a gauze which he pronounced "harsh and not absorbent, the latter a serious defect." He tried to overcome these defects. His contemporaries have kept his second purpose in mind, and the original gauzes which were nonabsorbent have been relegated to unmerited oblivion. It seems inconsistent for surgeons to require the same gauze for drainage and for packing in hemorrhage. After some experiments with nonabsorbent gauze the author is convinced that its use is as clearly indicated in obstetrics as in surgical work. The manufacture of nonabsorbent gauze is practically a step short of the production of absorbent gauze. If gauze is to be rendered absorbent it is boiled in strong alkaline solution to remove the oil. The author has experimented by treating gauze with different substances with a view of rendering it entirely nonabsorbable, but has not reached an entirely satisfactory result. In cases of hemorrhage in which packing is necessary to control it, a gauze should be applied which possesses a minimum of capilarity or one in which absorbency is entirely absent. For example, the operation for removal of the upper maxillary bone or ruptured vessels in difficult laparotomies. Blood may be saved to the patient by the use of the nonabsorbent gauze, which would otherwise be lost. As to obstetric indications in antepartum bleeding, as in abortions, placenta previa, etc., gauze nonabsorbent in character will serve as a more efficient dam than absorbent gauze. The virtues attributed to the antepartum vaginal tampon apply with equal force to the postpartum uterovaginal pack. When, in postpartum bleeding, the uncertainty of the various temporizing measures is manifest, the gauze should be applied. It rarely fails in efficiency. The indications for the uterovaginal tampon are along lacerations of the parturient canal, hemophilia, as a prophylactic against hemorrhage, and as a prophylactic against infection. The tampon should be impregnated with an antiseptic. In all these conditions, except infection (where drainage is essential) the nonabsorbent material is recommended. A special packer was exhibited; the advantages claimed for it being that it is the only really aseptic method; it requires only one introduction of the instrument; further abrasion of the mucous membrane is obviated; one assistant only is necessary. Properly prepared gauze is indispensable, one aseptic and antiseptic. The piece should be ten yards long, one-half yard wide, and folded into a strip two inches broad, with the free edge perfectly covered.

Discussion.—BACON (Chicago) asserted his belief in the value of gauze impregnated with hemostatics for use in the uterus. The assumption that absorbent gauze provides drainage is hardly in accord with the fact. It is a better drain than nonabsorbent gauze but there is little difference. The idea of compressing vessels in postpartum hemorrhage is a mistake. We must rely upon gauze to stimulate uterine contraction. It is desirable to have also some substance, such as gelatin, to hasten coagulation. THIENHAUS (Milwaukee) referred to the desirability of having gauze to arrest hemorrhage, and cited a case of epistaxis in which he had arrested the hemorrhage by gauze dipped in adrenalin. SHOWALTER (Alabama) referring to the use of a uterine packer, held that in most cases of postpartum hemorrhage there is not time to use the instrument. He has had considerable experience with these cases. EHRENFEST (St. Louis) expressed his belief in the advantage of gauze fit for uterine packing and of the packer exhibited. MANTON (Detroit) claimed that there are two varieties of postpartum hemorrhage, one so sudden and excessive as to render treatment unsuccessful; others in which rapid work is necessary, but in which packing may be done with advantage. Absorbent gauze answers every purpose. Its meshes promote coagulation. Packing can be done so tightly that not a drop of blood escapes. When drainage is desirable absorbent gauze must be used. GORDON believes prevention better than cure. He learned from Dr. Peasley of New York a plan which he has always followed. When the child is delivered the tumor should be followed down and guarded by the hand. This should be done by the physician or a capable assistant; thus nearly all cases of postpartum hemorrhage may be prevented. STACEY (Kansas) does not think that absorbent gauze acts as a drain, but promotes coagulation. He feared that nonabsorbent gauze would act as a plug, producing a condition similar to that of accidental hemorrhage. In external hemorrhage no application is better than adrenalin. PIERCE (Kansas City) directed attention to the fact that when it is necessary to control hemorrhage in the pelvis, infection exists in the same area. On a noninfected surface, it is his practice to use plain gauze. Iodoform gauze he regards as being better to control hemorrhage. For this purpose, he has also used alum gauze. Nonabsorbent gauze would have the advantage of doing away with capillary drainage. WEISS (Meridian, Miss.) recounted an occurence in which she probably saved the life of a patient from fatal hemorrhage. A large stream of blood following labor issued from the womb, accompanied by faintness. Her hands were uncleansed and she was

without assistance. She had, however, rubber gloves sterilized; putting them on quickly, she thrust one hand into the uterus and compressed the organ between this and the other hand externally. EFFA DAVIS (Chicago) stated that she had practised 12 years in Chicago with a large obstetric service, and had experienced very little postpartum hemorrhage. She depends chiefly upon prophylactic treatment. Long tedious labor is to be prevented. Rapid birth, chronic endometritis, partially adherent placenta, are predisposing causes. The subject of uterine packing should not be unduly emphasized. She regards the carrying of gauze into the uterus a serious procedure, because of the danger of sepsis. RYAN (DesMoines) asserted that he had had several cases of postpartum hemorrhage, had never packed the uterus, and had never lost a case. He depends upon irrigation with hot normal salt solution, packing of the vagina and the use of stimulation. SHOWALTER (Alabama) stated that he had practised much obstetrics in the last 13 years, and had seen some 15 cases of postpartum hemorrhage. In all these cases the blood flowed as water from a pump. He had used no treatment but that of the introduction of the hand into the uterus, and the use of normal salt solution. He does not believe that tamponage can be scientifically and successfully employed. HOLMES, closing, expressed his belief in prophylaxis. Books may eradicate postpartum hemorrhage, but practically, it can never be entirely accomplished. In few socalled cases of postpartum hemorrhage, however, does the hemorrhage prove grave. The introduction of adrenalin into the uterus is dangerous, one death having been reported. He does not believe in the use of absolute nonabsorbent gauze in the uterus, he would use it moistened. The day has gone by when a physician may go to a case of obstetrics without a complete armamentarium. If he does so, he is criminally liable. The day of the man midwife has gone by.

Acute General Staphylococcus Infection Through the Puerperal Breast.—W. P. MANTON (Detroit) said that the more serious disorders of the functionating mammary gland are all the result of microbic invasion, either through the ducts or generally through cracks and abrasions. Increased vascularity of the breasts renders them peculiarly susceptible to infection. Normal human milk has been shown to contain both varieties of staphylococci, while pathogenic germs gaining entrance to the blood elsewhere are excreted by the breasts in the milk. Massage is, almost without exception, recommended in the treatment of mammary engorgement and beginning mastitis, but nowhere will you find a warning word against the possible dangers arising from this practice. A case was related illustrating the danger. The patient, early in the puerperium, developed sore nipples, with a gradually rising temperature and pulse, the breasts becoming hard, knotted, and painful. Massage was practised twice daily for eight days, meanwhile systemic symptoms of infection being manifest. Abscesses of both breasts developed and were evacuated. The pus contained staphylococci. Abscesses appeared in other parts of the body. Foci of infection other than the breasts were excluded. The patient was discharged well 70 days from the date of confinement. Acute general staphylococcus infection through the puerperal breast is rare and the case reported is the only one of the kind the author has met with in an experience of several thousand midwifery cases. A scrutiny of the literature failed to reveal a like case. The case related stands as a vigorous protest against the indiscriminate employment of massage in mammary engorgement early in the puerperium. Distention and turgescence of the nursing breast can be better and more safely treated by other means.

Discussion.—JAMISON (Detroit) believed the case presented to be a unique one. He has not observed a similar case. BACON (Chicago) thought infection of the breast by staphylococci not rare. He would make a clear distinction between turgescence or congestion of the breast, and infection. Often a distended breast is called an inflamed breast. Fever or its absence is the distinguishing symptom. There is no fever unless the organ is infected. Massage is positively contraindicated in an infected breast. A bandage and ice should be applied. Over-filling of the breast results from an engorgement of the vessels, lymphatics and blood-vessels. It is not distended by milk. It is false to massage from the circumference toward the nipple; just as in the case of an inflamed knee, the stroking would not be toward the affected part, but from it. So begin massage outside of the breast, influencing the vessels leading away from the organ. Not many cases need massage. EFFA DAVIS (Chicago) has for many years feared the use of massage as well as that of the pump. All glands are in danger of contamination. The handling in massage endangers to infection. Her habit is to avoid handling the breast. By bandage on the second day turgescence is reduced; the child is also applied. HOLMES (Chicago) believed that Bacon has done much in advocating the discontinuance of massage of the puerperal breast. It should be done only when the breast is engorged. The bandage is a great advantage. He does not believe that staphylococcus infection is rare. MANTON, in closing, asserted his belief of the correctness of the position of the physicians from Chicago. He thinks that such infection as occurred in his case is not rare, but that there is little literature upon the subject.

FIFTH SESSION.

Destructive Sterilization by Cataphoresis in Cancer of the Uterine Cervix.—G. B. MASSEY (Philadelphia) claimed that by this method the growth is destroyed and sterilized *in situ*. The electrode is dissolved with the mercury upon it, and nascent salts are produced. These are radiated by the flow of the current devitalizing malignant cells. The time employed is one-half to two hours under a general anesthetic. Or several less strong applications may be made. The process arrests pain, hemorrhage and odor. The tissue sloughs away. There is a zone of sterilization for a controllable distance.

Discussion.—HAYDEN (Indiana) asked the speaker for definite information as to what he had thus accomplished. MOODY (Alabama) believed that if the method offered only temporary relief, it is worthy of attention. The efficiency of an electric current to carry drugs into the tissues seems incredible to one not having tried it. This plan is one of saturating the tissues with mercury and zinc. Special education in electricity is not necessary in order to use it. PIERCE (Kansas City) wondered that since the method had been brought before the profession years ago, it had met the coldest welcome if not the warmest opposition on the part of every specialist. It seems a rational procedure. He had tried it in three cases with failure, though this did not cause him to abandon it. As a surgeon he had met almost absolute failure in operating upon cancer. He had only one case remaining healthy after nine years. He was disappointed not to find account of results by Dr. Massey's method. MASSEY closed by saying that he regretted to be able to report only seven cases in which the method had been tried. In one case there was absolute success, the only one not previously operated upon for malignant disease. The others had suffered metastasis, probably preceding the cutting operation. He had had one death from peritonitis, probably from the mercury carried into the pelvis. Few appreciate the dangers of early metastasis, to which many failures may be ascribed.

Advisability of Vaginal Exploratory Puncture and Celiotomy in Doubtful Diagnosis in Diseases of Female Genital Organs, with Cases.—C. V. THIENHAUS (Milwaukee) said that women have a right to know what their trouble is before submitting to operation. Everything that will help in diagnosis should be done. A few years ago the abdominal route was advocated instead of the vaginal. In cases with infection the extraperitoneal route should be selected when possible. Many cases are of doubtful diagnosis. The differential diagnosis of pelvic exudates, fibroids, dermoid cysts, and malignant conditions of the pelvis is not always easy. Where pelvic enlargements exist and the condition is doubtful aspiration should be done to help clear up the diagnosis. The aspirated fluid will perhaps determine whether the condition is one of abscess, ovarian cyst, or hematocele, the latter often due to extrauterine gestation. Cases were related, one a case in which abdominal incision was done; it proved to be a pus case, and died from infection. Vaginal incision would, the writer thought, have saved the patient's life. Another case was one of a patient in whom there appeared to be tumors in the pelvis, one tumor posterior to the uterus, one on the left side, a third anterior to the uterus. The house surgeon of the hospital made a diagnosis of fibroid uterus, which diagnosis the writer confirmed. A rise of temperature appeared each evening which was attributed to inflammation of the tubes. After four weeks the situation changed. There was a mass bulging into the vagina. Fever developed, the pulse was rapid, fluctuation appeared in the mass. The puncture needle revealed nothing, although it excluded certain fluid conditions, such as hematocele, etc. The tumor mass was incised in the posterior vaginal fornix and handfuls of malignant disease of the ovary were removed. Vaginal exploratory incision is an old procedure. Mackenrodt has been an advocate of it. This is a rational procedure. When a new method appears it should not be tried unless it seems to rest on logical principles.

Discussion.—STACEY (Kansas) stated that he could see wherein, under certain conditions, vaginal puncture or incision would not be dangerous, but abdominal section would be out of the question. The route is especially valuable for us occasional operators. We do save lives by vaginal drainage. Where the patient recuperates complete operation may be done by the vaginal route. CRAIG (Boston) expressed himself as opposed to the vaginal route when it is necessary to go through 8 to 12 centimeters of tissue. Such cases should be treated by the abdominal route, as they can only thus be done thoroughly and cured. The occasional operator had also better go through the abdominal route if sure of his diagnosis. He takes no greater risk than by the vaginal route, and the latter method is usually only palliative. Patients should be so advised. CARSTENS (Detroit) suggested to the essayist the change of the term puncture. The vaginal opening cannot be too large. DUNNING (Indianapolis) inquired of the essayist whether he was correct in understanding him to say that he would employ vaginal celiotomy whether the case were one of pus or of ectopic pregnancy. THIENHAUS closed by saying that he had never advocated vaginal puncture except for purpose of diagnosis only, operation to follow. When there is a mass in Douglas' culdesac a needle should be inserted to determine whether the condition be one of malignancy, of fibroids, or an exudate. So long as there is no method by which the virulence of a pus collection can be determined puncture should especially precede celiotomy for any infected condition. As soon as pus is found free vaginal opening should be made.

[*To be continued.*]

CLINICAL NOTES AND CORRESPONDENCE

[Communications are invited for this Department. The Editor is not responsible for the views advanced by any contributor.]

IODOTHYRIN AND GLYCOSURIA.

BY

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AND

S. B. HARRIS, M.D.,

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Oswald has established that the thyroid contains two albuminous bodies, the one containing iodin, the other having phosphorus. The first has the character of a globulin, and has received the name of thyreoglobulin, and by reagents is changed into the iodothyrin of Bauman. Ewald and Strauss [1] found as much as 6% of glucose in the urine after the administration of thyroidin; when the administration of thyroidin ceased the glycosuria vanished. Blum,[2] in a dog, observed glucose after feeding with thyroid for several days. Diabetes has frequently been seen after disease of the thyroid.

We have recently injected iodothyrin in doses of 1 gram (15 grains) subcutaneously into several rabbits and hares for 30 days. In one case, a Belgian hare, we noted the excretion of glucose. The urine was tested by the phenylhydrazin method. The crystals obtained were those of phenylglucosazone. We also fermented the urine and obtained a reaction, denoting a small fractional percentage of sugar. It is evident that iodothyrin can, in some cases, cause a glycosuria. It has been ascertained by von Mering and Minkowski that extirpation of the pancreas produces diabetes. It has also been established by Blum that adrenalin causes diabetes, which fact has been confirmed in this country by Drs. Herter and Croftan. Drs. Vosburgh and Richards [3] have shown that the glycosuria is due to an increase of sugar formation in the liver. It is evident that we have three glands with an internal secretion—the pancreas, adrenals, and thyroid, which have a connection with glycosuria. The repeated injections of iodothyrin caused great emaciation and loss of hair.

Is Iodothyrin Excreted as Such?—It is well known that iodothyrin is excreted in the shape of iodids. We found that on adding a little iodothyrin to Fehling's solution it precipitated the copper. It was also noted in rabbits that when iodothyrin was given subcutaneously or by the vein there appeared in the urine a body which rapidly reduced Fehling's solution. Tests were made with phenylhydrazin, but no reaction was noted. The failure of this test excludes levulose, glucose and glycuronic acid as causes of the copper reduction. The fermentation test also failed to show any glucose. The potassium iodid does not disturb Fehling's solution. No albumin was present in the urine.

Hence we are driven to the conclusion that some iodothyrin is excreted by the kidneys as such.

REFERENCES.

[1] Kleen, on Diabetes, 1900.
[2] Pflueger's Archiv, 1899.
[3] American Journal of Physiology, Vol. ix, No. 1.

PROPHYLAXIS AND TREATMENT OF BALDNESS.[1]

BY

ALBERT BERNHEIM, M.D.,

of Philadelphia.

As a rule baldness is considered to occur only in men of advanced years, but sometimes very young persons are afflicted with it and in fact it may be said that the greatest number of people who are bald, have started to become so when between 20 and 30 years of age. Premature baldness has often been regarded as a physiologic and unavoidable occurrence not only by laymen, but also by physicians, whose entire treatment often consists in a joking sally, and yet for the one thus afflicted it is not an indifferent matter. Physicians in general deal in a very cool and indifferent manner with this apparently physiologic affection, and the result is that the afflicted ones fall into the hands of amateur hair artists, of barbers, quacks, and the advertising hair restorers. Sycosis barbæ can be transferred from man to man in the barber shops. Experiments have shown that white mice put into the combed out hair-pads taken from women becoming bald, will rapidly lose their hair, and so will rabbits, into whose skin the fallen out hair and dandruff has been rubbed. Similar results occur frequently in the case of human beings. The barber uses his scissors and clippers alike for the man with a thick growth of hair and the one with the proverbial three hairs on his scalp. The less hair a man has on his head the more he goes to his barber to obtain relief from baldness; he is therefore constantly exposed to the same injurious influences while he simultaneously exposes others who may come in contact with the residues of his own falling hair and dandruff.

Sanitary barber shops are probably an impossibility. The sterilization of combs, brushes, scissors and clippers, and hands in barber shops is certainly not easier than that of instruments in surgical practice. However the barber shop is not the only source of infection, for in the lavatories of hotels, large office-buildings and public bath-halls we often find the chained comb and brush, which is used from head to head. The contagion may also be transferred from one person to another in the family bathroom.

The etiology of baldness is not clear. Trophic disturbances of the nervous system have been declared the cause by some writers; but this has not been proved as a certain fact, though it may be, as the falling out of hair after or in the course of certain diseases may depend on trophic disturbances by the supplying nerves. A popular view is that much brain work has something to do with the occurrence of baldness, but we see so many learned and studious mental workers with a thick growth of hair that we cannot consider this popular view correct, while on the other hand, baldness often occurs in persons who are not engaged in any kind of brain work. We all know musicians, mathematicians and physicians, who have a good share of hirsute adornment, and on the other side, we know working men, coachmen and policemen, with rather bald scalps. I should think that the exclusion of light and air from the hair has much to do with the predisposition to baldness. Coachmen wear all day long their heavy hats; policemen their helmets; the clerk in American offices is seen to wear his head covering almost all day. Overheating of the scalp has a decidedly injurious effect as it makes the scalp a cultureplace of parasites. Men who are compelled to work in overheated, badly ventilated rooms have often the tendency to baldness. Pupils in boarding-schools, soldiers in barracks, have transferred alopecia one to another. It is not my intention to go into the details of the etiology and pathology of alopecia, but to speak of the treatment which has had good results in the hands of my teacher, Professor Lassar, and in about a dozen cases under my own observation. I believe the greatest hindrances in stopping falling out of the hair are the indifference and impatience of the patient as well as of the physcian. I even believe that some of the advertised hair-restorer remedies might have a good effect if administered patiently and for a long enough time. I believe that every bald man under 50 should find it worth a trial to endeavor to promote a growth of hair on his bald scalp, this trial should be of at least three months' duration. As I have never made a specialty of treating baldness, I am not prepared to present photographs of "before" and "after." The youngest of my patients was 16 and the oldest 41. The occupations represented were beerbrewer, dentist, druggist, physician, bankclerk, butcher, schoolboy, schoolgirl, medical student, traveling salesman, cattledealer, army-officer. All the patients were improved, and in three baldness disappeared entirely, the hair returned and remained.

My treatment consisted of the following: 1. Time. 2. Patience. 3. Tar soap. I would advise having the soap made directly from a prescription, which contains about 40 parts of birchwood tar, or better, beechwood tar to a soap mixture of 60 parts. With this tar soap the scalp should be shampooed every day for at least eight weeks, later on every other or every third day for another four or eight weeks. The shampooing must be

[1] Read before the Northern Medical Association of Philadelphia, February 13, 1903.

done thoroughly for not less than ten minutes; after this the soap should be washed off first with warm water, gradually coming to cool or even cold water; then the hair and scalp should be patted dry with fine cloth or tissue paper or paper napkin; it must not be rubbed dry. 4. The following mixtures:

The scalp should now be rubbed with a solution of

Mercuric chlorid	1.0 to 300.0
Glycerin Cologne spirits	of each 100.0

For this purpose use a small soft woolen tissue and rub for five minutes; after this rub the skin dry for another five minutes with a solution of

Beta naphtol	1.0
Absolute alcohol	200.0

After this use as freely as possible a hair oil, consisting of

Salicylic acid	2.0
Benzo tincture	3.0
Neatsfoot oil	100.0

Rub generous portions of the oil into the scalp for five minutes.

The idea of this procedure is to remove by means of the stimulating soap all dust, etc., which may adhere to the hair and scalp; the mixture of the sublimate is readily taken up by the hair follicles. The sublimate seems to have a special tendency to stimulate the growth of hair; this has often been observed after the use of either moist or dry sublimate dressings.

The naphtol alcohol dries, removes fatty substances, and disinfects the scalp and prepares the pores for a ready absorption of the hair oil in question. Neatsfoot oil[1] is recommended, as it seems that this animal oil is better assimilated than vegetable oil. (Lanolin may also be used.)

However, a good result in alopecia can only be expected when the process of destruction has not gone too far, though even in these cases the itching, the development of dandruff and of seborrhea will be stopped and the hair will not continue to fall out, so that the head at least will keep the hair it still possesses. In cases of alopecia areata the process often has a limited course and new hair will make its appearance, but in the beginning it can never be stated whether the process will limit itself or not. In the latter case not only the hair of the scalp, but also that of the beard, mustache, pubes, eyebrows, and eyelashes may disappear and never return unless treated by the foregoing method. If this treatment has a good result in premature baldness it certainly has in alopecia areata. In very obstinate cases it may be necessary to resort to further remedies, such as the use of the sublimate several times a day, carbolic gauze dressing, turpentine, pilocarpin, etc.

CONCLUSIONS.

1. Baldness should not be treated as a joke, especially by the physician.
2. Baldness is infectious and contagious.
3. It can be prevented by prophylaxis.
4. It can be cured in a great number of cases in persons under 50, and a trial is worth while in persons above this age.
5. The foregoing treatment does considerable good if performed in the right way and in a skilled manner.
6. Patience in the patient is a condition *sine qua non*.
7. Patience in the physician is an absolute necessity.

THE "FELT" TREATMENT OF SCIATIC NEURITIS.[2]

BY

JOHN A. WESSINGER, M.D.,
of Ann Arbor, Mich.

The subject of this report is a man of 38, who has always been healthy, but who comes from a neurotic family. I first saw him January 13, 1903, at which time he was suffering from what was evidently an attack of gastralgia; this readily yielded to anodyne treatment. On the morning of January 27 I found the patient suffering from an intense neuritis involving the left sciatic. The pain points were most marked behind the trochanter, in the middle of the thigh, posterior calf, and dorsum of the foot. I resorted to morphia and other anodynes without avail, and on January 31 applied the paquelin cautery over the tract of the nerve with negative results. On February 3 I began daily applications of galvanism with the hot pack. This was continued until February 10, and also gave negative results. By this date the dorsum and sole of the foot had become anesthetic. On February 11 I began the "Felt"[1] treatment, injecting 2 mg. ($\frac{1}{33}$ gr.) atrophin subcutaneously, four inches above the knee. In 15 minutes all the well marked physiologic effects of the drug were noticeable, except dizziness; pulse continued at 120 for about three hours. There were great dryness of the mouth, mydriasis, redness of the skin, hallucinations of sight and hearing, and restlessness. Twenty-four hours after the first dosage the effects of the atropin had subsided, but the sciatic pain was still present. On February 13, 48 hours later, I gave the patient a second injection of 2.6 mg. ($\frac{1}{25}$ gr.) in same region as before, with a similar result. Twelve hours after this injection the sciatic pain was gone. On February 15 I gave a third and last injection of 3 mg. ($\frac{1}{20}$ gr.) atropin. The patient has been absolutely free of pain in the sciatic from the time of the second injection, and is back to his regular work of city mail carrier.

The results obtained in this case would indicate that Dr. Felt has brought to the attention of the profession a valuable mode of treating this most intensely painful and often disastrous malady. All that is required is accuracy of dosage and courage to inject so large a quantity of atropin into the patient, who should first be told all the disagreeable after-effects of the treatment, as otherwise you may not see him a second time. The fact that my patient at no time experienced dizziness is unusual, as Dr. Felt particularly calls attention to this as the most annoying of all the symptoms. The treatment should always be given in the evening, as the effects of the drug will be less disagreeable than if given during the day. The dose should never be repeated at intervals of less than 48 hours.

[1] Neatsfoot oil has often been objected to on account of its odor; of late years, however, neatsfoot oil, so purified that it has scarcely any odor, can be bought in the open market.

[2] Read before the Washtenaw County (Mich.) Medical Society, March 12, 1903.

[1] Physician and Surgeon, April, 1902.

THE PERPETUITY OF THE RACE.

BY

T. B. HOLMES, M.D.,
of Oakland, Cal.

To the Editor of American Medicine:—In an editorial in *American Medicine*, May 9, you make out a very bad case against the perpetuity of the race because certain ministers are baptizing so few infants in proportion to the number of families in their church or congregation. Is it not possible that this condition is due, in part at least, to quite another cause, namely, to a continuous growth in sentiment against the baptism of infants? At a recent conference on this coast of one of the strong Jedobaptist denominations, there was the same condition reported, but it was attributed to the spread of sentiment of that large denomination known as Baptists, and the latter came in for a severe rebuke atthe hands of some of the good brethren present, and I have heard this latter sentiment expressed from other quarters.

A DISCLAIMER.

BY

W. W. KEEN, M.D.,
of Philadelphia.

To the Editor of American Medicine:—Only recently have I seen in your issue of April 25, on pages 641 and 642 your editorial notice of three little books issued by the "Imperial Information Bureau" in which my name is used. Your correspondent states that "the representative of this publication had paid him frequent visits and as a reason for subscribing had pointed out" the names of myself and others. I beg to state that this is the first information I have even of the existence of any such book, and of course I could never have subscribed to it or recommended it to others.

Microbes and Berries.—German bacteriologists have examined a half pound each of the following berries and fruits, and according to their report each contained the following number of germs: Huckleberries, 400,000; damson plums, 470,000; yellow plums, 700,000; pears, 800,000; gooseberries, 1,000,000; strawberries, 2,000,000; raspberries, 4,000,000; grapes, 8,000,000; currants, 11,000,000; cherries, 12,000,000.

ORIGINAL ARTICLES

THE OCCURRENCE OF PAINFUL AFFECTIONS OF THE FEET AMONG TRAINED NURSES.[1]

A Series of 500 Observations Upon Normal and Disabled Feet.

BY

ROBERT W. LOVETT, M.D.,

of Boston, Mass.

The liability of trained nurses to develop some static trouble with their feet during their hospital service is well known. In large hospitals it becomes a matter of economy to limit this so far as possible, and the following investigation was undertaken by me in a large general hospital in the hope of diminishing the trouble by seeing that all nurses wore during their course of training a proper boot and were placed so far as possible under conditions favorable for their feet. With this in view every nurse entering the hospital was examined soon after entrance, boots of a suitable shape were prescribed, and if trouble with the feet arose during the course, she was seen and prescribed for.

The number of nurses observed having reached 500 in the course of some eight years, it has seemed worth while to analyze the records of these observations. In addition to any information to be derived about the etiology of this acute form of static trouble of the foot, there are certain questions of specific interest to hospital superintendents, police commissioners, and civil service examiners which might well be elucidated by this mass of material. These questions are in part as follow:

1. Can it be told by examination whether the feet of an individual are likely to break down or not under the strain of constant use?

2. What are the factors in causing this breaking down?

3. What is the nature of the process giving rise to the painful condition?

4. How much may be done toward preventing it by the use of proper boots?

The material at my command consisted entirely of young women between the ages of 23 and 35. They were presumably healthy, having been selected from a large number of applicants who had answered a number of questions with regard to their general health when they filed their applications for admission to the school. The majority of them had previously earned their own living, having been school teachers, housekeepers, nurses or attendants in other institutions, stenographers, and the like. Many had, however, lived at home with no occupation.

During one period of a few months the nurses were not examined at entrance, but were fitted to regulation boots in a routine way and only seen by me if they had trouble. But under these circumstances the percentage of trouble was higher than when they were examined at entrance and prescribed for individually, and that method was abandoned. With the exception of this time, during which no records were kept, and of another period of a few months when the work was undertaken by a substitute, the 500 nurses have all been seen by me and prescribed for individually, and the series of observations is continuous.

The conditions of their life in the hospital are of importance. The probationary period is 2 months, the course itself 2 years. The nurses on the average work 9¼ hours, with 2 hours off during the day. They do not live in the hospital building, but in a modern, well-ventilated dormitory near the hospital. There are now about 150 nurses in the school, but when the inquiry was begun the school contained only about 115. There have, therefore, been under my observation for 8 years, at all times from 115 to 150 young women living under conditions entailing great strain on the feet. Having records of all these cases along with careful notes of the nurse's condition at entrance, I have been in a position to estimate the value of certain things observed in the feet at entrance and also the chance of familiarizing myself with the ordinary type of trouble

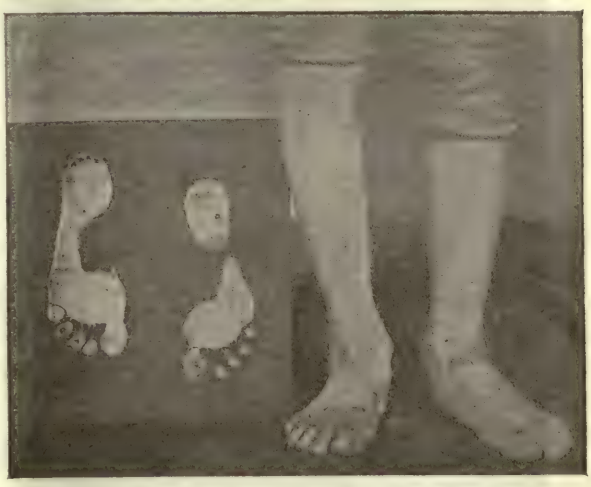


Fig. 1.—Pronated foot without breaking down of the arch. See tracing.

as it occurs in these nurses, of studying its character and progress, and of attempting to shorten its course.

Method of Examination.—Imprint tracings were first used by having the nurse step on smoked paper, but after 130 of these observations it became evident that they were practically worthless. An imprint of this sort is a composite record of two positions. The foot first touches the paper and records the nonweight-bearing imprint,

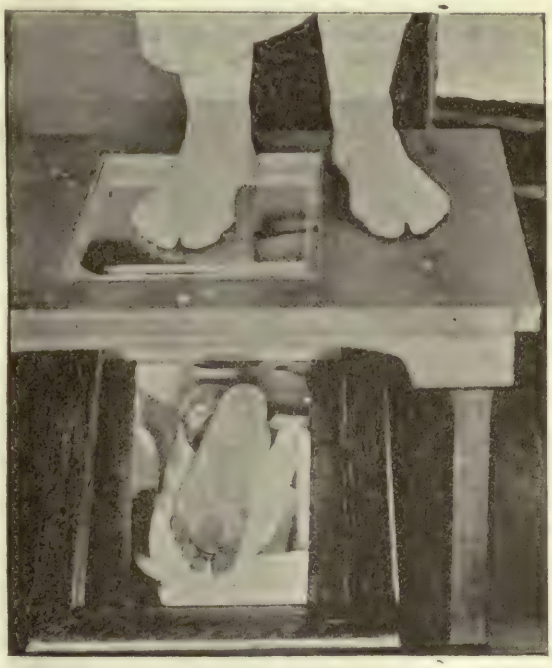


Fig. 2.—Patient standing on glass table with a mirror underneath. On the mirror is seen the weight-bearing surface of the foot.

and then the imprint of the weighted foot. The two are merged and a foot, which in use really rests upon two points of pressure only, the ball of the foot and the heel, gives a mark as if the outer border touched also. This outer border touches at first, then lifts under weight (Fig. 1). The imprints not only gave no reliable information as to the durability of an individual foot,

[1] Read before the American Orthopedic Association at Washington, May 14, 1903.

but when studied showed in most cases that they were made up of two superimposed impressions and must be misleading. The method was therefore abandoned.

A plate of glass with a mirror placed at an angle underneath was from that time used in all examinations. The nurse was examined with her feet bare, facing the



Fig. 3.—Tracing of a flat-foot. No symptoms, foot useful.

observer, on a glass plate raised 18 inches from the floor (Fig. 2). In her natural standing position the anemic weight-bearing surface of the feet was observed through the glass, being reflected in the mirror. The pressure surface was recorded by a pencil sketch in the record.



Fig. 4.—Tracing of a foot resting on two islands. No symptoms, foot useful.

These contact surfaces followed the same three types shown in the figures of the smoked tracings (Figs. 3, 4, and 5). By inspection of the feet from in front the degree of rolling in (pronation) of the foot was next noted and recorded as the nurse stood in a natural position. The condition of the circulation of the feet was noted in many cases, whether congested with distended veins or not. Calluses, bunions, crumpled toes, ingrowing nails, and other signs of abuse were noted. Finally, the general appearance of the foot and an estimate of its probable usefulness was recorded as excellent, good, fair, suspicious, or poor. Each nurse was then given a note to a retail shoe store with suggestions as to any modification required in fitting her to the regulation boot.

Value of the Examination in Determining the Durability of the Feet of an Individual.—In forming the opinion expressed in the terms "excellent," "good," "fair," etc., I was guided by the general appearance of the foot, chiefly whether or not it was pronated much, the condition of the circulation, the degree of flexibility to dorsal flexion in passive manipulation, and the nurse's previous history.

In analyzing the records I took the consecutive histories of a certain number of nurses who had during their course trouble of enough importance to lead them to complain, and of a similar number of nurses who had

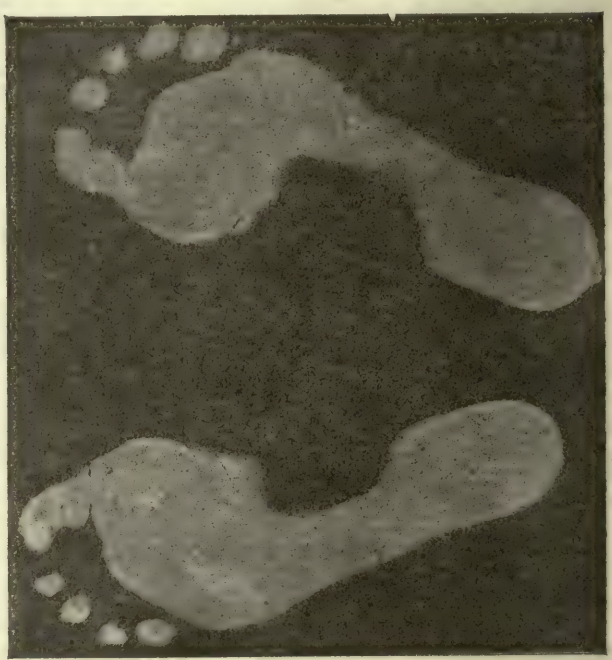


Fig. 5.—Type of tracing described as normal, with outer border touching ground.

no trouble and compared the later histories of the nurses of the two groups. The figures are given in percentages:

	Nurses having trouble.		Nurses having no trouble.	
Excellent	12%		6%	
Good	28%	60%	26%	62%
Fair	20%		30%	
Questionable	12%		12%	
Poor	10%	40%	10%	38%
Not classed	18%		16%	

It will be seen that my opinion of the usefulness of the foot, formed in this way was of no practical value in selecting the cases likely to give trouble. To reject applicants on an opinion formed by inspection would be unsafe. There have been five or six nurses with perfectly flat feet to go through the school without any trouble. There have been many nurses with the most unstable and threatening feet, which were badly pronated and bore heavily on the inner side of the ball of the foot and on the heel, who have gone through the school without discomfort, whereas nurses with feet in perfect relation to the leg according to all accepted ideas have been speedily incapacitated.

Weight and Size of Boot.—A series of 60 observations were made as to the relative weight of the nurse and the size of boot worn to see if the relatively small feet were the troublesome ones. The nurse was asked in each case what her weight was, and what was the size of her boot. Of the nurses having trouble the average weight was 132 pounds and the average boot No. 5. Of the nurses having no trouble the average weight was 131 pounds and the average boot No. 5. It was evident that no information was to be obtained from this line of inquiry.

Pronation.—The amount of pronation or rolling in of the foot was investigated (Fig. 6). It is generally assumed

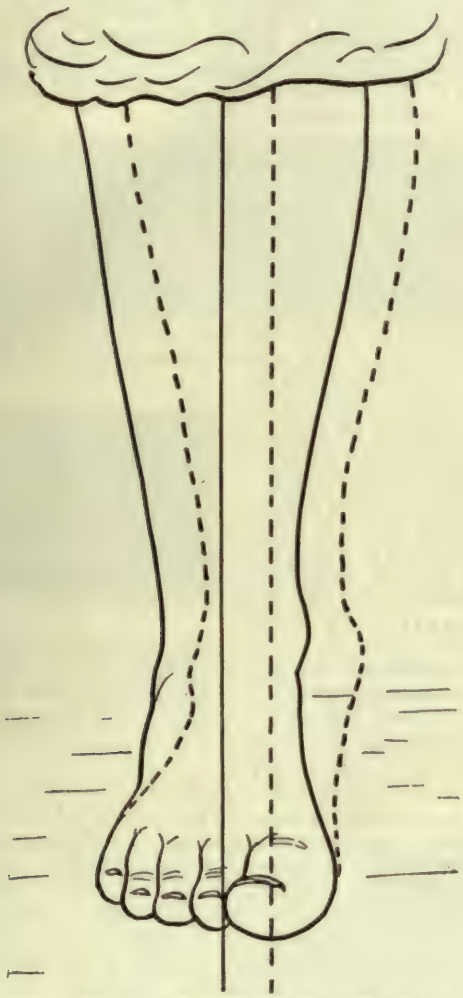


Fig. 6.—Normal and pronated position of the foot, the latter in dotted outline.

that although a certain amount of pronation is normal in weight-bearing, more than a moderate amount is an evidence of weakness in the foot and predisposes to breaking down. The figures to be quoted do not bear out the opinion that decidedly pronated feet are necessarily likely to break down under strain. This fact explains in a measure the foregoing statement that the estimate formed by inspection was of little value, for influenced by general opinion I was led to regard pronation as the most important factor in forming my opinion. The estimate of pronation was made by the eye and was recorded when the nurse was first seen.

The table consists of the consecutive records of 185 nurses analyzed later to see what proportion of nurses who had trouble and who had no trouble had pronated feet when they entered.

In a general way the percentage of trouble was slightly higher when much pronation was present (23% as contrasted with 17%) and slightly lower when there was little or no tendency to pronation (40% as contrasted to 43%). But such a slight difference shows that the

	Nurses without trouble.	Nurses with trouble.
Pronation marked	13% } 17%	18% } 23%
Pronation more than average	4% }	5% }
Pronation average or moderate	30%	26%
Pronation slight	17% } 43%	20% } 40%
Pronation very slight	10% }	10% }
No pronation	16% }	10% }
Not noted	6%	7.5%
Feet flat	1.2%	.....

degree of pronation or "weak foot" is of little practical value in forming an estimate of the usefulness of an individual foot.

Pressure Areas on Glass.—The only sign observed at the first examination that seemed to be of prognostic value was the imprint of the nurses' weight-bearing foot as observed through the glass plate. The nurses showed three types of pressure areas (*a*) when the foot rested on two islands, one under the heel and one under the ball of the toe while the outer border did not bear weight. This type was classed as "two islands;" (*b*) when the outer border bore weight as well as the heel and front of the foot; (*c*) when the foot was more or less flattened and the outer border was very broad.

One hundred and fifty nurses were classed as follows:

	Both feet "two islands."	One foot "two islands." One foot outer border bearing weight.	Both feet outer border bearing weight.	Both feet flat.
Nurses having trouble	58%	18%	18%	6%
Nurses having no trouble	42%	15%	38%	2%

It will be seen that nurses whose feet bear weight along the outer border are less likely to have trouble than when the weight rests on two pressure islands.

Flexibility of the Foot, Circulation, etc.—The degree of

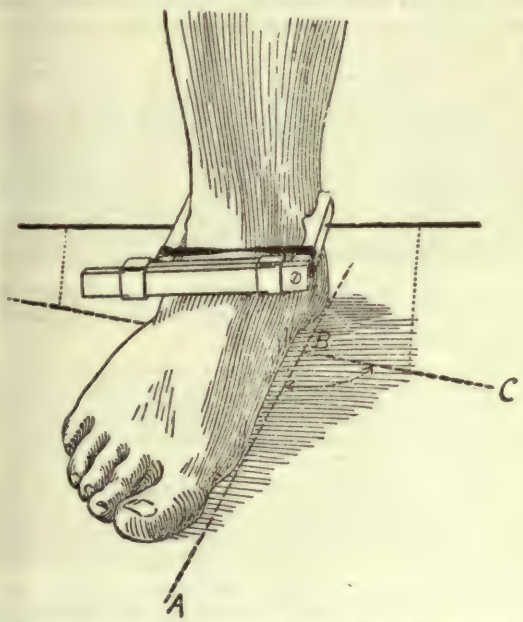


Fig. 7.—Apparatus for estimating index of pronation. The angle to be measured is A, B, C.

flexibility of the foot in passive dorsal flexion proved not to be a sign of prognostic value, nor did disturbance of circulation in the foot, as shown by congestion and

distention of the veins at the first examination, signify anything of importance, as at the beginning of the training such a disturbance was common.

The index of pronation of the foot, as measured by an instrument devised by Dr. F. J. Cotton and myself, did not prove of the value that we had hoped[1] (Fig. 7).

In 21 cases measured by this instrument the index averaged as follows:

Nurses without trouble....	Right foot supinated.	60 L.	P. 61.
	Right foot pronated.	63 L.	P. 65.
Nurses with trouble.....	Right foot supinated.	58 L.	P 61.
	Right foot pronated.	62 L.	P. 65.

Much to my regret, therefore, I am obliged to record the fact that the original examination has proved of little value so far as it indicates whether the feet of an individual nurse are likely or not to give trouble under the severe strain of use. The only point to which much importance can be attached is the character of the imprint on glass. The examination, however, is I believe of great value in suggesting precautions which may be taken which will be spoken of later.

Nature of Process.—The character of the disturbance when it occurred was next investigated.

Symptoms were of a pretty uniform character. Burning and a full feeling in the feet were succeeded by lameness and stiffness. Swelling of the feet and some restriction of the normal motion followed in the severer cases. These symptoms in favorable cases under proper treatment improved and disappeared. In certain cases, however, in spite of proper support, massage, douches, etc., these increased until the nurse was incapacitated from work for a few days. Tenderness appeared in nearly all these cases, either under the scaphoid or under the bottom of the heel, rarely in the great-toe joint. Pain in the knees and back were not uncommon symptoms. Rare symptoms were synovitis of the tendo-achillis and only in one or two cases was there complaint of pain in the front of the foot, and these seemed to be traumatic.

Change in Imprint.—The essential character of the static change causing the trouble was investigated and proved to be a moving inward of the bearing surfaces as seen through the glass, in a few cases observed no change had occurred, and the imprint was the same as at entrance. It seemed generally as if the muscles relaxed and allowed the foot to roll in. *Real breaking down of the arch of the foot in nurses having trouble was not observed in any case.*

Season of Year.—It became evident that nurses were more liable to have trouble at certain seasons than at others. The cases classified by months are as follow:

January..... 8% of all cases.		July ..... 4% of all cases.	
February ..14% " "	64%	August..... 2% " "	
March .....24% " "		September..... 0% " "	
April .....10% " "		October..... 0% " "	
May.....16% " "		November..... 8% " "	
June..... 6% " "		December..... 6% " "	

64% of all cases occurring in February, March, April, and May.

Time at Which Trouble Occurs.—Inquiry as to the period of the nurses' training at which trouble began gave the following result:

At once	2%	Four months.....	6%
One month.....	16%	Six months	6%
Six weeks.....	4%	Nine months.....	2%
Two months.....	20%	Twelve months.....	2%
Ten weeks	12%	Twenty-four months.....	4%
Three months	28%		

It will be seen that 60% of all cases of trouble occurred in from two to three months after entry. As the nurses are admitted more or less equally through the year it will be seen that there is another etiologic factor beside the seasonal one just mentioned.

Conditions Preceding the Trouble.—In nearly half of the cases no definite cause could be assigned for the trouble. The abnormal conditions preceding the trouble mentioned in the order of frequency were as follow: Tonsillitis or diphtheria, rheumatism, change in work, improper boots, confinement to bed, excessive heat, neurasthenia, trauma, amenorrhea. Nurses seemed inclined to experience their first trouble during menstruation, rather than between the periods.

The relation to rheumatism seemed of much interest. Three or four perfectly typical cases of trouble in the feet occurred in nurses previously free from rheumatism. These cases all proved resistant to ordinary supporting treatment, but in a few days developed signs of general rheumatism. No diagnosis of rheumatism was made in this connection unless the symptoms appeared in the upper extremity, as in the hips or knees they might have been purely irritative and due to the abnormal use of the foot. There was nothing to distinguish them from the ordinary painful affection in the beginning, but in their later course they proved obstinate and long continued. Such patients required support to the arch as much as if the affection were purely static, and derived as much comfort from it.

Another point of interest is that when trouble with the feet occurred during a long period of amenorrhea it was apt to be most troublesome. In one nurse in a period of severe discomfort, during which she was barely able to get about the ward, menstruation came on and the trouble at once improved.

Period of Disability.—When it became necessary to take a nurse off duty it was not done, of course, until it seemed that she would not recover by the use of a proper support while at her work. The period of disability lasted in most cases from two to three weeks. It always seemed at the beginning as if it would be less, but continued experience showed that if a nurse had once experienced severe trouble it was wiser to keep her off duty until the tenderness in the foot had practically disappeared.

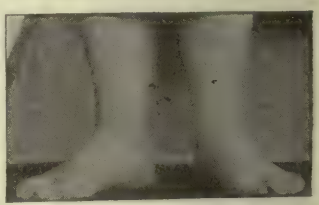


Fig. 8.—Photograph of a nurse who broke down after three months and who has been incapacitated from work for two months. In this case the foot appeared to be so good that the regulation boot was not ordered.

No statistical inquiry has been attempted as to the number of nurses having trouble or incapacitated each year, as it would have involved much more labor than it would have been worth. The causes of removing a nurse from duty are often complicated, and any such inquiry would have necessitated a search into the nurse's record in each case as well as into my own records. A fair statement of the case would be that for the last five years some nurses have each year been incapacitated from duty. During these years in a few cases nurses have left the school on account of continued or recurring disability in their feet.

The evidence so far adduced points rather to the general condition of the nurse than to the especial structure of her feet as the cause of the trouble. They have trouble in the spring when they have been housed all winter and when the work in the hospital is hardest. This trouble is more likely to come between the second and third month of their course than at any other time, when the novelty of the situation has worn off and the fatigue of the routine begins to be felt. The trouble is likely to follow diseases which debilitate the muscles.

Boots.—It is a matter that would be admitted without discussion that if a person is to undergo a severe test to the foot in the matter of standing that a good boot is better than a bad one. The chances of enduring the strain successfully would be diminished by wearing a tight boot with a pointed toe, a high heel, and a slender flexible shank.

At the time that these observations were begun there was no ready-made boot for women in the market worthy of serious consideration. It was, therefore,

[1] Lovett and Cotton, Some Practical Points in Anatomy of the Foot, Boston Medical and Surgical Journal, August 4, 1898.

necessary to have one constructed on new lines, and in the boot devised and used since that time the following points were aimed at: 1. The boot should be as wide as the foot in front. 2. The inner edge of the front of the boot should be nearly straight, so as not to displace the great toe outward. 3. The boot should be constructed on a slightly curved line, the convexity being outward so as to hold the foot in its position of strength. 4. The shank should be fairly high and slightly stiff.

These propositions were submitted to a firm of shoe dealers and a last made on these lines. This boot has been used by these nurses and has not been radically changed. At first it was made a little too much curved, and was apt to cause corns on the little toe. At one time the shank was made stiffer, but shortly after this there was a good deal of trouble among the nurses and I returned to the original shank. But this outbreak of trouble was coincident with increased duty on account of the admission of soldiers returning from the Spanish war, and was probably due to that. The boot is not ideal, and may not be the best for the purpose, yet I have felt that experiments were risky and that I had at least a fair boot, the working of which I understood. My aim, in short, has been not to cramp the foot in front, to support the arch underneath, and to hold the foot slightly curved.

The difficulties have been to get the shoe dealer and the nurse to agree on a boot sufficiently wide in front and to get the manufacturer to make the last deep enough where the upper of the foot joins the vamp in front. The transverse seam below the lacings has been on the whole too tight and a source of much trouble. If it is made too loose the front of the boot wrinkles and the regulation boot and most others are too shallow where the upper joins the vamp in front. In each case the nurse has been given a letter stating her requirements and the instructions to the dealer have been that if she could not be fitted properly she must have a boot made on the same general lines but suiting her especial requirements. In perhaps 250 nurses the boots were inspected before being worn, but the system was abandoned on account of certain practical difficulties, and since then the nurses' instructions have been to report if the boot was not comfortable. Lace boots are ordered with rubber heels and low shoes are not allowed except by special permission in selected cases. The boots are made of kid, with a sole of medium thickness; the shank is stiffened by a light piece of spring steel and the heel is of medium height.

In 130 nurses I made outline tracings of the foot and of the boot worn at entrance and in practically all cases the result showed a gross disproportion between the size of the boot and the foot. Of later years the style of boot worn at entrance has improved and there are now in the market several styles of cheap boots which conform fairly well to the theoretic requirements. At one time when a nurse came to the hospital wearing a good boot which seemed to meet the requirements I did not order regulation boots but allowed her to wear what she had. But the experience was not favorable to the method and the proportion of trouble in such nurses was unduly large, and now the regulation boot is prescribed except in very exceptional circumstances.

It is a very common experience to have the slight trouble which very often occurs in the first days of duty immediately relieved on putting on the regulation boot. The outcome of my experience has been that I believe that a good boot diminishes trouble, but cannot prevent it, and that if nurses were allowed to wear boots of their own selection, there would be much more trouble than there is now. That as the cause of the trouble seems most often to be found in muscular relaxation due to fatigue and similar causes, the problem is so far as possible to supplement the action of the muscles in holding the foot in its supported position.



Fig. 9.—Four nurses with flattened or pronated feet, who after months of service had been comfortable. These were classed as "suspicious" at entrance.

Prevention of Trouble.—At the first examination, if the nurse's boot was trodden over to the inside, or if much pronation was present, the inner side of the sole and heel was made ⅛ inch or even ¼ inch thicker than the outer side in order to tip the foot over onto its outer border somewhat.

Continued experience has not shown that this is a measure of much value, and its preventive effect was small, and in the last year or two it has been used much less than at first. If the nurse's foot showed a very high arch, an order was given for a boot with an extra high shank. In some of these cases a cork pad was put in at the beginning to support the high arch. In a few cases of very severe pronation, and in one case of traumatic flat-foot, metal supports have been put in when the nurse was first seen with apparent prevention of trouble.



Fig. 10.—Photographs of the standing position in five consecutive probationers at admission. These were taken to show the average foot, and in no one of the cases had there been any trouble.

Treatment.—Every nurse has been asked to report at once any discomfort in the feet, but the disposition has been to put off "making any fuss" until the condition had existed some days at least.

In the milder cases the aim of the treatment has been to relieve the muscles from strain and to stimulate the circulation. Felt pads have at once been put in the boots to support the arch, and the nurse has been ordered to soak the feet in hot water at night for 10 minutes

and then to shower the feet with cold water and to bandage the feet and legs with flannel for the night. The majority of early cases have, I think, yielded to this treatment. If, however, rapid improvement has not come on in two or three days, or if the first symptoms have been severe, a metal support to the arch of the foot has at once been put in and measures to stimulate the circulation have been used, as described above. In some cases plates have relieved the symptoms at once and have been worn for a few weeks or months, generally to be given up later.

In the severest cases all sorts of expedients have been tried to cure the pain while the nurse continued her work. The most efficient support of all is to apply a felt pad to the instep while the foot is held inverted by fastening the pad to the bare foot by several straps of adhesive plaster which pass from the outer border of the foot under the foot and up under the inner side of the arch over the top of the foot to the ankle. These straps overlie each other and are covered by a heavy cotton bandage. This dressing must be renewed every day or two. This dressing, which is distinctly more supporting than any metal plate, has in some cases carried nurses over a painful attack while on duty, but more often it has failed in the severest cases. In these severest cases hot air baths, massage, and stretching of the calf muscles have been faithfully tried with no brilliant success. They have helped the condition, but I cannot recall a severe case in which any one of these latter measures has made any serious difference.

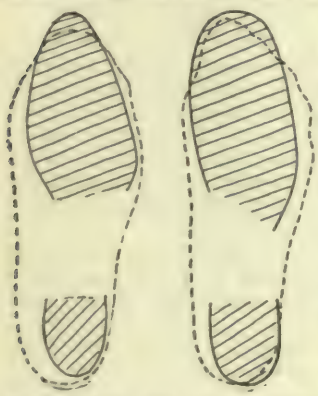


Fig. 11.—Feet and boots, typical tracings. The boots are shaded.

If a proper fitting metal plate fails to relieve symptoms within two or three days the sooner the nurse is laid off the better and the shorter her period of incapacity. When she is laid off she is not allowed to walk, but as she convalesces she is encouraged to take out-of-door walks and is not regarded as fit for duty until she can walk a mile or two on brick sidewalks without pain. Several times it has been demonstrated that it was unwise to allow nurses to go on duty under other conditions. Strychnin in fairly large doses has been used in a number of cases in the hope of improving the muscular tone when trouble was threatening but I have failed to see striking instances of its benefit.

In no case can I recall that a metal plate has been otherwise than helpful. It is often not enough to prevent laying off of the nurse, for the traumatism of constant walking and standing is too great for it to overcome, but as a preventive it is of great value and a great aid in protecting from strain convalescents from foot trouble. A few nurses have continued to wear plates throughout their course, but the majority have dispensed with them after a while.

A summary of this paper can perhaps best serve its purpose by attempting to answer the questions proposed at its beginning:

1. It has not been possible to tell with any certainty by examination whether or not the feet of an individual are likely to give trouble. The only reliable information obtained in these cases was given by the imprints seen through glass. A foot with a well-distributed pressure area seemed rather less likely to give trouble than one resting on two islands; the degree of pronation, the condition of the circulation, the relative weight of the nurse, and the dorsal flexibility of the foot all proving of little or no value as elements in prognosis. A flat foot may be perfectly serviceable as may also a severely pronated one, while an apparently well-balanced foot may become painful.

2. The factors in causing the trouble among the nurses were to be sought rather in the general conditions than in any especial conformation of the foot. It followed in many cases, illness and other conditions causing muscular debility. It occurred in most cases from two to three months after entrance and it began most often in the early spring when the nurses had been indoors all winter, and least often in the fall.

3. The trouble was caused by a rolling in of the foot and a shifting inward of its weight-bearing areas and not in any case observed by a breaking down or even lowering of the arch.

4. Although proof by figures is lacking it is probable that the amount of trouble has been decidedly less than it would have been without the use of a proper boot.

SIXTY-EIGHT REASONS WHY "GLASSES DID NOT GIVE RELIEF."

BY

GEORGE M. GOULD, A.M., M.D.,

of Philadelphia.

Headache, sick-headache, biliousness, dyspepsia, neurasthenia, anemia, anorexia, chorea, epilepsy, and many other nervous, mental, cerebral, and denutritional disorders may, or may not, be due to eyestrain. That glasses in certain cases fail to relieve these symptoms is no proof or disproof of either alternative. The failure may be due to any one or to any combined number of the following facts:

1. The patient's complaint may not be caused by eyestrain.

With those who habitually indulge in "hobby-riding" of a negative kind as to eyestrain, it is customary to charge others with exaggeration in claims as to the influence of this factor. "The eyestrain crank" of today not only does not ride his hobby hard, but he does not ride it nearly hard enough. There is no danger that he will convince the world that eyestrain is the chief factor in causing the great majority of human diseases, because that is not true. It is requisite only that it shall be acknowledged as an important and active source of many, but yet of a minority, of diseases.

2. Intercurrent disease, dyscrasia, bad hygienic habits, conditions of mind—many indirectly related factors may condition or hinder the cure of the disease which fundamentally depends upon eyestrain, or was principally caused by it.

Disease often has more than a single cause and a cure may depend upon a number of combined treatments.

3. Stopping the cause does not always stop a morbid effect.

Especially is this true of eyestrain. A nervous system, or distant organs, or the eye itself, once severely morbidized, may not recover soon or even at all, after the injuring cause has been abrogated.

4. The glasses may have been prescribed by an optician, instead of by a physician.

No optician ever prescribed a scientificly correct pair of lenses. There is no duty more incumbent upon the medical profession than to make illegal the prescription of glasses by opticians.

5. The physician-oculist may lack the degree of special education and experience requisite to do refraction work.

Long training and a peculiar devotion to the acquirement of the special learning, skill, and judgment are necessary to enable the physician to become a successful refractionist. There are many such in our country, but a thousand new ones well-fitted for their work could at once find good practices in the United States.

6. The oculist may not be morally right minded in carrying on his work and in the conception of his function in life.

No good refraction work is possible by a man whose aim is success and money-making. The fundamental motive of a physician must be the relief and prevention of suffering. A man who does not love his fellow-men will not rightly succeed as a physician and especially as a refractionist. An oculist who does not love refraction will take short cuts to avoid the tediousness of careful diagnosis, and he is likely to become an ophthalmometer-worshiper.

7. He may not be intellectually fitted or capable of doing this particular kind of work.

A man may be a good operator, or competent to treat inflammatory diseases, but utterly unable to diagnose and prescribe for an error of refraction. This demands a delicate sensitiveness and a peculiar painstaking accuracy of mind, judgment, disposition, tact and touch, which can necessarily be possessed only by a minority.

8. He may not be sufficiently painstaking in attention to mathematic accuracy and to the slightest details.

It is the little, "the inconsiderable thing," in refraction work upon which the relief of the reflexes depends. High optical errors ruin the patient's eyes, dictate his occupation, or change his interest in conduct or ideals of life It is the low error, especially the unsymmetric astigmatism, and the slight anisometropia that beget the enormous variety of reflexes to the brain, the digestive system and the entire nervous system, without showing any injury to the eyes, or producing symptoms in them.

9. He has not devoted himself almost exclusively to refraction.

The work demands too severe and continuous absorption of energy to permit of other interests. Science is too extensive in any one branch, and especially in this one, for the "universal specialist." Mastery is not attainable in more than one department. If an oculist's principal interest lies in surgery he will neglect the conditions of success in refraction. Good refraction prevents the ocular surgical diseases, and it will largely do away with the ophthalmic surgeon. There have arisen men who cut muscles for eyestrain, or who pretend to do so, but who prescribe glasses at the same time, the cure being carefully credited to the tenotomy.

10. He relies upon rules instead of studying each case individually, judging and ordering by intellectual and discriminating methods.

There is no "typical case" in studying eyestrain, and far more than any other cause of disease, its effects are variable, subtle, and multiform. The only rule should be to have no rule.

11. He has not office tact and an ability to get in touch quickly with the patient's condition of mind.

To elicit the ever-new and ever-varying differences of symptoms of eyestrain is difficult, but it is necessary to do this in order to understand the disease and to give relief. The oculist who looks upon his patient as so much "clinical material" never gets the real clinical material.

12. He has some prized fad or method, as retinoscopy, a peculiar drug, a mechanical device, optometers, refracting machines, etc., in the use of which facts must accommodate themselves to the fancy instead of the data fashioning the diagnosis.

In science, and especially medical science, and above all, in the oculist's combined science and art, the theory must be the outcome of an unconstrained reading of the facts. Lack of prejudice is a primal condition of truth-getting. No compulsion must be put upon the facts or the method of eliciting them, except to minimize the friction and avoid the errors of all methods.

13. He relies upon objective instead of, when possible, upon subjective methods of diagnosing ametropia.

It is the patient's eye not the scientist's machine which the patient has to use in after-life, and the patient is less likely to make mistakes than the machinery plus the machinist. Ametropia cannot be so certainly estimated by any objective method as by the subjective method. In children, the stupid, the amblyopic, insane, etc., we may be compelled to rely upon it, but it is in default of the more trustworthy one. Sometimes the two methods must be combined, but the oculist who in the case of intelligent patients allows the ophthalmoscope, retinoscope, ophthalmometer, or "refractometer" to guide his diagnosis and dictate his prescription will inevitably and rightly fail to do accurate work. All machinery is a tricky, untrustworthy servant.

14. He does not use a cycloplegic.

There is no accurate estimation of ametropia except by paralysis of the ciliary muscle and the common teaching that the cycloplegic is not necessary during the years of incomplete presbyopia is the reverse of the truth. Precisely when the accommodative function is being crippled there is the greatest need of the greatest accuracy. Care must of course be taken in excepting those with a tendency to glaucoma, in the choice and method of using the mydriatic, etc., but there is little danger from the office use of combined homatropin and cocain in patients up to 55 years of age.

15. His cycloplegic may not be of the right kind.

Certain mydriatics in certain cases produce congestion and thus alter the tension of the eyeball, changing the corneal curves, the pressure of the lids, etc. Combined with the mydriatic cocain usually prevents this.

16. The cycloplegic may not be of good quality.

Discs placed within the lid and allowed to dissolve produce congestion. Many solutions are spoiled by age or by *penicillium*. Some chemicals are themselves poor in quality when sold. Some solutions are so badly made that they produce irritation, or even infection.

17. The cycloplegic must be rightly instilled.

If the patient is instructed to do the "dropping" it is usually poorly and improperly done. From six to eight instillations during the hour immediately preceding the tests made in the office by a medically trained person insures the best results.

18. The office lights, reflections, etc., often prevent accurate answers of the patient.

In many oculists' offices a glare of light in front or at one side so exhausts the retina that fatigue inevitably results. Often a light from behind reflected from the posterior surface of one or both lenses in the trial-frame confuses the attention and tires the retina of one or of both eyes. The eye under mydriasis cannot protect itself from light-insults.

19. The illumination of the test cards may be so excessive, so poor, or so irregular as to fatigue the patient's retina.

This is especially true if the test cards are made up of black letters on a white background. It is also true when a large area of reflecting surface is illuminated by a bad system of lighting.

20. Test cards made with black letters on white cards exhaust retinal sensibility in the iris-paralyzed patient.

21. A test card may be hung at such an angle as to reflect an irritating and exhausting sheen into the patient's eyes.

22. Astigmatic test cards, Pray's letters, and a hundred devices confuse the patient rather than help him to clearness of decision.

One good black card of test letters is all that is advisable or necessary.

23. It is impossible for the most expert refractionist to elicit accurate diagnostic answers when using the ordinary trial-frame.

Nothing so well proves the abominable neglect of the necessary conditions of accurate refraction as the commonly used trial-frame. In a world full of ingenious mechanical devices this wretched mechanism seems expressly designed to prevent the very conditions of precision. It is heavy; it fits no eye or face; it does not hold the trial-lenses in the same position in which the spectacle lenses will be placed; it wounds the patient's nose, and the astigmatic lenses cannot be turned in it without absorbing all the patient's attention, so that none is left for discriminating as to acuteness of vision. Other devices, optometers, refractometers, lens-holders, etc., lead to other and to worse abuses. A proper trial-frame must be light, produce no irritation of the skin, allow the trial-lenses to be properly placed as in well-adjusted spectacles, and above all, it must permit rotation of the cylindric lens with the greatest ease and without attracting the patient's attention in any way. The frame should be grooved or slotted so as to allow of easy rotation of the cylinders at least 180°.

24. The case of test-lenses in common use is hardly less ridiculous than the trial-frame, etc.

There are not enough lenses of a kind; there are not enough kinds; the gradations of differences are too large; the handles are either absent entirely, or phocomelic and useless, etc. Good refraction requires handles to the lenses about three-fourths of an inch long.

25. Frequently the test-lenses are so scratched or soiled that acuteness of vision is prevented instead of encouraged.

26 to 29. In interposing the low-grade trial-lenses to test slight differences of visual acuteness, the detection of the difference by the patient is rendered doubtful or impossible by the usual method of inserting or holding the test-lens.

a. By allowing the interposition of a needless and confusing image.

b. By striking the trial-frame or inserted lens with the differentiating lens, making a noise, and consequently distracting the attention.

c. By getting the hand in the line of vision.

d. By allowing too great time to elapse between two changes so that the memory cannot form and carry precise distinctions, and by not allowing sufficient time in special cases and in certain persons for the formation of such judgments. Great helps in all of these points are two each plus and minus sphericals and cylinders, 0.25 D. each, with handles about four inches long.

30. Patients must not be hurried, or intimidated, or dominated.

To elicit correct answers the peculiarities, verbosities, and fancies of the patient's mind and disposition must usually be guided rather than crushed; controlled, indeed, but not so as to arouse abnormal and incorrect answers.

31. The patient's answers may sometimes be unintentionally the reverse of correct, or wrong in odd and unexpected ways.

Not the least of the oculist's expertness consists in deducing the truth from such answers, and by a sort of unexplainable intuition reaching the diagnosis through the jumble of inaccuracies. Rarely the objective methods may be needed to untangle the mysteries.

32. Good or bad visual acuteness is not the decisive criterion of accuracy of diagnosis of ametropia.

Many patients may be given 20/20 or even 20/15, with unsuspected astigmatism, misplaced axes, or othewrise inexact correcting lenses. "Amblyopia" may be a euphemism covering the oculist's blunder and inability to find the true correcting lens, and to bring the vision to normal.

33. There is probably not an optically or "mathematically" perfect pair of eyes in the world.

One pair of eyes pronounced so by a great authority I proved to be myopicly astigmatic, and that this defect caused serious and repeated subconjunctival hemorrhages and other symptoms. Such slight defects may or may not produce symptoms, or need correction.

34. Great care is necessary to determine the relative amounts of astigmatism and of axial defects.

Astigmatism over-corrected or under-corrected produces instead of relieves eyestrain. Too high or too low sphericals aggravate astigmatism and the irritation it produces.

35. The location of the precise axes of astigmatism is necessary for the relief of symptoms.

There are far more asymmetric axes than is commonly supposed. Inaccurate placing the axis by 5° in low defects, or less in high defects, insures failure. In high degrees after the spectacles have been fitted, tests should be made with each eye alone, to see if the axes are exactly placed, by twisting the frame slightly on itself to either side. If vision is increased by the procedure then there is incorrectness requiring a more perfect adjusting.

36. The head of the patient should be kept erect and in a natural position, not canted to one side or downward, while the tests are being made.

Unsymmetric and oblique axes of astigmatism frequently make the patient habitually incline the head to either side or downward, so that when the errors are corrected in an abnormal position the result afterward may not be satisfactory. This is especially true when optometers are used.

37. Low degree myopic astigmatisms are too frequently not diagnosed, and owing to the utter inability of the ciliary mechanism to neutralize them, they may produce severe reflex disturbances.

Ease of securing acuteness of vision by piling up the myopic sphericals leads to the error of ignoring the existing astigmatism.

38. "Full correction" of myopia is a prolific source of eyestrain.

Hardly any two oculists will agree as to what is full correction. Ignored astigmatism may vitiate all findings and results. Even approximately "full correction" will produce strain for near-work. Greatly reduced correction is needed in the near-work glasses, and some reduction is usually necessary even in the distant glasses.

39. The static mydriatic refraction cannot be trusted to dictate the prescription of "constant" glasses.

There are numerous and unsolved problems concerning the "postmydriatic changes," and the reductions in hyperopia, and especially in mixed astigmatisms, present a multitude of such problems of amazing variety and difficulty, failure to solve which with exquisite accuracy, means failure to relieve, and may mean even increase of the symptoms. A big book could be written on this subject.

40. Hypertrophy, or miscalled "spasm" of the ciliary muscle, may make it impossible to prescribe the permanently right glasses at once; may demand changes at short intervals, and may render the glasses prescribed unendurable.

41. The patient's history as to the eyes and reflex diseases must be considered in giving high or low corrections either myopic or hyperopic.

42. The injury to the retina and to the sight-making centers by long eyestrain may make ocular labor impossible for a short or long time, even with proper correcting glasses.

The older the patient, the greater the muscle imbalance, the higher the amblyopia from misuse and abuse, the longer and more doubtful will be the cure.

43. An error may be made in transcribing or copying the prescription; the optician may grind the glasses wrong; his tools may be worn; he may give the patient somebody else's glasses; the patient may exchange spectacles with some one, etc. Loosened lenses may be reinserted wrongly by a jeweler, etc.

These things are constantly taking place.

44. The order for glasses must be carefully adapted to the occupation of the patient.

Artists, musicians, some music teachers, draughtsmen, barbers, certain machinists, some physicians, and patients pursuing many peculiar occupations, require lenses with different foci from those of patients in other callings, and may even need exceptional styles and shapes of manufacture.

45 to 51. The muscle-balance conditions the strength of the lenses to be ordered, the aim being to establish a normal relation between convergence and accommodation.

a. There should be at least thrice the power of adduction as of abduction to give ease in ocular labor of those doing much near work.

b. Low hyperopic corrections are needed in exophoria.

c. High hyperopic corrections are needed in esophoria.

d. Hyperphoria of more than 1° or 2°, when permanent, should be partially corrected by prisms ground in the ametropic lenses.

e. Permanent prisms correcting exophoria or esophoria are not advisable. In exophoria the adduction power may be trebled or quadrupled by prism-gymnastics.

f. The wearing of a new correction itself may change the muscle-tensions, intraocular pressures, etc., and thus may change the ametropia, and make a change of glasses necessary.

g. It will more surely change the muscle imbalances, thus rendering the old prescription incorrect.

52 and 53. The symptoms of long-continued exophoria and esophoria, of a high degree, may rarely not be relieved by proper ametropic spectacles alone.

In the great majority of cases the ametropia is the original cause of the lack of muscular balance. In some it may not be

so, and in others that are chronic, the effect does not remedy itself with the functional cessation of the cause.

a. In exophoria that causes symptoms and that does not in time disappear with proper glasses, the symptoms can be relieved only by increasing the adduction power by appropriate prism-gymnastics. It may be doubled, quadrupled, etc. until the symptoms vanish.

b. In high esophoria, a very rare condition, producing symptoms, a case or two may be met in a life time, in which there is little or only partial relief, either by glasses, prisms, or surgical operation. Even good oculists cannot cure in more than 999 cases out of 1,000!

54. Like every other biologic condition, the ametropia is constantly changing, and thus retesting is requred at stated intervals, with a change of glasses if required.

Few eyes remain the same in refraction and muscle-balance for longer than two years. In some patients the change will produce eyestrain in less time, and even every few months for some years.

55 to 60. One of the most frequent causes of eyestrain is ill-adjusted glasses.

a. But few people can keep eye-glasses so accurately adjusted, for near work, that they do not produce at least as much eyestrain as they relieve. A new bearing on the nose is unconsciously found which is more comfortable as regards the skin, but which puts the astigmatic axis in an abnormal position. Spectacles are the proper instruments for the great majority of patients.

b. Nine-tenths of all glasses are set too vertical. Nine-tenths of all our looking is downward. The axes of vision should be nearly perpendicular to the plane of the lenses in the most straining work.

c. Nine-tenths of all glasses are set too high. In downward-looking and in near work, the axis of vision is through the lower edge of the lenses instead of through or near the optical centers.

d. Few opticians know how to fit and adjust a pair of glasses so that the pupils are behind the optical centers of the lenses. The photographs of a hundred people wearing glasses show that the glasses are so ill-adjusted as to disgust an observant oculist.

e. Few opticians fit the temple pieces of spectacles and adjust the wires to the irregular curves behind the ears, so that they produce comfort. Many patients leave off glasses because of this discomfort to the nose or ears.

f. The optician should readjust the lenses about once a month.

61. Before wearing the glasses ordered they should be seen by the oculist, tested as to correctness of manufacture, and as to the adjustment, etc.

And periodically thereafter. No competent oculist allows his patient to wear glasses he himself has not tested and pronounced correct in manufacture and adjustment. This must be done after every renewal, change, or repairing.

62. Most glasses are set too far from the eye.

The requisite closeness to the eye cannot be obtained in a majority of cases except by partial clipping of the upper central lashes. Retrimming is also necessary once a month. If the lashes strike the lens the eye is irritated, even congested, and the glasses are soiled.

63 and 64. Soiled lenses are frequent and constant sources of eyestrain.

a. From too long lashes.

b. From lack of frequent and proper cleansing.

65. The Canada balsam in bifocal lenses may produce irregularities in the refraction, or it may dry unequally and produce opalescent bubbles so that the eyes soon tire. A lens may have an original or acquired imperfection, flaw, dent, etc., in or near the axis of vision, producing unendurable irritation.

66. Eyestrain often exists in presbyopes because of the need of bifocal lenses.

This is produced by the effort at convergence in eating meals with the distance lenses only, and in the constant looking with them at near objects, rather than to change glasses, etc.

67. Pride and prejudice often make people secretly or openly, temporarily or constantly, forego the use of spectacles, of bifocals, and even of eye-glasses.

Thus the conditions of the test are not properly observed.

68. There are one or two ways in which proper glasses may rarely increase eyestrain, at least temporarily, instead of relieving it. This is when one eye has been thrown out of function by past eyestrain, the image psychicly ignored, or the retinal or central organs so weakened, that the proper image so stimulates and arouses function in a weakened organ as to beget trouble until amblyopia disappears and the injured organs become normal in action.

It is understood in all cases that the eyes are not organicly diseased, that they have transparent media, and that strabismus, alternating or other, does not exist. I have also had two cases in which one eye had so long been used for distant vision only, and the other for near vision only, that this habit could not be overcome. I have also had one case of acutely stretching eyeballs, suddenly contracting by the influence of glasses, so that only low and quickly changed correction was borne.

FUNNEL-CHEST, WITH REPORT OF TWO CASES.

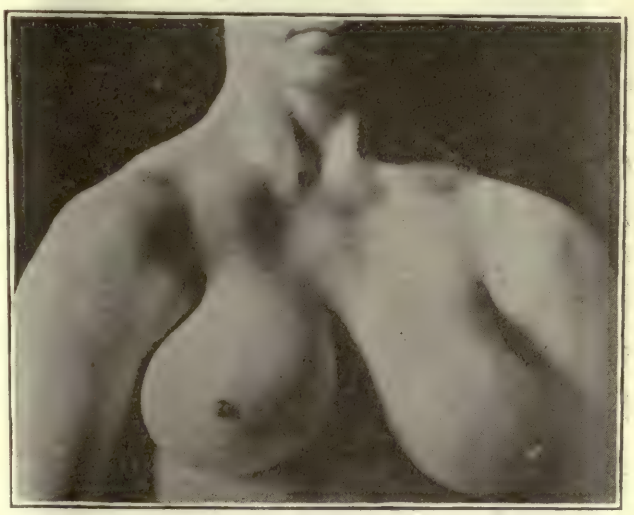
BY

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Funnel-chest, pectus excavatum, or trichter brust is rather a rare deformity. It consists of a sinking, or depression of the entire sternum, including the costal cartilages attached. With this condition there is generally a shortening of the clavicles, which draws the



Front view.

shoulders forward, thus giving the patient the appearance of extreme round shoulders.

This condition, though mentioned in all textbooks on orthopedics, is rarely found in practice. According to Bradford and Lovett "the etiology is not always clear. It may occur to some extent in Pott's disease and in mild rickets, while in many cases it is not possible to assign a cause. Deformities of the chest are generally

secondary to other affections, and the treatment lies in the removal of the causes. Apparatus is of very little use in the condition, but gymnastics may be of value." Royal Whitman, of New York, in his latest work on the subject, states that "the milder types of the affec-



Back view.

tion, in which there are one or more depressions or hollows in the sternum, are common. The extreme form, in which the entire sternum is depressed, is rare. It is practically always a congenital deformity and is not susceptible to direct treatment." According to James K. Young, of Philadelphia, the condition may



Side view.

be either congenital, or the result of Pott's disease or adolescent rickets. He has reported one case of sinking of the entire sternum in a girl of 19. The patient was otherwise well formed and there was no known cause for the deformity.

CASE I.—B. F., aged 21, single, Irish; occupation, cook; was referred to me in November, 1902, by Dr. Margaret Butler. The patient is five feet eight inches high, and weighs about 140 pounds. She is well developed and quite robust.

History.—She is the second of 11 children, 8 of whom are living—one is deaf, another has cleft palate. Her father died of general debility and mother of tuberculosis. She was healthy as a child, and was obliged at an early age to carry heavy pails of water in both hands. She thinks that this fact, together with the care of the younger children, made her round shouldered. When 17 she came to America, and has been doing general housework and cooking. The round shoulders became more pronounced and the scapulas were dragged farther and farther apart until the projection of the inferior angles wore holes in her dresses. About a year ago she noticed a restriction in the movements of the arms, being unable to raise them over her head or to dress her hair without bending the body far backward from the waist. She was unable to do her work properly, and for this reason sought a physician.

Examination.—I found a typical funnel-chest, with depression of the entire sternum and costal cartilages; a very deep suprasternal notch, with prominent sternoclavicular articulations and the sternomastoids standing out like whipcords; thick, short clavicles, curved like the letter S, with drooping shoulders, giving the appearance of a double subcoracoid dislocation of the humeri. The sternum was large with a marked prominence at the junction of manubrium and gladiolus, and the angle of the ribs was very acute. Both breasts were large and pendulous, and the pectoral muscles and deltoids were almost overdeveloped. Posteriorly could be plainly distinguished a kyphotic curve in the cervical vertebras, probably indicating the existence at an early age of Pott's disease in that region. (The patient could give no history of such a condition.) The back was quite flat, musculature poor, the scapulas separated about 12 inches, with winged condition most marked. The inferior angles, including about 2½ inches of the vertebral borders, projected at right angles to the body for a distance of about three inches. Motion about the shoulder-joint was good with the exception of backward rotation. An interesting feature of this case was the loss of power in the right deltoid. She was unable to hold the right arm over her head without the help of the other arm. This was probably due to some injury to the brachial plexus caused by the high cervical Pott's disease. The patient was anemic with a small, quick pulse and anemic murmurs at the base of the heart. The lungs showed signs of incipient tuberculosis at the left apex anteriorly and the left base posteriorly.

Measurements in November, 1902, were as follow:

Through chest at sternal notch	11 inches
Through chest at ensiform cartilage	14 inches
Biclavicular	12 inches
Bihumeral	13½ inches
Chest expansion	2 inches

She was given various breathing exercises to expand the lungs and raise the chest; also suitable gymnastic exercises with the same object in view. In two months she showed marked improvement, an increased chest expansion, and the shoulders were in a much better position.

Measurements.	January 1, 1903.	March 1, 1903.
Biclavicular	12½ inches	13½ inches
Bihumeral	13¾ inches	14½ inches
Chest expansion	2½ inches	3 inches

She is now getting massage and the faradic current for the right shoulder and arm. These with the exercises and a pill of arsenious acid and iodoform have greatly improved her condition, and have done much to inhibit the tuberculous process in the lungs.

CASE II.—M. F., aged 24, single, Irish, a sister of the patient of Case I.

History.—The same as Case I.

Examination.—The condition here was not so marked. The sternal depression was more on the right side, while in the first case it was symmetric. In the back the scapulas were not quite so winged nor the shoulders so drooping. This patient was very anemic, but under a systematic iron treatment has also greatly improved. She takes the same exercises as her sister, though her improvement has not been so marked as in the first case.

The accompanying plates will show the deformities as described. Both of these cases were probably due to adolescent rickets, in the first case complicated by early Pott's disease. The photographs were taken by Dr. Martha Tracy, of the Woman's Hospital, of Philadelphia.

Diagnosed His Own Case.—From an exchange we quote the following as coming from Chicago: "Gentlemen, you ought to send me to the penitentiary," said William Wardner to a jury in Judge W. M. McEwen's court yesterday. "I am no more crazy than you are." The 12 men on the jury agreed with the prisoner and sentenced him to state's prison for 18 years for the murder of Walter Osborne, on February 2. Wardner's admission that he deserved punishment came after an elaborate "insanity" defence. It was a feature of the shortest murder trial in the records of the Criminal Court. The case was called at 2 o'clock in the afternoon, and the verdict was entered at 5.30.

THE EARLY DIAGNOSIS OF PREGNANCY.

BY

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of Philadelphia.

Within 10 weeks from conception the diagnosis of pregnancy is often very difficult on account of other conditions which may give rise to the same or similar symptoms. It is surprising how often this condition is overlooked; this oversight, in many cases, being due not so much to any neglect on the part of the medical attendant, but to the patient presenting atypical symptoms. Nevertheless there are cases in which a careful bimanual examination gives strong evidence that the woman is pregnant, when a less thorough examination will tell us nothing. The appearance of strong subjective signs of pregnancy in a woman will probably lead us to believe that the subjective symptoms would be as distinctive and we are therefore surprised to find how indistinct or how few are the conditions which indicate that pregnancy had occurred. The reverse of this statement is equally true, so we should endeavor to combine both subjective and objective symptoms in making up our minds as to the condition present. We often form the conclusion that a patient with amenorrhea, nausea, breast pains, and frequent micturition is pregnant, but when we examine her and do not find vaginal discoloration, soft cervix, and an enlarged uterus we reverse our opinion, because the objective signs are not as pronounced as the subjective. The majority of patients consult a physician on account of amenorrhea, and as there are many causes of amenorrhea other than pregnancy it will simplify the subject to discuss it briefly under three heads:

1. Menstruation has never been established.
2. Menstruation has been suppressed.
3. Retention of the blood within the uterine cavity or vagina, as from an imperforate hymen.

First.—When menstruation has never taken place, and when there is a patulous cervical canal and vagina, the cause is most likely to be found in the ovaries or uterus or in some constitutional state as chlorosis, anemia, or tuberculosis. When the uterus is infantile and the ovaries of good development, the woman will have all the symptoms of menstruation minus the bleeding. When the ovaries are atrophied, even though the uterus is of normal size, there will usually be entire absence of menstrual molimen. I have seen three such cases: the patients were aged 18, 22, and 30. All had had scarlet fever when children, and all had infantile pelvic organs; there had never been any effort to menstruate. In those women in whom menstruation makes its appearance late, it is often found that not until marital relations have taken place had there been any sign of the menses, the sexual activity stimulating the organs to their normal function.

Second.—In regard to suppression of menstruation, we should inquire as to regularity, being guarded not to put too much faith in the patient's statements, also inquiring as to any pelvic operation having been done. Several women have come to me stating that they were pregnant, having had no "show" for several months; nausea, abdominal enlargement, breast pains, etc., when on examination the ovaries could not be felt. A small uterus and an abdominal scar were found, and the records showed that a double ovariotomy had been performed. (These were dispensary patients.) After dilation and curetment, the following period, or perhaps two, may be missed. Change of climate will often cause temporary amenorrhea, as will fear of impregnation in the single, and desire for offspring in the newly married. Even when there is no such desire, menstruation may be suspended for several months after marriage, or there may be one or two regular periods and then suppression for several months, even though pregnancy has not occurred. In hard working college girls in whom great mental activity is needed, and in those who are musical and practice for hours at the piano, menstruation is frequently delayed. A cold caught just previous to the expected flow, or getting the feet wet at this time are other causes. It is said that in epileptics to whom large doses of bromid are given the flow may be suspended solely from use of the drug. Two patients coming under my care had amenorrhea for two months after using a mixture of zinc sulfate and digitalis "to prevent smallpox." Superinvolution following labor, a miscarriage, the use of injections to prevent conception may also be cited as causes of amenorrhea. A point worth remembering is that amenorrhea arising from any cause other than pregnancy, usually shows itself in some constitutional disturbance as anemia, general debility, and weakness.

Third.—When menstrual molimen has been present for a varying period of time without any external appearance of bleeding the symptoms are so distinctive that an examination will show at once some congenital or acquired condition of the vagina or uterus, as imperforate hymen, or atresia of the cervical canal.

The mammary signs of early pregnancy are not constant and are often misleading. In young girls the breasts often tingle and burn for a few days preceding menstruation, they also increase in size and become tender to pressure. In pregnancy the nipple is usually more prominent, the areola darker and Montgomery's tubercles enlarge; the skin overlying the nipple feels loose from its attachment and may be puffy. The superficial veins may be seen quite plainly in some cases, often not. During lactation these signs are of no value and a uterine fibroid can cause the same mammary symptoms as pregnancy. Increased frequency of micturition combined with amenorrhea when no bladder trouble is found is probably the most valuable subjective symptom. I am aware that a nervous patient who has suppression of the menstrual flow may pass water more frequently, solely through being agitated, but when this condition persists for several weeks it is a symptom of considerable value. Nausea and vomiting vary much as to time and severity; some women have persistent vomiting early, which is severe enough at times to suggest some gastric pathologic condition, while others never have the slightest reflex disturbance throughout their whole pregnancy. The nausea of pregnancy is usually of sudden onset, appearing when first assuming the upright position in the morning, or when awakening; it is apt to be of short duration and accompanied by a feeling of dizziness. There are some patients who are nauseated only before retiring.

The most important and reliable objective symptom of early pregnancy, of course, is to be found in the change of shape in the uterus. In the virgin the shape of the healthy uterus is pyriform, but when pregnancy occurs the fundus rapidly enlarges and changes in form. The cervix, not keeping company with this growth, gives to the sense of touch that of a spheroid body on a cylinder. In other words the uterus, which is not the seat of an ovum, feels like a funnel, the cervix broadening gradually into the broader fundus, whereas in the pregnant uterus the finger appreciates flattening of the lower uterine segment. This is felt on all sides, but much more distinctly laterally, as the width is at times twice that of the anteroposterior thickness. This is a most reliable sign, and can be felt as early as the fifth week. We should remember that this change can only be appreciated between uterine contractions, as they alter this condition and harden the uterine body. Knowing that our bimanual examination will often cause contractions, repeated efforts are necessitated to find the uterus at rest. Possibly a collection of fluid within the uterine cavity or a small cystic fibroid might cause this condition, but the history and symptoms would usually be quite different from that of pregnancy.

Softening of the lower uterine segment, Hegar's sign, is at times misleading and not always felt, the same condition being at times present in endometritis or in a uterine collection of fluid. When the finger can appreciate this change, and there are associated with it other symptoms of pregnancy, it will be found of the greatest value after the second month. The softening of the cervix is not constant, can rarely be appreciated before the eighth week, and may not occur at all on account of old laceration tissue, and can be caused by metritis in the nongravid uterus. The bluish discoloration of the vagina, contrary to what many say, has been to me a sign of considerable value. The change is best seen just posterior to the urethra, and is of a dull lead color. I have noticed this change as early as the fifth week, and frequently in the second month it is a deep purple. It is claimed that a fibroid or any congestion in the pelvis can cause this discoloration. I have rarely found this to be so, and when it does occur the color is not so limited in extent and is of a lighter blue. Of course this symptom in itself becomes of value only when taken in conjunction with other symptoms.

In these cases I have felt so often a softened, almost emphysematous condition of an antiflexed uterus, making it difficult to outline the uterine body accurately; that I look upon it as probably the most distinctive and important objective symptom. Placing the finger on the cervix and allowing it to glide up to the anterior uterine wall, it comes in contact with a soft sponge-like tissue which feels puffy; this, combined with increased breadth of the uterine body, makes the diagnosis of pregnancy almost certain. As stated before, it must be remembered that only between contractions can this condition be properly appreciated.

Two other important symptoms are a cervix lower than normal and increase in weight of the uterus. In the healthy nonpregnant uterus the organ can be moved in all directions with the greatest ease, imparting to the sense of touch a feeling of buoyancy, but in the second month of pregnancy the increased weight and sluggishness of movement is appreciated. Salivation, stimulated or perverted appetite, a feeling of drowsiness, and constipation are all symptoms in some cases, but are valueless unless taken in conjunction with other more distinctive signs.

Although it is now common to hear of the ease with which a diagnosis of ectopic gestation, either before or after rupture, is made, there are many cases of this character which are being overlooked and a considerable number found when not suspected. When the first six to ten weeks of pregnancy is accompanied by some tubal enlargement with pain and perhaps slight bleeding, the diagnosis as to the conception being intrauterine or extrauterine is often a most difficult and puzzling question. The history is frequently precisely the same in both conditions, the amenorrhea, nausea, breast pains and frequent micturition occurring in each, and until rupture takes place or a vaginal examination has been made, the nature of the trouble will probably be overlooked. Any woman, presumably pregnant, or who gives any indication that she might be so, having the slightest vaginal bleeding, or any abdominal or pelvic pain, be it ever so slight, should be the subject of a careful and thorough bimanual examination.

By making examinations we may discover an ectopic gestation which would probably otherwise not have been suspected. There has been so much written on the symptoms of extrauterine pregnancy that it seems about hopeless to present one sign or a number combined which would indicate the misplaced conception, as each case demonstrates something new to confuse us in our differential diagnosis. When a woman having all the subjective symptoms of pregnancy tells us she was suddenly seized with a terrific pelvic pain accompanied by a bloody discharge containing shreds, that she fainted and has since been in bed with a high or subnormal temperature, a leaky skin and a rapid pulse, the abdomen very tender and perhaps tympanitic, we will be very likely to suspect what has caused the trouble. Unfortunately these cases are not common and we find the atypical ones are being overlooked and not suspected until the woman has almost bled to death. The two most distinctive features of this condition both take place when rupture occurs. I refer to the sudden terrifying pain and the bleeding; should the sac only give way there may be but a slight twang of colic followed by a small amount of oozing. Precisely the same thing may occur in these cases as takes place in a miscarriage; namely, a slight hemorrhage followed by pain, the active cause of the bleeding not being sufficient to create any discomfort. The rupture quite often occurs at or near the time for menstruating and we should not be deceived by this apparent reappearance of the flow, nor conclude that an interrupted uterine pregnancy has occurred; a patulous cervical canal, hemorrhage, and pain are usually found in a ruptured ectopic pregnancy and during or shortly after a miscarriage. In a case of this kind shock should be carefully watched for; the pulse, skin, temperature and mental condition in a ruptured ectopic gestation will indicate something more serious than an emptying of a pregnant uterus. The hemorrhage may be of almost any amount, appearing at times as a prolonged menstrual period; as a constant dribbling of a few drops; or as a sudden flooding irrespective of the menses; it is usually lighter in color and may contain shreds of tissue. These cases may present absolutely no symptom that the woman is pregnant, as rupture, although usually occurring between the eighth and twelfth week, may take place within four weeks, when there would be no indication, excepting perhaps a missed period. Previous to rupture the conditions present may be very distinctive of the tubal pregnancy; a uterus not so large as we would expect to find at that period of pregnancy, a patulous cervical canal, often displaced, and a cystic, usually very tender and often pulsating oval or round tumor occupying the position of the tube. Again it may be impossible to feel the appendages, as they may be fixed beyond the finger's reach, or the whole pelvic floor might be found solid from inflammatory exudate. Even when we can palpate the tumor it will be difficult to say whether it is a fetus, blood, pus, or water which causes the distention. After rupture, if it be the tube, the tumor having disappeared, the only symptom will probably be bogginess on the side or on both sides and tenderness. We will find the usual signs of early pregnancy, whether an examination is made previous to or following rupture. The comforting feature in regard to the differential diagnosis between ectopic pregnancy and tubal or ovarian suppuration is that both conditions demand operative treatment and by suspecting an extrauterine pregnancy and operating early we will have little cause for regret. In the vast majority of cases an exploratory incision will not harm a normal pregnancy, but it will start us on the only road for saving life in an ectopic gestation.

HEMORRHAGE FOLLOWING TONSILLOTOMY, WITH REPORT OF A SERIOUS CASE.

BY

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In briefly considering the subject of hemorrhage after tonsillotomy, a number of etiologic factors must be taken into consideration. An important one is that of the age of the patient. Most cases of alarming hemorrhage have been in adults. The cause of this is due to the fact that after section of the tonsil, canalization of the vessels

occurs, due to the hardness of the adult tonsil. In children, therefore, the danger of severe hemorrhage is not so great. To quote Bosworth,[1] "recognizing the fact that the operation in adult life is exceedingly liable to be followed by excessive hemorrhage if cutting instruments are used, I have for a number of years confined myself to the exclusive use of the snare when a patient has passed the age of puberty." Again, most severe hemorrhages have occurred after rapid removal of the tonsil by the bistoury or sharp tonsillotome, the dull instrument or snare allowing compression and torsion of vessels. Hemophilia naturally plays an important part. Other factors are wounding of the anterior pillar; cutting too deeply into the fibrous portion of tonsil; physical exertion, excitement, ingestion of hard food immediately after operation; recent angina. Cocain and suprarenal extract as local anesthetics might possibly be considered as responsible for some cases. We must also consider the sources of hemorrhages, which are anomalous tonsillar, internal maxillary, facial or ascending pharyngeal arteries; large tonsillar arteries; enlarged and dilated veins at the lower border of the tonsil. The tonsillar artery is not constant in its origin. It may arise from the ascending palatine, facial, ascending pharyngeal or even directly from the carotid artery. According to Merkel[2] the facial artery may make an arch toward the median line and approach the tonsil and thus become more easily wounded. We might aptly remark, as Daly[3] has said, that any one who uses the guillotine on tonsils without reference to the condition of the organ and other attendant circumstances will some day meet his Waterloo.

In regard to the treatment of these tonsillar hemorrhages, we find among the methods suggested styptics, adrenalin, ligature and torsion of bleeding vessel or pedicle; cautery, both Paquelin and galvano; compression, digital or otherwise; a whipcord ligature through anterior pillar, stump of the tonsil and posterior pillar, securing the two ends, which are cut off short;[4] two silk ligatures through both pillars about three-quarters of a centimeter apart;[5] finally ligature of the carotids. When we have to deal with profuse hemorrhages, in view of the time allotted us, we must depend upon such procedures preparatory to the more serious operative measures which will give us the most immediate and satisfactory results.

Styptics are sometimes very serviceable in cases in which there is only a moderate amount of oozing. The first surgical procedure is torsion, providing we are dealing with a single spurting vessel. If the bleeding is diffuse from an extensive area the cautery, especially the Paquelin, is an excellent and generally very certain method. If, however, the hemorrhage is so alarming as to extinguish the cautery and this method should fail, then compression should be made. It is the most simple method and is efficient when it can be applied constantly and for a sufficient length of time. Digital compression, when it can be used under these conditions, may be rendered effective. The disadvantages of this method are, however, obvious and require no further mention. Of the several tonsillar hemostats on the market the Mikulicz-Störk compressor has appealed to me particularly. This instrument has the advantages of simplicity and easy adjustment, it can be applied under a constant pressure an adequate length of time, and does not prove a source of very serious inconvenience to the patient. The working principle of this compressor is that of a pair of long artery forceps, the pressure, however, being regulated by an adjustable ratchet. Each distal end of the two blades is provided with a solid convex body; the one which is to come in direct contact with the tonsillar region is of hard rubber; the other, to exert pressure on the external side of neck, is padded and covered with leather. The handles are detachable, making the instrument less cumbersome to the patient. Other tonsillar hemostats are Ricord's, Butt's and Clendinnen's; with these latter I have had no experience. If in an extreme case these methods should fail, then we should only have recourse to the operative procedures.

The following case came under my care while house surgeon at the German Hospital in New York City:

A. R., a boy of 7, a resident of New York City, was admitted to the hospital March 9, 1900, at 5 p.m. At 2 p.m. of the day previous this child had been operated upon for bilateral hypertrophied tonsils. According to the history given no serious hemorrhage occurred immediately after the operation. On the afternoon of the day of admission the child's condition became so alarming that he was hurriedly taken to the hospital by his mother. I saw the patient immediately after his arrival. At first no history of operation was given, the mother being evidently in entire ignorance of the cause of the boy's symptoms. It was only after close questioning that the fact of the operation was elicited. Undoubtedly the hemorrhage must have commenced during the morning hours to account for the following extreme symptoms. The child, who was of average stature, had some dyspnea, socalled "air-hunger;" consciousness was still present, but he was unable to articulate; no delirium; considerable vomiting of dark-colored blood, but no expectoration or bleeding from the mouth; epigastric pain on pressure due to the presence of blood in the stomach; the pulse was very rapid and feeble, at times scarcely perceptible. Upon looking into the mouth and depressing the tongue a parenchymatous spurting hemorrhage was seen in the left tonsillar region, the blood being swallowed. The pillars were intact. On the right side no hemorrhage was present. In view of the almost complete exsanguination I immediately decided to use the Paquelin cautery, prepared, however, to ligate the external carotid artery if necessary. A few whiffs of chloroform were given and the Paquelin, heated to a dull cherry-red color, was applied directly to the bleeding surface. The cessation of hemorrhage was immediate. The patient's general condition being still very precarious an infusion of normal salt solution was given. The quantity used was 700 cc. and was injected into the left median basilic vein. The infusion caused a distinct stimulation. No recurrence of hemorrhage took place. Under sedatives, liquid diet and tonics the child made an uneventful recovery and rapidly gained in weight, being discharged from the hospital on March 25, 1900. I might here add that the physician who performed the operation informed me later that six hours after the tonsillotomy no hemorrhage or serious symptoms were present. Of the condition the next day he had not been informed until after the child had entered the hospital. He used the sharp Matthieu tonsillotome without any anesthetic either local or general, and experienced no difficulty whatever. Absolute rest had been enjoined after the operation. The child had been in previous good health.

The main point of interest in this case is that almost complete exsanguination resulted from tonsillar hemorrhage following tonsillotomy. Subsequent examination excluded the nose, lungs, and stomach as possible concomitant factors in bringing about the condition. Another interesting fact is the occurrence of such a profound bleeding from this cause in a child. Bosworth[6] says that he has not seen a single such case and knows of but one (reported by Capart in a child of 8). Again, Bosworth[7] says that "while hemorrhage may be an exceedingly troublesome accident it is not a complication which is dangerous to life." Other points of interest are the undoubtedly secondary character of the bleeding, occurring most probably 12 to 18 hours after the operation; the absence of hemophilia; so far as history could elicit, no recent angina or ingestion of hard pieces of food; the vomiting of the blood and not the expectoration nor bleeding from the mouth. This severe parenchymatous tonsillar hemorrhage was most probably due to either an anomalous tonsillar or internal maxillary artery.

I shall conclude with the words of Lefferts,[8] "that the surgeon must always be prepared, both mentally and manually, to cope with a hemorrhage that may unexpectedly occur."

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WHAT ARE THE X-RAYS?

BY

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Ever since the wonderful discovery of Professor Röntgen, scientific men have tried to answer this puzzling question, theories upon theories have been given, and the result is about the same as in 1895. The discoveries of Röntgen, Becquerel, Curie, and others, and particularly the epoch-making investigations of Thompson, brought us to the new most important physical theory of the constitution of matter. As we know, according to this theory, atoms, as they enter into chemic combinations, are not simple, indivisible bodies, but most complex aggregations of components, or corpuscles, much smaller than the chemic atoms themselves, and the only property that we can predicate of these corpuscles with certainty is that they carry electric charges.

What takes place in a Crookes' tube in action? The particles in the tube and also those occluded in the terminals become electrically charged and carry their charge from one terminal to the other. The stream goes from the cathode to the anode. This movement of particles results because they are repelled from the cathode and attracted to the anode and strike the latter with greater force. The greater the quality of charge imparted to the particle the greater will be its repulsion and the force of bombardment. The breaking up of the particles produces the x-ray. Therefore the more particles in action the greater will be the quantity and quality of the rays.

Now, if we observe carefully a tube charged, as the R. F. Patent Universal Regulating Tube, in the beginning of the action, giving any x-rays at all in the hemisphere proper, we will observe the stream from the cathode in a light violet color, and in the shape of a pencil bombarding the middle focus point on the platinum plate of the anode, then two peculiar lines of the same color will appear exactly at the division of the hemisphere of the x-ray activity and the dark hemisphere behind. In a few seconds, the apparatus giving a small amperage only, the light violet color of the cathode rays will fill up the whole space of the hemisphere of the x-rays proper, which will appear in their beautiful yellow-green color at once, when there is enough electromotive force behind the tube. This shows that the speed of the particles and corpuscles in the cathode ray depends upon this electromotive force, and the number of corpuscles in the discharge depends upon the magnitude of the current going through the tube. The cathode rays with the proper force behind, and increased in certain proportion give us the Röntgen ray; the first rays have no ability to penetrate very thick opaque bodies, but the x-rays have, the penetrating power of this ray depending upon the electromotive force of the apparatus and all the individualities of the tube. These x-rays cannot be reflected, refracted, or polarized, but the cathode rays may be deflected by a magnet. To produce the x-rays we have to have first some electromotive force, which goes into the vacuum tube and produces the corpuscular movement, or vibration, heat, light, chemic, or cathode, and finally the x-rays. From the experiment given it seems to us that the x-rays are modified cathode rays, or that the electrochemic process, which takes place in the tube in action divides the corpuscles of the cathode rays into still smaller particles of the x-ray order. These x-rays are similar in their actinic properties to the rays of light at the violet end of the spectrum, and if that is the case is it not self-evident that they are some sort of light pure and simple? The ultraviolet rays of light can be reflected, refracted and polarized, their action upon the living tissue is similar to the action of the Röntgen rays, but they are not as perfect in illumination of thick bodies, can not penetrate and traverse, will not influence the deeper tissues, nor even the superficial ones, unless they are deprived of their usual blood content. The x-rays on the other hand will readily traverse the superficial tissues and influence the nutrition of the deeper ones so we may say the modified cathode rays are therapeutically active agents in combination with the x-rays proper in the treatment of diseases, skiagraphy, etc. Such a transmission of energy gives us light, the rays of light, the cathode rays, and the x-rays, or all the rays, of which we do not know. The radiant energy from the excited tube is absorbed by various substances which it encounters. If the absorbing material is so constituted that its atomic arrangement may be easily modified, or changed, then the x-rays will produce a change in the absorbing material. This we see best illustrated in the photographic emulsion and certain fluorescent crystals when exposed to the radiant energy from the x-ray tube. In the one case the photographic plate is altered chemically by the rearrangement of the atomic structure of the molecules; in the other the crystals become luminous themselves and emit light waves which are visible within the spectrum—the action of light, the rays of light!

We know when the poles of a static machine are brought together and then separated the current does not cease to flow, but gives a spark with all the violet and ultraviolet rays in combination, so to say; or in voltaic arc, if the terminals of wires from a powerful dynamo or galvanic battery are brought together and then separated the vapor formed becomes a conductor of high resistance, and remaining at very high temperature produces intense light. What we see between the terminals is not electricity, but luminous matter. In a Crookes' tube between the cathode and the anode we have different particles forming also a luminous vapor, as the result of the bombardment, with all the energy of radiation, heat, and motion. Exposed to the sun the skin is warmed, the sense of touch is affected, it is illuminated, thereby the sense of sight is affected. The skin is tanned, its chemical condition is changed. It is evident that we receive something which must come to us from the sun. To the sense of touch it appears to be heat; in the eye it produces the sensation of light; in certain substances it has the power to produce chemic changes. What is it that we receive from the sun? Take, for instance, the radiometer, in which the wheel is caused to rotate directly or indirectly by something that comes from the sun. The wheel is enclosed in a glass bulb, and the air within is reduced to less than one-millionth its usual density. The aluminium wheel exposed to the sun rotates, and there is no question about it, whenever a body is caused to move, or increase its rate of motion, energy must be imparted to it; hence energy must be imparted to the radiometer-vane by the sun. In the Crookes' tube we have the electromotive force which we send through the tube, and cause the movement, or vibration and bombardment of the particles, and with the help of the ether and its energy we get a luminous vapor of green color, showing us the production of the unknown rays which affect the sense of touch or of sight, or produce chemic changes, just like the energy received from the sun. So it is in reality some very similar form of energy, and it is one and the same form whatever the effect. There is some medium filling the space of the vacuum tube, otherwise unoccupied by air, a medium by which motion can be communicated from one point to another. This medium has received the name of ether, as we know. Is it possible that through the influence of this medium the cathode rays are changed into more powerful rays of x-ray nature, when there is more force and energy behind? Or are the cathode rays weaker x-rays with the existence of photographic action in the stream deflected by magnet? This modification of the cathode rays seems possible, especially if we take into consideration the fact that the

cathode rays have more or less penetrating and irritating power, too.

The similarity of action between radium and ultraviolet light with the cathode rays in a vacuum tube is apparent. If we deflect the cathode rays within the apparatus by magnet we will find that the x-rays are emitted from another spot—that is, as Röntgen says, they are generated by the cathode rays at the new termination of the cathode stream. This leads to the general adoption of the theory that the x-rays are at least anticathodic and that the spot in the middle of the anodal disc of platinum, where the heat is most intense during the bombardment from the cathodal cup, or where the disc gets red-hot first, gives us the most intense radiation and the best x-rays with the anode focus point, showing us where to find the maximum therapeutic field in x-ray treatment of any lesion or the best illumination of our subjects in skiagraphy. The x-rays project in all directions from that side of the reflector in the tube opposite to the cathode, as has been said already, forming what may be called a "hemisphere of x-ray activity" and a "dark hemisphere," in which practically no x-rays will be found. This fact can easily be demonstrated on all the old Crookes' tubes, used very often, and to some extent for the production of the x-rays. The "hemisphere" of the x-rays proper gives a marked line of division and the end of the field itself on any exhausted tube, the glass wall in that part of the tube being of violet color.

In examining the ray from the ordinary arc lamp with a spectroscope we will find that we have a violet light; the heat there is so great that it fuses most refractory substances, and if the terminals are separated to some extent the electromotive force is no longer sufficient for the increased resistance and the light is extinguished until we increase the force behind. Finsen's light is also violet and acts on the same principal. The cathode rays in a vacuum tube are of the same character and just as superficial in their action as the electric light simple, Finsen's light, and certain rays of the light of the sun at the violet end of the spectrum.

If the electromotive force in a vacuum tube is increased to such an extent that the quality and quantity of the cathode rays is improved and the bombardment against the anode made not only faster but with greater energy, we will at once see our x-rays from the hot and finally red disc of the platinum. We know that only those radiations which a body absorbs heat it; those that pass through it do not affect its temperature. The cathode rays do not go through the platinum plate, and the source of the unknown ray is and must be at the point described. The cathode rays produce certain photographic effects, an electric spark will affect the film of a dry plate, but the light will do more, as we know in photography, and the x-rays being penetrating give us still more pronounced actions, but only then when there is plenty of electricity in our apparatus and going through a suitable vacuum tube. The cathode ray itself does not need such an amount of electromotive force in the vacuum tube as the x-ray, but we must have the cathode ray before we can ever expect the x-ray, or we must have the negative and positive just as in any other electric production of a spark. If we should envelop the poles of the static machine, or a coil with glass walls and produce a vacuum, we most assuredly would get instead of the spark the x-ray phenomena, just as in a separate Crookes' tube. The spark between the poles of the static machine or the coil depends altogether upon the electromotive force of the apparatus; if we increase the force we will get a beautiful spark, broad and of violet vapor; this violet vapor will show still better in a vacuum, and change on increase of the electromotive force to the yellow green. In a simple spark the color will be first violet, then ultraviolet, blue and green in the spectrum. The blue color is followed by the green in such a spark on the increase of the electromotive force, and such a relation with all the other properties and effects of the cathode rays in a tube should bring us to the conclusion that the x-rays are not exactly identical with the cathode rays, but that they are generated by the cathode rays, and are perhaps the modified or changed cathode rays, changed by the electrochemic process, which takes place in a vacuum tube through the medium and energy of the ether.

The ultraviolet ray can be produced in a Crookes' tube of a low vacuum, as described. The action of the Finsen light, or the rays of the same category, is limited very largely to the skin and subcutaneous tissues in the treatment, as we know from practical experience and experiment, but *when the cathode rays and the rays of x-ray order attack any lesion the best results are obtained, and that in comparatively shorter time.* For instance, in those most disfiguring lesions, lupus vulgaris, lupus erythematosus, and superficial epithelioma, with the cathode rays, owing only to the lack of penetrative power, we could not attack the lymphatic nodules deeper in the tissues, the most infective part of carcinoma, sarcoma, etc. Proceeding further, it has been clearly demonstrated that the Crookes' tube with proper force behind will emit a ray beyond the violet of the spectrum, and beyond the ultraviolet ray, which is more powerful, and has a decided electrochemic effect upon the capillary circulation of the human body—and this is the Röntgen ray. We can separate in a degree the active or curative rays by interposing a sheet of foil between the tube and the skin; the opaque lead protects the healthy parts, or stops the penetrative power of the x-rays on one side, and on the other allows the irritation of those parts exposed completely. To claim that the cathode rays alone or the x-rays alone are the therapeutically active agents in the treatment of disease would not be correct, because we get just as many good results with "low vacuum" tubes as with those of "high vacuum," the action of the rays in combination depending as to effects upon the condition of the human cell exposed—that is, the amount of resistance which the rays will encounter; the amount and the intensity of the rays, and the character of the rays.

San Francisco Believed to be Free from Plague.—It is stated that Surgeon-General Wyman, of the Public Health service, regards the danger from the presence of bubonic plague in San Francisco as successfully passed. There have been but two cases there since January 1, both of which were fatal. The strict surveillance maintained by the San Francisco health authorities and the well-disciplined service of the federal officials have combined to stamp out the dreaded disease. Chinatown has been condemned by the city authorities, and is being torn down and replaced by buildings of a more substantial character, which can be kept clean.

The Kishineff Massacre.—By decision of the Executive Committee of the Eastern Medical Society, at its meeting June 12, 1903, the following resolutions were adopted: The appalling atrocities committed on the Jews at Kishineff during a recent outbreak against them by a certain portion of the populace, have called forth profound grief and indignation throughout the civilized world, wherever the human heart throbs with the sufferings of its kind.

Resolved that, as citizens of this Commonwealth and as men whose profession brings them daily into close contact with pain and sorrow, and therefore places them in a position to better comprehend the depths of suffering and distress, we join in the universal protest against such brutal persecution which has been revived of late through the neglect, and to all appearances, with the connivance of the Russian authorities.

Resolved that as citizens of the United States, for whom Russia has repeatedly professed sentiments of good will and amity, we earnestly urge the claims of the Jewish people of Russia to a speedy relief from conditions and legal disabilities which practically place them outside the pale of justice and equity; and to secure protection against such outrages as the recent Kishineff Massacre. We cannot too strongly deplore the occurrence of such a truly horrible calamity that befell not only the Jews at Kishineff, but the entire Jewish race.

Resolved therefore, that we voice the universal sentiment as expressed individually by prominent citizens, and collectively at many protest meetings; that the people of the United States should exercise through the good offices of their Government, sufficient influence—justified by the friendship between the two nations—to redress the injuries inflicted upon the Jews at Kishineff, and to prevent the recurrence of outbreaks such as have amazed and shocked the civilized world:

Resolved that these Resolutions be spread on the Minutes of the Society and copies of same be sent to President Roosevelt and to the Medical Press.

SPECIAL ARTICLES

THE MEDICAL INSTITUTIONS OF MADRID.

BY

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The American physician in search of rest or knowledge beyond the Atlantic Ocean usually pursues the well-trodden paths through Germany, France, and England. The peninsula of Spain is not often frequented by medical tourists. Modern Spanish medical literature is not abundant, and does not find its way into the current of the world's medical literature to the extent it should. The medical institutions of Spain are not sufficiently known to the outside world to be estimated correctly in the scale of modern advanced requirements. The fourteenth International Medical Congress recently held in Madrid will do much to bring the scientific work of the Spanish practitioners and investigators to the notice of their colleagues in the remaining countries in Europe and far beyond the seas. A wrong impression prevails not only in our country, but elsewhere, to the effect that Spanish medicine is at a standstill. The forthcoming volumes of the Transactions of the Madrid International Medical Congress will prove the contrary. The spirit of the present age has animated the Spanish profession and makes itself evident in all of its medical institutions and medical literature. Progress and investigations are rife everywhere, and have wrought results well calculated to astonish visitors. I am confident every one who attended the Congress at Madrid will return with a more favorable opinion of the part Spain is taking



Perspective of a street.

in the advancement of the science and art of medicine if he utilized his time to advantage in visiting and studying its medical institutions. The present Spanish medical literature is not extensive, but highly creditable. I will cite only two instances showing its character. The best current medical publication is undoubtedly the *Revista Ibero-Americana de Ciencias Médicas*, a quarterly journal founded by the late Professor Federico Rubio y Gali. It is a credit to medical journalism, the 300 pages of each issue being the newest and the best in the field of recent medical progress. The illustrations, colored and half-tone, are numerous and artistic. Under the first heading it brings valuable clinical contributions; then follow original scientific articles, and finally review of reviews, bibliography, and varieties. Another among the many recent publications is the "El Laboratorio Central de Sanidad Militar." This book of 322 pages, profusely illustrated with excellent photographic reproductions, gives the history and minute description of the laboratory of the medical departments of the army and navy. I have alluded to these publications only to indicate the type and character of the Spanish medical literature of the present day in order to show that the profession is wide awake, and contributes its full share to the scientific work of the age we live in.

Central University.—Spain has probably more universities to the number of its inhabitants than any other country. The one in Madrid is called the Central University to distinguish it from the rival institutions in a number of the smaller provincial cities. The ancient Université d' Alcalá de Henarés was abolished in 1836, and in its place the University of Madrid was created, with the faculties of law and canon law. The present name of the University was adopted in 1850, and at that time the faculties of law, philosophy and letters, sciences, medicine, and pharmacy were installed. Later the medical and pharmaceutical departments were assigned new quarters. The corps of professors and instructors is a very large one, and the different courses long and thorough. The library is large and contains some very rare books, among them a copy of the "Bible Complutense," the only one in Spain, and many remarkable manuscripts. Among these should be mentioned the Testament and Codicil of Cardinal de Villanueva and a Hebrew Bible.

San Carlos College of Medicine.—This is the medical department of the Central University. The school was founded in 1780 by Charles III, and occupies at present an ancient building in Atocha street, 104–106. Professor Julian Calleja y Sanchez is dean. The professors, assistant professors, and instructors number 61. The course of study extends over seven years. The anatomic museum contains a very extensive collection of models, skeletons, bones, and dried specimens from the dissecting-room, splendid object lessons for the students of anatomy. The dissecting-room is large, well lighted, clean, and amply supplied with material on marble slabs of the most practical design. The pathologic museum has a rich collection of specimens illustrating all phases of disease, and so arranged that they can be studied to advantage with the least possible amount of handling. In the obstetric department I took particular notice of a series of models in plaster descriptive of the different stages of labor, a material which must be a great aid in teaching this part of the healing art. The physiologic department is well supplied with animals for experimental purposes, and a splendid assortment of the most modern instruments for teaching and scientific research. The wooden benches in the lecture-room would be objected to by our more fastidious students, but they have done service here for a long time, and so far they have not been made the cause at any time of any of the student demonstrations so common here. I visited the college on a Sunday forenoon, and found the assistant professor of histology hard at work in his laboratory. Valuable original research is in progress here, and the work is carried on with much enthusiasm by teachers and students. The bacteriologic laboratory is up to date, and this part of the curriculum is in high favor with the students. The number of students who are in attendance now does not exceed 400. The library contains 50,000 volumes, among them many rare parchments and manuscripts. Beside this one there are seven other medical colleges in Spain, but the power to grant diplomas is limited to the San Carlos. If a licentiate of any other college is desirous to acquire the title M.D., he must attend another year the instructions at the San Carlos before he can come up for the final examination for the degree. Licentiates of any of the schools are privileged to practise; but are not permitted to make use of the title M.D. It is estimated that the present number of medical students in the different colleges is somewhere in the neighborhood of 2,000.

Practice of Medicine in Spain.—Like most of the civilized countries Spain is well supplied with doctors. The pay received by medical officers of the army and navy is a fair indication of the average income of the general practitioner. This basis is very low in Spain. One of my friends in the navy has served his country for 23 years, has reached the rank of captain and is paid only $60 a month. His duties are so exacting that he has little opportunity to increase his income by private practice, so he has to figure on his salary to support himself and his family, consisting of wife and four children. From one to two dollars is the average charge for a professional visit in Madrid, and the fees for obstetric service and surgical operations are correspondingly small. Twenty thousand dollars a year is considered a princely income enjoyed only by one or two practitioners of great repute in Madrid, and from $1,000 to $5,000 a year is the limit of a busy practitioner. The social standing of the Spanish physicians is not so high as in Germany and England, but compares favorably with that of the American doctor.

Charitable Institutions.—If the civilization of a nation is to be measured by the number of charitable institutions then Spain heads the list. The Spaniard has often been represented as being fierce and cruel. From what I have seen I am satisfied there is more cruelty practised in Chicago on man and beast in one day than in Madrid in a month. The family ties in Spain are more tender than with us. Unprovoked violence and

cruelty are rare. The sense of humanity is keen and active. The nobility of the character of the Spanish people is best shown by the many charitable institutions for the poor, the sick, the orphans, the homeless, and the aged. The street beggar in this city has no excuse for practising his nefarious trade. If he is deserving of charity he will find it in one of the many institutions established and maintained for this purpose. Our well meaning charitably disposed people can learn many a practical lesson by looking into the manner in which the government and the people of Spain take care of their deserving poor. The Sisters of Charity, St. Vincent de Paul, the oldest and best order of the Catholic Church, are present everywhere in Spain and in large numbers. They are in charge of nearly all of the hospitals, take care of the orphans and aged, and educate the children. The influence of this order is in evidence in nearly all of the charitable institutions. The cornet, the headdress of the Sisters of Charity, is an emblem of charity of the noblest kind, honored and respected by all nations. In Madrid alone there are 11 asylums, 2 hospices, 2 institutes, and 5 houses of refuge for the benefit of orphans, the aged, widows, the crippled, and helpless. Many of these noble institutions have been founded and are maintained by wealthy citizens and aid-societies. The Institute for Epileptics is a good indication of the concern of the government for its unfortunates. Where is the city that can make the same showing of the wise distribution of needed charity? What has Chicago done for its imbeciles and epileptics? Let those who charge the Spaniards with cruelty come here and see, and if they can leave prejudice at home they will comprehend what true charity means.

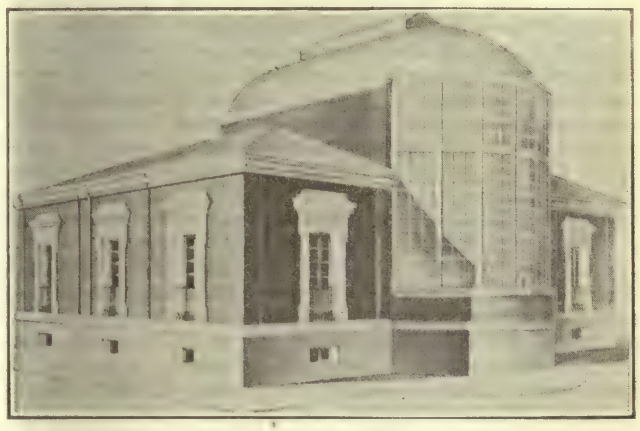
Hospitals.—Madrid may well pride itself on its hospital facilities for the army and the sick poor. The well-to-do families are opposed to hospital treatment; the consequence is that there are no elegant private hospitals such as we find in our country in nearly every city of sufficient size to support such an enterprise. It is not long since the same prejudice against hospitals existed in our country. The objections have been overcome by the establishment of home-like private hospitals and by the trained female nurse. The trained female nurse must be created first and then private hospitals will follow as a necessary sequence. The greatest fault of the Spanish hospitals is not to be found in the buildings but in the absence of the trained female nurse. Nearly all of the nursing in the hospitals is done by the Sisters of Charity. They are a noble band of intelligent, willing, self-sacrificing women, but lack the necessary training in the care of the sick and as helpmates in the operating-room. In our country the Sisters have recognized the necessity of such training, have received the requisite instruction, and are now managing the best training schools for lay nurses. Let the Sisters in Spain follow their example and better nursing and private hospitals for the wealthy will follow in rapid succession.

Military Hospital.—The Military Hospital (Hospital Militar de Madrid en Carabanchel Bajo) was built eight years ago



General view of Military Hospital.

near the city limits. A narrow railway and electric tramway furnish ready transportation to and from the city. The buildings or pavilions, 24 in number, are solid brick structures of one and two stories, communicating with each other by glass walled galleries. The general in command and medical officers occupy the two elegantly furnished pavilions near the entrance to the grounds. The two surgical pavilions communicate with the operating-room. The preparation, anesthesia, instrument and operating-rooms are in a separate pavilion of modern design. All of the buildings are lighted by electricity, the sewerage is perfect, and ample provisions have been made for bathing. All the buildings are heated by hot air. The wards



Operating pavilion.

are well lighted and ventilated and kept scrupulously clean. The institution has a well-equipped bacteriologic laboratory and a museum rich in pathologic specimens and a large collection of plaster models illustrating many pathologic conditions, more particularly diseases of the skin and syphilitic lesions in all stages of the disease. The food is plain but nourishing and healthful. The waterworks supply the institution with 345 cubic meters of pure water every day, being 690 liters for each patient. Isolation pavilions make adequate provision for infectious and mental diseases. The hospital is intended to furnish room for 400 patients, but in case of need can accommodate twice that number. The storeroom for medical supplies, the depot for ambulances, the stables for the horses, the disinfection-room, and the steam laundry are all constructed upon plans calculated to yield the best results upon an economic basis. From 10 to 12 surgeons are daily in attendance. Only the surgeon-in-chief resides in the hospital. The sick are cared for by 20 Sisters of Charity and a sufficient number of men from the sanitary corps. The interior of the operating-room, the make-up of the instrumentarium, the dressing material, and all the facilities for asepsis are sufficient guarantee that modern surgery has found its way into this hospital. The institution is one of which the military surgeons of Spain may well feel proud. The surgeons on duty can spend their leisure time in a large, elegantly furnished room in which the members of the Military Section at the close of their visit to the hospital were served a most enjoyable lunch.

Clinical Hospital.—The Clinical Hospital (Hôpital Clinique de la Faculté de Médecine) is an old somewhat dingy building adjacent to the San Carlos College. It has a capacity of 240 beds. The faculty of the college has exclusive control of the management of the hospital and all of the clinical instruction is conducted here. The wards have from 10 to 24 beds. Professor San Martin is the chief surgeon.

The operating-room is small and is separated from the still smaller auditorium occupied by the students by a glass partition. Professor San Martin is evidently a firm believer in asepsis. On the day of my visit he operated on a patient with inoperable carcinoma of the rectum and demonstrated his new operation for the formation of an artificial anus.

The patient was anesthetized by the introduction of chloroform vapor through two rubber tubes inserted into the nares. The abdomen was opened in the left iliac region in the usual manner. A transverse incision two to three inches in length was then made through the skin and fascia lata two inches below the iliac crest and a little behind a vertical line from the anterior superior spine of the ilium. After making a short cross cut through the fascia a tunnel was made with hemostatic forceps underneath the sartorius muscle into the iliac fossa and the

sigmoid flexure was then drawn into this submuscular passage until the apex of the loop was on a level with the skin of the external incision, in which position it was fixed with sutures embracing the mesosigmoid. The abdominal incision was closed with buried continuous catgut sutures. The bowel will be opened after it has become securely adherent.

The operator calls this operation the valve method, and maintains that the muscles surrounding the loop of intestine act as an efficient sphincter, which prevents leakage between the bowel movements. The clinical material of this hospital is utilized to the best advantage for the students. Two to three students are assigned to each important case. They are required to write up a complete history of the case, make a thorough examination, and visit the patient regularly. This method of clinical instruction has certainly much to recommend it to the attention and for the consideration of clinical teachers. It would, however, be difficult if not impossible to secure such liberties with patients in any part of our country.

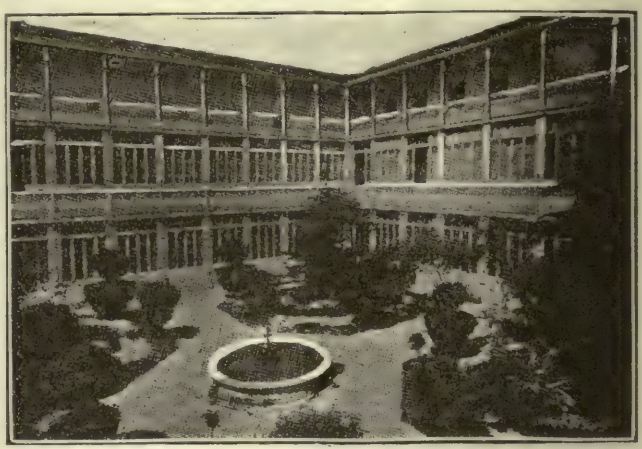
Provincial Hospital.—This hospital (Hôpital Provincial) is more than 200 years old. It was founded in 1587 by Philip II, under the name of La Encarnacion y San Roque. It is an immense square building with a central court. The windows are small, the solid stone walls six or more feet in thickness, features which impart to the building a fortress-like appearance. The wide corridors all around the open court are protected against cold, wind and rain by a siding of window-glass. The court has been converted into a beautiful flower garden. The wards are large, with high ceilings, and all the floors are made of tiling. The furnishings of the wards, including the beds, are plain, but comfortable. Sixty Sisters of Charity take care of the patients—never less than 1,000. The professors of San Carlos College give their gratuitous services to this institution, but so far have not been permitted to give clinical instruction. A movement is now on foot to secure this privilege, and it is hoped that the request will be granted. The clinical material here is simply immense, and its utilization for clinical teaching would be a great acquisition to the teaching facilities of the college and would open up a rich mine for scientific clinical work. The hospital has two operating-rooms; the new one in a separate pavilion meets all the requirements for modern aseptic surgery. Sunday is the visiting day. I happened to visit the hospital on that day and found wards, halls and corridors crowded with relatives and friends of the patients. Loud talking, laughing and smoking gave the hospital the appearance of a public market, rather than a place for the injured and sick. Corpses were being carried out, new patients were brought in, all of which made a scene that could not be reproduced in any of our hospitals. The Provincial Hospital is for the sick poor of Madrid what the Bellevue is for New York, the Charity Hospital for New Orleans, and Cook County Hospital for Chicago. The expenses of the hospital are paid out of the public funds of the Province, as no provision whatever is made for pay patients.

Princess Hospital.—The Princess Hospital (Hospital de la Princesa) is another great public charity in the very heart of



Princess Hospital.

the city. It was founded in 1852 by Queen Isabella II in commemoration of the birth of the Princess of Asturia. The three-story brick pavilions with inside glass-protected corridors face a capacious open court beautified by subtropical trees and shrubs, flower beds, fountains and winding paths. It can accommodate 225 patients. The only requirements for admission are poverty and illness. The wainscoting of the rooms and halls, as well as the floors, are in glazed tiling. The operating-room is small but well adapted for aseptic work. The care of the sick is in charge of 30 Sisters of Charity. I found here a number of trained orderlies, who assist in the nursing and in the operating-room and apply many of the dressings. These men receive their training in the San Carlos College, where they attend lectures and receive practical instruction for two years. At the end of that time and after having passed a satisfactory examination they receive a certificate which entitles them to serve as assistants to physicians. The training and scope of work corresponds with those of the barber surgeons of



Court of Princess Hospital.

Russia and other European countries. One of these orderlies is the anesthetizer of the hospital. The anesthetic in general use in Spain is chloroform. The instruments and dressing materials are kept in a separate room near the operating-room. Suture and ligature material is purchased already prepared and is kept ready for use in hermetically sealed glass bottles. The attending staff is composed of seven physicians and surgeons who receive their appointment by concour. They are assisted by 26 agrégés and 35 assistant physicians. Drs. Cospedal and Ustaris are the principal operating surgeons. In this as well as in most of the hospitals in Spain there are no permanent internes. The young doctors who serve in place of our internes are appointed by competitive examination and hold their positions until they are advanced and become members of the staff. This hospital has three such internes, who serve alternately for 24 hours. They are the only members of the medical corps who receive a small salary. Two days out of three they attend to their private practice. Three priests serve the spiritual needs of the inmates in the same manner, occupying the same room every third day. A small clinical laboratory and a pathologic museum represent the scientific aspects of this hospital. The polyclinic attached to this hospital is nearing completion. Sixteen physicians are in attendance at different times, all of whom render their services gratuitously. In Spain, like in our country, the medical profession is expected to give to the hospitals their time and labor free of charge.

The arrangements of the interior of the new polyclinic are very practical, which enables the attending staff to dispose of the large clientele quickly and in a most satisfactory manner. The specialties that receive recognition here are diseases of the urinary organs, nervous system, larynx, eye, ear, digestive tract, gynecology, and diseases of children. The annual expense of the polyclinic alone amounts to 138,320 pesetas. Dr. José Ustaris is chief of the attending staff.

Rubio Institute.—The "Institut de Therapeutique Operatoire" is universally known under the name Rubio Institute, in memory of the late Professor Federico Rubio y Gali, its founder. It is the only hospital in Madrid devoted exclusively to surgical cases. The cornerstone was laid by the Queen Regent in July, 1895, and its doors opened to the sick poor in need of surgical treatment on the first day of October, 1896. Professor Rubio was the most eminent surgeon that Spain produced during the latter part of the nineteenth century. He was highly esteemed not only by his colleagues and students, but also by the entire population of Madrid. He contributed

liberally toward the building and support of the hospital. He died at an advanced age June 28, 1902. He remained at his post of duty until the day before his death. At his request he was buried in the small chapel on the hospital grounds, where a marble slab in the floor in front of the altar with suitable inscription on a silver plate marks the place where his remains are at rest. The principal motive that induced Professor Rubio to found this hospital was to establish a postgraduate school for the study of surgery. The pupils, graduate physicians, on payment of 250 pesetas have the privilege to attend operations and receive instruction for two consecutive years. The hospital is situated upon a high bluff at the northern boundary of the city, in full view of the beautiful Moncloa valley, watered by the Manzares river. The grounds are park-like, shaded by groves of young eucalyptus trees. The brick and stucco pavilions are one-story high, and the two main wards, with 24 beds each, are connected with the operating-room by galleries. The operating-room leaves nothing to be desired, and is supplied with all possible facilities for aseptic operations. The hospital is lighted by electricity and heated by steam. The closets and bathrooms compare well with those of our best hospitals. Up to date 30 beds have been endowed by the payment of 12,700 pesetas for each by friends of the deceased founder. Upon an oval silver plate on the wall above the bed the name of the donor is inscribed. An isolation pavilion with six beds in as many rooms is set aside for infected cases. Above the entrance door and in the vestibule of this building will be found the names of the teachers of Rubio. A separate two-story building is used as polyclinic for outdoor patients. The institution is



Rubio Institute.

managed by a board of directors, of which the Queen is honorary president.

The Rubio Institute is the best hospital in Madrid, and the patients, although all of them are cases of charity, receive the same care and attention as in any of our best private hospitals. It is the only hospital in the city that has a training school for female nurses. The present number of pupils in the school is 12. The training consists of lectures given by the members of the staff, demonstrations, and practical instruction. At the end of three years they are examined, and if found qualified, receive a certificate which entitles them to follow their profession outside of the institution. The headdress of these nurses is a very unique one. It consists of a hood rather than a cap which leaves only the face part of the head exposed. The outside of this hood is blue, the inside lining orange yellow. The hospital is to be congratulated upon this radical change in the nursing of its inmates. It has become a pioneer in Spain in the important matter of nursing. The example it has established cannot fail in inducing other institutions to do the same, and when I visit Spain again I hope to find that all of the Sisters of Charity serving in hospitals will have become trained nurses, and that every large hospital will have its own training school for lay female nurses. With the realization of such a radical change in the care of the sick, the hospitals of Madrid and throughout Spain will come in line with those of any other country, old and new. I have made brief allusion only to a few of the largest hospitals of Madrid. The number of hospitals is simply astonishing, considering the size of the city—17 in all, beside the many asylums, hospices, homes, and institutes. The hospital for children has 200 beds, the smaller ones from 12 to 50. The hospital for the insane is an ideal institution with a branch at the seaside, Villajoyosa, where the inmates spend the summer months. Music, dancing, theaters, are only some of the diversions regularly furnished for the unfortunate patients. Madrid has also, strange to say, a homeopathic hospital. The Institute Homéopathique et Hôpital de San José owes its origin to the liberality of Marquis de Nunez. The four chairs for the elucidation of the homeopathic doctrine and practice were founded by the Marquis, and since his death have been supported by the government. Fifteen thousand patients have been treated in this institution since its foundation in 1878. The French and Italian residents have made provision for their poor sick countrymen by the establishment and maintenance of hospitals of their own, the former with 20 beds.

Among the many societies formed with the object of diffusing and popularizing humanity in all its phases, I will only mention the Red Cross Society and the Society for the Protection of Infants.

The Red Cross Society of Spain is well organized for effective work in peace as well as in war when it is called upon to exercise its humane functions. Its loyalty to the intent and regulations of the Geneva Convention was amply demonstrated during the Spanish-American war. Its activity in relieving suffering and distress in sudden emergencies at home is well known. Of the objects of the "Société Protectrice des Enfants" the following is said: "Cette Société humanitaire a pour objet de sauvegarder la vie des enfants par tous les moyens possibles, depuis leur naissance, contre tous les dangers auxquels les expose leur faibless, de les protéger, quelle quesoit leur classe ou conditions contre l' abandon, la misère, les mauvais traitements, et les exemple immoraux, et de rendre populaires les préceptes les plus utiles de l' Hygiéne et de la Morale, en union des préceptes réligieux." Let those who live far away from Spain and who have heard of the barbarity of its people come to Madrid and see its magnificent works of art, its splendid schools, its excellent hospitals, its many homes and asylums for all classes of unfortunates, and its humane societies. To all of these I say, reserve your judgment until you "come and see."

On board S. S. "Princess Irene," harbor of New York, May 14, 1903.

Study of Malaria.—The experts connected with the School of Tropical Medicine, which was opened in London in 1899, have made a report with reference to their study. They observed in India as well as in Africa that the native adults of the region were generally immune to malaria, while the disease was exceedingly prevalent among the native children. They regard these children as a source of infection to whites who *inhabit the region*. The doctors commenced their investigation of blackwater fever in Central Africa and then on the west coast of Africa and India. They concluded that the disease was essentially of malarial origin and was not due to a different parasite. With the beginning of the attack the malarial organisms disappear from the blood, but leave distinctive traces in certain features of the blood-corpuscles. The occurrence of blackwater fever is coincident with high malarial endemicity, hence the prophylaxis of malaria is in the main identical with that of blackwater fever. In respect to the proper use of quinin, it is pointed out that the attack of the disease may be brought on by the injudicious use of that drug, when the patient is in a condition of malarial cachexia.

Therapeutics of the Röntgen Rays.—Concerning the subject a lay-press exchange states: The results obtained in cases of lupus have already been extremely satisfactory. The disease is tuberculosis of the skin, and it has long been known that sunlight is highly antagonistic to the tubercle bacillus. Cases in which there is ulceration are first treated by Röntgen rays, and afterward by the Finsen or the ultraviolet rays, and steadily progressive improvement has been obtained. Rodent ulcer and ringworm have also yielded to Röntgen rays in a satisfactory manner, but sufficient experience has not yet been gained in trachoma to render it possible to speak with certainty concerning it. The effects of the Röntgen rays in cancer are very interesting and remarkable, inasmuch as they clearly produce wasting of the morbid growths to which they are applied. Patients are under treatment in whom cancer has returned after operation, and in whom the returned growth is becoming smaller and softer day by day, in such a manner as to justify hope of its ultimate disappearance. It remains doubtful whether this result is anything more than an evidence of the generally destructive action of the rays, an action manifest enough on the hands of operators who are exposed to them, and to which, in all probability, the lowly organized tissue of cancer would be still more vulnerable than healthy structures.

THE WORLD'S LATEST LITERATURE

Journal of the American Medical Association.

June 27, 1903. [Vol. XL, No. 26.]

1. Some Clinical Observations on Chickenpox. JAY F. SCHAMBERG.
2. A Clinical Report of a Case of Blastomycosis of the Skin from Accidental Inoculation. NEWTON EVANS.
3. Pseudohydronephrosis, Paranephritic Cyst, or Hydronephrosis in a Boy of 3½ Years; Operation; Recovery. S. W. KELLEY.
4. The Treatment of Vascular Tumors by the Injection of Water at a High Temperature: With Suggestions as to Its Employment in Tuberculous Adenitis, Abscess, Fistulous Tracts, Etc. JOHN A. WYETH.
5. But One Profession of Medicine. DUDLEY S. REYNOLDS.

1.—See *American Medicine*, Vol. V, No. 22, p. 863.

2.—See *American Medicine*, Vol. V, No. 21, p. 822.

3.—See *American Medicine*, Vol. V, No. 23, p. 903.

4.—See *American Medicine*, Vol. V, No. 21, p. 819.

5.—But One Profession of Medicine.—D. S. Reynolds calls attention to the fact that the sectarian schools use the same textbooks as the regulars, and that their matriculating requirements are the same. Legal exactions make this necessary. The profession is one in spite of protesting individuals by virtue of community of interest, occupation, educational training and lives of devotion to a common cause. [H.M.]

Boston Medical and Surgical Journal.

June 25, 1903. [Vol. CXLVIII, No. 26.]

1. Surgical Tuberculosis. HERBERT L. BURRELL.
2. The Blood in the Typhoid of Children: A Clinical Study. FRANK SPOONER CHURCHILL.
3. The Cure of Cancer by the Use of the X-Ray. H. W. VAN ALLEN.
4. A Case of Strangulation of the Testis Due to Torsion of the Cord. ARTHUR TRACY CABOT.

1.—Surgical Tuberculosis.—H. L. Burrell contributes a valuable article on this subject. In his prelude he says in substance that physicians have partially recognized the value of constitutional hygienic and open-air treatment for the tuberculous. Surgeons have not been so keen to appreciate these principles in treatment. Their attention has been concentrated on the treatment of the local lesion. Many consider that a tuberculous area must be removed; some regard the area as little less than malignant. Relatively few surgeons consider that to increase the patient's power of resistance to fresh invasions of the tubercle bacillus is of as great importance as to operate. A few orthopedic surgeons and genitourinary surgeons recognize the importance of outdoor treatment. General surgeons, however, fail to appreciate that probably in many instances an area of tuberculosis is simply a local manifestation of a more or less general infection by the tubercle bacillus in an individual whose power of resistance is lowered. The author then considers the subject of tuberculosis under the following headings: Prevalence, diminution, pathologic consideration, sanatoriums, construction of sanatoriums, hospitals, outdoor treatment of tuberculosis, tent treatment, home treatment, effects of sunlight and electric light, and defects of hospital construction. [A.B.C.]

2.—Blood in Typhoid of Children.—F. S. Churchill presents the results of a study of 47 cases, showing that the blood differs from that of adult typhoid only in degree. The erythrocytes are reduced in number especially during the first three weeks, after which they begin to increase rapidly, reaching normal in the fifth week. The hemoglobin suffers more proportionally than the erythrocytes. The leukocytes are reduced the first four weeks, the lowest average being reached during the second week, except in severe and tedious cases. The leukopenia is of diagnostic value, especially in children, in whom most febrile affections produce a leukocytosis. More data are needed to determine the priority of appearance of a "positive" serum reaction or a leukopenia. The relative proportion of the different varieties of leukocytes varies at different periods of the disease, the greatest variations being found in the polymorphonuclears and mononuclear elements, the former diminish and the latter increase as the disease advances. The increase in the mononuclears is chiefly in the lymphocytes. Analysis of large numbers of cases grouped by age and week is desirable. [H.M.]

3.—Therapy of the Röntgen Rays.—H. W. Van Allen says there is no basis for determining the comparative value of the Röntgen rays and operative procedure in the treatment of malignant disease. There is a field for both; in fact, a combination of both is often better than one, *e. g.*, first operation and then during or immediately after the healing process, the Röntgen rays. In regard to recurrence after the latter alone he says not sufficient time has elapsed to make statistics of value, but thus far the percentage of returns is not so great as with the knife for the same period. What the final result will be only after-years can tell. One writer places the recurrences after operation at 52%. The prospect is that in thoroughly treated cases by Röntgen rays nothing like this percentage will return. While this is the great item in judging the advantage in method, we should not forget the lack of disfiguring scar, ease of application, continuance of ordinary occupation, fear of the knife, etc. [A.B.C.]

4.—Strangulation of the Testicle from Torsion of Cord.—A. T. Cabot reports that a healthy man of 26, without previous venereal disease or traumatism, was suddenly seized with pain in the lower abdomen, extending into the right spermatic cord and testicle. There was temporary relief at times, but on the whole the condition grew worse, the testicle and adjacent tissues being swollen and painful. Operation was done three days after the onset of the symptoms. The cord, though short, was found to have one complete twist, the testicle having made a complete turn. The latter organ was gangrenous and had to be removed. Recovery was uneventful. The writer says: "According to Scudder's investigations, torsion of the cord produces such immediately destructive changes in the testicle that after it has existed for more than one hour, hope of saving the testis must be abandoned. This may be true of the extreme cases in which circulation is at once and totally shut off. If so, it is an exception to other parts of the body, for circulation may be cut off from limbs for a longer time without endangering their life." [A.B.C.]

Medical Record.

June 27, 1903. [Vol. 63, No. 26.]

1. On Septic Thrombosis of the Roots of the Portal Vein in Appendicitis and on Pylephlebitis, together with Some Remarks on "Peritoneal Sepsis." ARPAD G. GERSTER.
2. The Late Dr. T. Gaillard Thomas. HENRY D. NICOLL.
3. A New Bloodstain. GEORGE L. LAPORTE.
4. Feeding of Older Infants and Children. W. M. HARTSHORN.

1.—See *American Medicine*, Vol. V, No. 21, p. 811.

3.—A New Bloodstain.—G. L. Laporte has succeeded in making a stain which will bring out everything from eosinophile granules to the granules of mastzellen and at the same time obtain a beautiful chromatin stain. He makes a ½% solution of Jenner's powder (Gruebler's) in methylic alcohol (Merck's highest purity), which must not be filtered. Next he makes a solution of one part Unna's polychrome methylene-blue solution (Gruebler's) to 150 parts of distilled water. Five drops of the Jenner stain should remain on the cover-glass specimen one minute; then 10 drops of the second solution. The forceps should be agitated so as to produce thorough mixing. The combined stain must be allowed to act five minutes longer. Then it must be washed off with distilled water, allowing some of the latter to remain on the cover-glass about one minute longer with occasional agitation. Then the specimen must be rapidly dipped in a solution containing 1 drop of a 50% solution of acetic acid to 10 ounces of water until it becomes pinkish. It must be rinsed again with water and dried in the air. The red cells stain a pale rose. The nuclei of both white and red cells are bright carmine purple (the specific chromatin reaction). Neutrophile granules are light violet, eosinophile granules are coppery red, mastzellen granules deep metachromatic blue. Lymphocyte protoplasm is pale blue dotted with purplish chromatin granules. The network of the blood-plates stains carmine purple, the bodies a light blue. The body of the malarial parasite stains blue, the chromatin the same as that of the white cells. Granular degeneration of the red cells appears as blue specks. [H.M.]

4.—Feeding of Older Infants and Children.—W. M. Hartshorn has found bread and milk more satisfactory than any other farinaceous food for babies 7 months and older. Bread 24 to 48 hours old should be soaked in boiling water until

thoroughly softened, the water poured off and then milk added which has boiled three or four minutes. This is sweetened. He gives a teaspoonful once daily at first, increasing this to two or three ounces in the course of 10 days. This food makes the transition to plain milk much easier. Since giving this extra food he has noticed a marked change in the weight chart. [H.M.]

New York Medical Journal.

June 20, 1903. [Vol. LXXVII, No. 25.]

1. A Scalp-face: A New Plastic Operation. N. SENN.
2. Whoopingcough: A New Method of Treatment. THERON WENDELL KILMER.
3. The Use of the X-ray in the Exact Localization of a Foreign Body. L. D WEISS.
4. Treatment of the Common Clinical Forms of Gonorrhea in the Female. R. OLIVER KEVIN.
5. Pertussis with Unusual Cerebral Symptoms. EDWIN E. GRAHAM.

1.—A new plastic operation is reported by N. Senn. The case is that of a man of 31, who for several months felt a hard nodule in the upper lip. He was treated by a "cancer doctor" who applied caustic paste which caused intense pain and extensive sloughing. This treatment was continued for 10 weeks, at the end of which time the nose, the whole upper lip, both cheeks, and both lower eyelids had sloughed away. The scalp was the only source of tissue supply with which to cover the skeleton face. Thirteen operations were necessary. A large flap from ear to ear and wide enough to cover the whole defect was detached in different stages and gradually lowered into position. To guard against subsequent undue contraction the under surface of the central two-thirds of the flap was lined with Thiersch's skin-grafts before it was mobilized from its bed. The upper maxillas were vivified by dissecting off the scar tissue. The flap united throughout with the exception of a limited space below the nares, which was closed later after the nasal cavity had been opened by a transverse incision through the flap. The hair of the flap was destroyed by the use of the Röntgen ray. The eyelids were made by taking flaps from the corresponding temporal regions. The last operation of any consequence was the rhinoplasty by König's method. Cuts, illustrating the operation are given. [C.A.O.]

2.—Whoopingcough.—T. W. Kilmer advocates the use of a stockinette band in this disease applied in the same manner as is done by orthopedists before applying the plaster-of-paris jacket. This band extends from the axillas to the pubes and fits the baby snugly. Two shoulder-straps are used to prevent the band from slipping down. Upon this stockinette band a single width of elastic bandage is sewed, extending entirely around the body and covering the abdomen. This bandage is sewed on when very slightly on the stretch. This elastic abdominal belt is used to control the obstinate vomiting seen especially in nurslings. It is also of advantage in aborting the paroxysmal stage; when wearing it the paroxysms will be noticeably of a milder nature. The medicinal treatment used is the alternate use of antipyrin with bromid and quinin. [C.A.O.]

3.—The use of the Röntgen ray in the exact localization of a foreign body is well illustrated by L. D. Weiss. The foreign body, a needle-point in the finger, was exactly located by two radiographs, one showing an anteroposterior and the other a lateral view. [C.A.O.]

4.—See *American Medicine*, Vol. V, No. 24, p. 969.

5.—Pertussis with Cerebral Symptoms.—The case reported by E. E. Graham is that of a child of 19 months that had always been healthy until the development of pertussis two months before. Three weeks before the child became dull, heavy and apathetic. This stupor gradually became more marked. The pulse averaged 65 to 75 and the temperature was usually normal or subnormal. Cheyne-Stokes respirations began with the increase in the stupor. Five days later the temperature was 101.6° F.; respirations, 28; pulse, 150. Sensation was better preserved on the left side than on the right side. Five days before death the temperature rose abruptly to 106° F. It was promptly reduced by a sponge bath, but continued high. The respirations continued of the Cheyne-Stokes type, varying from 30 to 80 in a minute. The pulse ranged from 130 to 180. A progressively increasing spastic condition was noticed, involving both the arms and legs. The stupor became more marked. A lumbar puncture was made and 10 cc. of a turbid, highly albuminous, alkaline fluid removed. Spreads stained for bacteria yielded negative findings. [C.A.O.]

6.—Postpuerperal Sepsis.—J. B. Deaver says that the greatest cause of septic states of the puerperium is the introduction of pathogenic microorganisms into the vagina by the examining finger of the attending physician, or by the giving of an antepartum douche. In those cases seen early with all the evidences of local infection and the presence of tenderness of the culdesac, as elicited by vaginal touch, it is best to open the culdesac freely by an incision through the posterior vaginal vault, packing the culdesac with iodoform gauze. The most common type is a simple sapremia from the absorption of the toxins produced by the putrefaction of shreds of decidua, blood-clots, etc. Early recognition will confine the operative treatment to the vagina and uterus and simply necessitate thorough cleansing of both cavities and the establishment of drainage with iodoform gauze. The best possible curet is the finger, but the use of the dull curet is warrantable. If treatment is delayed and general sepsis develops, the treatment that promises most is supportive. In septic metritis, which always means involvement of the adnexa and probably of the peritoneum, total hysterectomy should be performed. The author believes this operation should be performed by the vaginal route. [C.A.O.]

Medical News.

June 27, 1903. [Vol. 82, No. 26.]

1. Poisoning by Corrosives. ELI H. LONG.
2. Appendicostomy (Weir) for the Treatment of Chronic Ulcerous Colitis. WILLY MEYER.
3. Note upon a Case of Mycosis Vaginæ. ALLEN J. SMITH and O. H. RADKEY.
4. Cast from a Case of Membranous Croup. EVERETT J. BROWN.
5. Report of a Case of Rupture of the Uterus; Laparotomy; Recovery. NUTTING FRASER.
6. Neuritis Following Ludwig's Angina: Report of Case. CHARLES J. ALDRICH.
7. Report of a Case of Stammering and Method of Treatment. JAMES MOREAU BROWN.

1.—Poisoning by Corrosives.—E. H. Long emphasizes the need of immediately diluting the corrosive whatever its nature with large quantities of water since its action depends on concentration rather than quantity. The halogens and arsenic are exceptions. The chemic antidote must next be considered; for mineral acids weak alkalies; for caustic alkalies weak acids; for coagulants, albumin. Uncombined alkalies like lime water, hydrated magnesia, etc., are preferable to those which evolve CO_2. Strong acetic acid by inhalation may be used to neutralize ammonia vapor in the air passages. Alkalies as well as albumin should be used to neutralize the coagulants which liberate poisonous acids. Demulcents should follow. He especially discusses the antidotes of silver nitrate, arsenic, and carbolic acid. [H.M.]

2.—Appendicostomy.—Willy Meyer reports that a woman of 53 had for two years suffered from diarrhea accompanied by pain. The condition was growing worse and the patient had lost sixty pounds in weight. The rectoscope showed numerous ulcerations, and from the pain and tenderness it was concluded these ulcerations extended the length of the colon. Weir's method of irrigating the bowel was decided upon. The free end of the appendix was brought out through an opening made by incising the skin and separating the muscle-fibers. It was anchored in this position, opened and a small rubber tube passed into the bowel and secured by a safety-pin and adhesive strips. Daily irrigation with silver nitrate solution, beginning with 1:10,000 and followed by salt solution, was given. Later irrigation was given every alternate day. The rectal ulcers were treated locally and medicated enemas were given. The patient was not well at the time of writing, but was much improved and had gained in weight. The author is of opinion that appendicostomy would be a method suitable in some cases for relieving the obstruction produced by malignant disease of the colon, sigmoid or rectum in elderly and weak patients. [A.B.C.]

3.—Mycosis of the Vagina.—A. J. Smith and O. H. Radkey report a case encountered in the practice of the latter. The patient was a young married woman of 26, with good general

health, and without any type of specific disease. After a miscarriage in her first pregnancy in January, 1902, menstruation was unusually profuse, with marked leukorrhea between menstrual periods, for which douches of boric acid and lysol solution were administered with temporary benefit. In November cessation of menses was regarded as indicating a second pregnancy. This was followed by profuse leukorrhea, vulvar burning, and pruritus. Examination showed follicular vulvitis and a slightly patulous vagina. Proper treatment soon checked this attack, but some days later a long walk was followed by similar symptoms. Soon there appeared in the discharges a great number of small, dark, granular and mucoid patches which led to another examination, showing follicular vulvitis as before, and the walls of the vagina were covered with great numbers of grayish-brown, slightly elevated masses, easily detachable, and beneath which, on their removal, the membrane was raw, angry, and somewhat swollen. These patches were picked off with a forceps as far as possible and preserved for examination. A hot boric acid douche was immediately given, and a hot mercuric chlorid solution next morning. This relieved the troublesome symptoms, but a few days later pronounced pains were experienced, and expulsion of a fetus with its decidua, apparently in the sixth week, took place. In less than two weeks the patient was entirely well, vaginal walls normal, and no recurrence of any of the former symptoms up to January 18, 1903. Examination of the preserved patches confirmed the opinion of Radkey, that the small, elevated masses on the vaginal wall were the common thrush fungus, *oidium albicans*. The mycelial threads appeared well-defined, and conidia were in great numbers along the threads. A mycotic form of vaginitis ascribed to thrush fungus is by no means a novelty, and yet is rarely mentioned by American gynecologic writers; more frequently by German authors, and is described as especially liable to occur in the course of pregnancy, particularly in women having patulous vaginas. It readily yields to treatment by such remedies as mercuric chlorid douches. [W.K.]

5.—Rupture of the Uterus.—N. Fraser was called to a case of labor in which the pain, after continuing vigorously for three hours, suddenly ceased and had not returned upon his arrival four hours later. The patient has had eight children, the last child being little more than a year old. He found the woman weak, vomiting a dark green fluid, with rapid pulse and great tenderness over the abdomen. The os was fully dilated, the cervix soft and flabby, and above the os on the posterior lower segment an opening, which proved to be a rupture of the uterus. Forceps were useless, as the head could not be reached, and version alone was practicable. Seizing the right posterior leg of the fetus the child was drawn down and turned without doing more damage. It was, however, born dead, the cause being the separation of the placenta, which was free in the uterine cavity. Twelve hours after delivery, under the most unfavorable conditions, laparotomy was performed. The rupture was transverse, extending to the anterior surface and of such a character that repair seemed impracticable under the circumstances, so the uterus was removed and the abdominal cavity thoroughly washed out. No suture was used for the pelvic peritoneum, but the pelvis was lightly packed with a large piece of sterile gauze which, walling off the peritoneal cavity, was brought down through the open stump into the vagina, which was packed with iodoform gauze. After 48 hours recovery was rapid and uninterrupted. The rupture had evidently been caused by the manipulations of an ignorant attendant. Predisposing causes were a large family with only 12 to 15 months between the children, previous adherent placenta and injury to uterine walls, as well as a general tendency to fatty degeneration. [W.K.]

6.—Neuritis Following Ludwig's Angina.—C. J. Aldrich reports the case. A man of 24 had a mild attack of tonsillitis followed by Ludwig's angina and accompanied by the symptoms of general profound sepsis. Incisions within the floor of the mouth failed to reach the pus, which was evacuated by free external incision. Three days after the pus was evacuated numbness appeared in both little fingers. Numbness and anesthesia soon spread to the hands and arms, appeared in the toes, feet and legs, and within a week the entire extremities and trunk were involved. Motor weakness in the same regions was coincident. Double wrist and double ankle-drop developed and he had to be fed and was unable to turn in bed. Previous to the development of the paralysis and anesthesia he suffered from hyperesthesia. His palate was paralyzed and liquids regurgitated through the nose for weeks. Neither respiration nor circulation were embarrassed at any time. The vesical sphincters were not weakened but the anal sphincter was slightly affected. He lost his sight and was totally blind to everything except light perception for a period of three weeks. At no time did he suffer from pain in the back or limbs. He gradually recovered and six months later examination revealed a return of reflexes and almost complete disappearance of the ataxia. The rectal sphincter had also recovered its power. [H.M.]

7.—Stammering.—J. M. Brown reports a case cured by breathing exercises and attention to deliberation in speaking. [H.M.]

CLINICAL MEDICINE

DAVID RIESMAN A. O. J. KELLY

EDITORIAL COMMENT

Ateleiosis: a Form of Dwarfism.—At a meeting of the London Medico-Chirurgical Society in 1902, Mr. Mastings Gilford described cases illustrative of a peculiar disorder of development to which he gave the name ateleiosis—not arriving at perfection. Recently the same writer[1] publishes portions of his earlier report and gives a description of five cases of the disease in question. Gilford does not claim to have discovered a new disease but has simply named a condition that hitherto had not been fully differentiated from similar affections. The first description of a dwarf probably belonging to this type was given by Schaaffhausen in 1868. Paltauf reported a case in 1891 and a number of writers have since described cases that correspond more or less closely to the classic picture of the disease. The most conspicuous feature of this form of dwarfism is the delay in growth and development. This delay cannot be accounted for by any of the known causes of dwarfism in general, such factors as cretinism, syphilis, microcephaly, achondroplasia, rickets and congenital heart disease being absolutely excluded. Gilford describes two varieties of the disease. In the first there is lack of both growth and development until puberty when the sexual system matures and bodily development is arrested. In the second variety the sexual system never matures though body-growth may continue until the age of 30 or even later. Depending upon the time of onset, the second, or asexual variety may be divided into three groups—ateleiosis beginning in fetal life, in infancy or early childhood, and at some later period of development. All these types exhibit as a prominent feature a remarkable perpetuation of childish characteristics. Growth may be long continued but always ceases before the average stature is attained. Mentality, except in the fetal type, is not impaired and in some instances is above the average. As familiar examples of ateleiosis may be mentioned Charles Stratton, better known as "Tom Thumb," and his wife, and the mulatto dwarf exhibited in this country some few years since under the name of Chiquita. The pathology of the disease is principally a marked delay in the process of ossification. This is manifested by the late appearance of the centers of ossification, by their delayed fusion, and by a lack of vigor of bone growth in general. The organs show but little, if any, changes. The conclusion must be that the actual cause of the disease is unknown. Mr. Gilford is to be congratulated upon his researches which have resulted in giving us a name, a classification, and a fairly complete picture of this exceedingly interesting form of dwarfism.

[1] The Practitioner, June, 1903.

REVIEW OF LITERATURE

Hysteric Tachypnea in Organic Heart Disease.—H. Curshmann Jr.[1] reports several cases. The first, a girl of 20, was being treated for a mitral insufficiency of some years standing. At her admission a dyspnea (40–60 per minute) out of all proportion to the organic cardiac disturbance was observed; instead of improving with the other symptoms this became worse and worse, until the respiratory frequence averaged 140 per minute. No drug seemed capable of preventing these attacks, until, on account of the absence of all other objective signs, hysteria was considered and valerian given, improvement was instantaneous; an apparent perfect recovery resulted from faradisation of the cardiac region. Other signs of hysteria in the same patient were increased tendon reflexes, tenderness over ovaries, some ankle clonus, normal cutaneous reflexes, retention of urine for five days, occasional attacks of meteorism, an attack of tetany minus Trousseau's sign and mechanic hyperexcitability. The attacks of tachypnea recurred, but were always cured by the same drug. The chief characteristic of hysteric tachypnea in the patient is; habitual rapid breathing which is chiefly diaphragmatic, with slight expansions of thorax occurring; no objective signs of air hunger nor cyanosis; auxiliary muscles of respiration are not employed; position in bed is not that of a dyspneic; lungs are normal as a rule; pulse is not in proportion to the respiration; presence of other signs of hysteria. In the second patient, a man with myocarditis and emphysema tachypnea followed a traumatism of chest, the attacks came on with the slightest provocation. The breathing corresponded to hysteric breathing and was out of all proportion to the cardiac and pulmonic symptoms. [E.L.]

Is Leprosy Contagious?—M. A. Tchlenoff,[2] after a thorough sifting of epidemiologic, clinical and experimental data, gives a categorically positive answer to this question. Leprosy is out of all doubt contagious. The great majority of sufferers owe their misfortune to direct or indirect contagion from a previous victim. Heredity, on the other hand, while it cannot be wholly denied, plays a very insignificant role in the transmission of leprosy. In thus openly acknowledging the contagious nature of the disease, the weakness of its contagiousness must not be overlooked. Probably this feeble susceptibility to leprosy will some day find an adequate explanation in the biologic history of its parasite. As yet neither the favorable nor the unfavorable conditions of development have been ascertained for the lepra bacillus. One fact, however, has been firmly established—namely, that the anesthetic form of leprosy is far less contagious than the tuberculous, and it follows that the struggle with the disease should be concerned mainly or entirely with the latter variety. The only efficient measure is here—isolation. [L.J.]

Ménière's Disease with Anosmia and Agusia.—A. Strubell[3] reports an apoplectiform attack of Ménière's disease (vertigo, tinnitus, vomiting) in a man of 48. After a long sleep the patient found himself deprived of smell and taste and deaf on right ear. Vertigo and tinnitus continued. Considerable improvement followed the use of potassium iodid; tinnitus, some disturbance of hearing, and the total loss of smell however remained. Strubell has done considerable searching, but has not been able to find this combination recorded anywhere. He is convinced that the condition rested on a pathologic basis, but is not able definitely to place it; he suggests a number of possibilities. [E.L.]

Early Diagnosis of Typhoid Fever by Puncture of the Spleen.—E. Adler[4] claims splenic puncture to be a valuable means of diagnosing typhoid fever in the early stages. He found typhoid bacilli in over 90% of all cases tested, and they were present in every case where the clinical diagnosis was positive. The test is positive even in the first days, before splenic tumor can be demonstrated. Puncture of the spleen was practised by the author in 300 cases, without the slightest unfavorable result. The technic is minutely described. Especial attention is called to the after treatment, which consists of absolute rest, preferably on the back, for 24 hours. Baths are replaced by cold packs. An ice-bag is placed over the spleen. As contraindications to puncture of the spleen are mentioned the hemorrhagic diathesis, advanced age, and pronounced degeneration of the organs in protracted cases. The early diagnosis of typhoid fever is now of especial importance in connection with serum therapy, since this mode of treatment, as practised by Chantemesse, has been invariably successful when employed before the eighth day of the disease. [B.K.]

The Kidneys in Scarlet Fever and Diphtheria.—O. Heubner[1] has examined the kidneys in two cases of pure scarlet fever, in which death was the result of cardiac weakness and uremia, and two cases of diphtheria, not complicated with either bronchial or pulmonary disease. Small pieces of kidney were hardened for one day in 10% formalin, cut with a freezing microtome, overstained with hematoxylin, differentiated with hydrochloric acid, and counterstained with eosin; other pieces were placed in 1% solution of hydrochloric acid and formalin, and kept in an oven for months for the purpose of dissolving out the connective tissue and leaving the uriniferous tubules intact. In the scarlet fever cases he found exquisite hemorrhagic disease with especial involvement of the glomeruli, and secondary disease of the renal epithelium. The epithelium of the canals nearest the glomeruli had degenerated and become mixed with coagulated blood; the straight tubules contained hyalin casts and epithelial detritus. In the diphtheria cases there were few hemorrhages, and they were found in the straight tubules. The primary disturbance here was the degeneration of the epithelium of Henle's loop, its ascending limb, and the convoluted tubules. [E.L.]

Intermediate Forms between Rheumatism and Septicemia.—While some consider acute articular rheumatism a disease sui generis and confidently expect to find its specific microorganism, others emphasize the similarity of rheumatism and septicemia. The pathologic resemblance was already noted by Virchow. Both affections are very apt to show endocarditis as a complication; "rheumatic" joint involvement is known to end occasionally in suppuration; on the other hand, in septicemia, we sometimes find "rheumatic" joint affections. Moreover, pus microbes have been obtained in cultures taken from rheumatic endocardial lesions; from other lesions of rheumatism the same bacteria (staphylococci and streptococci) have been isolated and their introduction into animals has resulted in acute rheumatism. Such considerations, combined with clinical resemblances, lead A. A. Belogolowy[2] to accept pus microbes as agents in the causation of acute rheumatism—whether primary or secondary agents must remain undecided. He reports two cases of "rheumatism" which seem to have passed the boundary line and invaded the region of "septicemia." Pus cocci were present in both. [L.J.]

The Symptomatology of Tuberculous Adenitis Resembling Pseudoleukemia.—Heinrich Schur[3] relates in detail the case of a girl of 26, who had been ill for four years. The chief characteristics of her illness were enlargement of all the lymph-glands, irregular fever, and leukocytosis, varying between 18,000 and 240,000. Emaciation and prostration were progressive, and death occurred after the appearance of symptoms of amyloid disease of liver, spleen and kidney. The autopsy revealed chronic tuberculosis of all peripheral lymph-glands with fibrous induration, tuberculosis and amyloid disease of spleen, liver and kidney. The literature of pseudoleukemia on tuberculous basis is reviewed critically and extensively. The differential diagnosis of the condition from pseudoleukemia may be made by differences in the character of the lymphatic enlargement, the blood picture, and accurate observation of slight symptoms in the course of the disease. [E.L.]

The Influence of Certain Alcoholic Beverages, Liquors, and Tea and Coffee Upon Digestion in the Human Stomach.—Richard F. Chase[4] gives the following results of his experiments with tea and coffee. These beverages when taken with meals in the amounts ordinarily used, *do not* retard either salivary or peptic digestion, but that, in fact, salivary digestion is accelerated slightly by tea. These beverages

[1] Münchener medicinische Wochenschrift, February 17, 1903.
[2] Russki Vratch, March 22 and 29, 1903.
[3] Wiener klinische Wochenschrift, January 22, 1903.
[4] Deut. Archiv. für klin. Med., Bd. lxxv, p. 549.

[1] Münchener medicinische Wochenschrift, January 27, 1903.
[2] Russki Vratch, March 8, 1903.
[3] Wiener klinische Wochenschrift, January 29, 1903.
[4] Philadelphia Medical Journal, June 6, 1903.

may act as mild stimulants to gastric secretion; the digestive power of the secretions, however, is not augmented, and on the other hand, is not impaired, as in the case of whisky. As a stimulant to gastric secretion tea or coffee would seem preferable to whisky. In the tests with these beverages he used a strong black tea and a 10% strength of coffee. [F.C.H.]

Fibrinuria in Nephritis.—R. Lostorfer[1] reports the case of a woman of 49, who associated with the usual symptoms and history of chronic nephritis, voided clear, light yellow urine, containing much albumen and many flaky clots, which were found to be fibrin. At no time could blood be found in the urine. Death followed soon after the onset of uremic symptoms. The kidneys presented the picture of chronic nephritis with acute exacerbation, and in some parts amyloid changes. Some of the tubules were filled with fibrin casts. In the face of the absence of blood from the urine, the presence of large quantities of albumin, the pathologic picture of the kidneys, and the absence of disease from the urinary passages, the condition cannot be explained. [E.L.]

GENERAL SURGERY

MARTIN B. TINKER

A. B. CRAIG C. A. ORR

EDITORIAL COMMENT

Operative Treatment of Persistent Facial Paralysis.—Any operation which promises marked relief from chronic facial palsy will be gladly welcomed by all who suffer from this distressing condition. Recent experimental work and the results of actual operation upon afflicted patients hold out definite hope of relief in many instances. The report by C. A. Ballance, H. A. Ballance and Purves Stewart[2] of a series of cases wherein the patients were operated upon by them for this condition, and a further report by Cushing[3] of the results of operation for a like condition, give new and decided interest to the situation. In the former, a series of seven cases are reported, the first operation being performed in 1895, and the last within the present year. In their method of procedure the Messrs. Ballance and Stewart assure themselves by galvanic stimulation that muscle fibers survive on the paralyzed side of the face, then expose by operation the facial nerve at its exit from the skull, and sever the trunk as high as possible. The spinal accessory is then exposed, its sheath incised at a level convenient for union with the divided facial and into it the distal segment of the latter is fixed by fine silk suture. After wound healing the muscles on the paralyzed side are assiduously stimulated by daily galvanism for months, until faradic excitability reappears, when faradism is substituted. In none of the cases reported in this series was there ultimate failure, though in no instance has the previously paralyzed face regained its complete and independent mobility, shoulder movement of the corresponding side being associated. Great gain, however, has been made in the almost symmetric appearance of the face when at rest. In the last operation performed in this series, the facial was united to the hypoglossal nerve instead of the spinal accessory. Sufficient time has not elapsed to prove its utility, but the authors regard the latter operation favorably. Their conclusions are that facial palsy is remediable by facioaccessory anastomosis, but the extent of recovery appears to be limited to associated movements in conjunction with the shoulder. In most cases the previous deformity disappears when the face is at rest. Because of a closer association of centers in the brain faciohypoglossal anastomosis is recommended in the future rather than facioaccessory anastomosis. The cases suitable for operation are those which have lasted six months or longer when hope of spontaneous recovery is past. In the reported series the period elapsing from the inception of the paralysis to the time of operation varied from five months to three years. A suppurative causal condition renders the prognosis less favorable than if traumatic. In 1898 Faure[1] joined the distal portion of the facial to the trapezius branch of the spinal accessory by end-to-end anastomosis without success. In the same year Manasse,[2] of Berlin, performed a series of experiments on five animals, dividing the facial at its exit and making an end-to-side anastomosis to the spinal accessory. His report, published in 1901, shows success in one instance. Two others appear to be successful, but later examination showed nerve filaments from the proximal end of the divided facial had grown down and united with the distal portion, thus establishing normal innervation to the muscles. In 1899 Kennedy,[3] of Glasgow, divided the seventh nerve for intractable facial spasm, and joined it to the spinal accessory by end-to-side anastomosis. Facial innervation was established, though facial movements were associated with shoulder movements. Without knowledge of previous work along this line, Cushing[4] united the distal end of the facial, which had been severed by gunshot wound, to the proximal end of the spinal accessory which he severed completely. After-treatment similar to that mentioned in connection with the English series resulted, within a year, in a condition of similarly great improvement. Keen has joined the distal portion of the severed facial to the spinal accessory by end-to-side anastomosis in one instance, but a final report upon the case has not been made. In another instance he attempted a similar operation for the relief of facial paralysis of some years standing, resulting from otitis media. The facial nerve had become reduced to the merest filament and the attempt had to be abandoned. Summing the matter up it appears that here is a field for refined surgery, which promises much to a class of seriously and heretofore hopelessly afflicted persons. Persistent and prolonged after-treatment appears to be very essential, and while apparently complete recovery is not to be looked for we trust that the refined and improved technic which must surely come will render the outlook still more hopeful.

[1] Wiener klinische Wochenschrift, February 12, 1903.
[2] British Medical Journal, May 2, 1903.
[3] Annals of Surgery, May, 1903.

REVIEW OF LITERATURE

Surgical Treatment of Localized Spasmodic Affections.—A. Chipault[5] speaks particularly of spasmodic torticollis and contracture of the adductors. Cases are cited to prove his conclusions, which are that in cases of spasmodic torticollis and spasmodic adductions of the thigh that are amenable to surgical treatment, all communication between the contracted muscles and the central nervous system should be cut off. The cases detailed show the superiority of this over other methods, especially those of incomplete nerve resection and of tendon cutting. Complete nerve resection merits a consideration that because of diagnostic errors and unjustified beliefs of operators, has up to the present been refused. [A.G.E.]

Chronic Pancreatitis.—Gilbert Barlow[6] reports the case. The patient complained of epigastric and right hypochondriac pain, shivering, vomiting, and jaundice. The appearance was typical of gallstones. Operation in 1897 failed to discover stones, but showed a lobulated mass in the region of the head of the pancreas, which organ was thought to be malignant. The pain was some better for a time after the operation, but the former symptoms recurred. Four years later the abdomen was opened and the gallbladder emptied of foul pus, putrid bile, and two small stones. The head of the pancreas was still enlarged, tough, and leathery. The gallbladder was drained for 10 months, during which time the patient was free from

[2] Gazette des Hôpitaux, March 8, 1898.
[1] Archiv für klin. Chirurg., Band lxvii, 1900.
[3] Philosophical Transactions Royal Society, Series B., Vol. cxciv, pp. 127-162.
[4] Annals of Surgery, May, 1903.
[5] La Médecine Moderne, April 22, 1903.
[6] British Medical Journal, April 25, 1903.

symptoms. Drainage was removed, the fistula closed, but the symptoms again recurred. Operation was again done, anastomosis between the gallbladder and intestine being established. Nineteen days later the patient died of internal hemorrhage. Necropsy showed extensive ulceration of the gallbladder to be the cause of the hemorrhage. There was no stricture anywhere and no gallstones. The pancreas was enlarged, hard and dense, showing chronic interstitial pancreatitis. Microscopic examination confirmed the postmortem diagnosis. The only condition accounting for the jaundice and other hepatic symptoms was the chronic interstitial pancreatitis. [A.B.C.]

Dressing for Fractures of Humerus and Shoulder-joint.—Heller[1] shows photographs of, and describes a new dressing for fractures of the shaft of the humerus and the shoulder-joint. Its component parts are pasteboard, muslin, and plaster bandages and wadding, and each dressing is manufactured to suit the individual case. The arm is placed in abduction, the forearm in slight flexion and adduction, the wrist supported by a connecting piece between forearm and body dressing. Its advantages are simplicity, and secureness of fragments after proper reduction, and the patient will find it light and comfortable. [E.L.]

Transhyoid Pharyngotomy.—A. Carless[2] says that there is but little information in surgical literature regarding the removal of epithelioma limited to the root of the tongue and encroaching on the epiglottis. This site of the growth is rare, but Carless has seen several instances. Removal of the whole tongue is not justified in these cases, and the growth must be attacked from behind. Of the three methods in vogue, lateral pharyngotomy gives a bad approach to the back of the tongue, and may interfere with important structures in the neck. Subhyoid pharyngotomy has practically fallen into disuse. Transhyoid pharyngotomy, after a method modified from that of Vallas, has been used by Carless in three cases with entire satisfaction. One, related in detail, was that of a pure epithelioma of the root of the tongue, involving the epiglottis. The patient remained well and free from recurrence for nearly two years. [A.G.E.]

Knock-out Blows.—J. G. Duncanson[3] says the general impression prevails that there is only one knock-out blow, namely, on the point of the jaw. This is an error. The temple is a particularly vulnerable point, and a blow with the bare knuckles may easily fell an opponent. A swinging short arm blow dealt on the point of the ear may cause rupture of the membrana tympani and unconsciousness. A vigorous blow dealt on the neck when the head is thrown back is especially dangerous. A severe blow dealt over the region of the heart may cause intense agony, syncope, and even death. To have the worst results the muscles of the chest must be relaxed and the lungs in a partial or full expiration when the blow is given. Diaphragmatic blows produce shock but are not especially dangerous to life. A swinging blow over the kidney is dangerous. A blow on the "mark" is most dangerous and severe in its immediate and after effects. The mark is a specially sensitive area the size of the palm of the hand on the abdomen and corresponds with the center of a triangle formed by xiphosternal articulation above, and the line joining the bony ends of the seventh ribs below. A knock-out blow on the solar plexus is impossible. The stomach is in reality the organ which receives the shock and from which the nervous disturbances originate. The vagi are powerfully affected along with the sympathetic and great solar plexus. A sudden fall of blood-pressure ensues, probably due to dilation of the abdominal vessels. The blows mentioned are only those which may occur in fair play under the Marquis of Queensberry's rules, and have no reference to fouls and others. [A.B.C.]

Extraction of a Foreign Body from the Right Lung by means of Direct Bronchoscopy.—Schroetter[4] reports the case of a woman 35 years of age, who for 3½ years harbored a fragment of bone in the lower lobe of her right lung. It had produced in it a bronchiectatic cavity, which manifested itself through characteristic symptoms. Local anesthesia was employed and the bronchoscope used with such skill that the foreign body was seen, demonstrated, and extracted at the first attempt. The piece of bone was lodged at the division of a bronchus, into branches of the third size and the instrument had to be passed a distance of 10 inches from the teeth before it could grasp the bone. The bronchiectatic cavity is getting smaller, and the patient gaining in weight since the removal of the bone. [E.L.]

Leukocytosis in Appendicitis.—M. Cazin and E. Gros[1] give a critical review of this subject. Appendicitis is characterized by an increase in the leukocytes from the very beginning of the disease whether or not there may be suppuration. At the beginning of the attack there is no demonstrable difference in the leukocyte count between those cases which terminate in resolution and those that go on to suppuration. Repeated examinations of the blood, made twice a day, are of considerable help in diagnosis and prognosis. Resolution may be hoped for if the leukocytosis is very small (10,000 to 15,000), also if the increase is considerable (20,000 to 25,000), but ephemeral. On the other hand, if the count persists at about 20,000 or more, or if it steadily increases to 30,000 or over abscess may be diagnosed with considerable certainty. A negative result, however, does not exclude the possibility of suppuration. Leukocytosis may be wanting in certain cases of diffuse hypertoxic peritonitis, where the defensive powers of the organism are feeble; or it may be absent in cases of encysted abscess following an acute attack. [B.K.]

[1] Deutsche medicinische Wochenschrift, November 13, 1902.
[2] The Practitioner, May, 1903.
[3] British Medical Journal, April 2 and 5, 1903.
[4] Wiener klinische Wochenschrift, November 6, 1902.

GYNECOLOGY AND OBSTETRICS

WILMER KRUSEN FRANK C. HAMMOND

REVIEW OF LITERATURE

Abdominal Hysterectomy for Myoma.—W. G. Spencer[2] gives a description of a series of eight cases of uterine myoma successfully removed by Doyen's method of hysterectomy. None of the women could possibly have had a viable child and the occurrence of pregnancy would have rendered their condition much more dangerous still. Vaginal and partial abdominal operations were out of the question and the Doyen procedure seemed especially suited to these cases for the following reasons; (1) the certainty of the procedure in spite of inflammatory complications or the main tumor obscuring details; (2) the certainty of securing the main artery at a good distance from its origin; (3) and the ease with which the bladder and ureters are pushed out of the way of the field of operation. Recovery was satisfactory in all the eight cases. [W.K.]

Cesarean Section for Uncontrollable Vomiting in Pregnancy.—E. Ehrendorfer[3] reports a case of a woman aged 23, who during pregnancy suffered from persistent vomiting and flow of saliva, causing such loss of strength and such alarming symptoms that interruption of pregnancy was deemed advisable in the fifth month. On account of the great length of the neck of the anteflexed uterus and the unusual stubbornness of the tissue, all attempts to induce labor by means of tents or metal dilators failed and cesarean section was resorted to. The anterior vaginal wall was incised transversely, a median incision was made in the cervical wall and the fetus removed partly with the fingers and partly with polyp forceps. The uterine and vaginal incisions were both closed with interrupted sutures and without drainage. The patient made a good recovery. [W.K.]

Complete Nephroureterectomy.—A second case of this operation is reported by J. W. Bovée,[4] who defines the term as the complete removal of the kidney and ureter at one attempt. This is preeminently entitled to be called the American operation, inasmuch as the first 4 were performed by American surgeons. An accompanying table of the 17 cases on record show that only 2 have been done outside of the United States. Of the 17 patients 14 were operated upon because of tuberculosis. Recovery followed in 15 cases. In the case detailed by Bovée

[1] La Semaine Médicale, May 6, 1903.
[2] Lancet, April 16, 1903.
[3] Zentralblatt für Gynäkologie, April 18, 1903.
[4] Washington Medical Annals, May, 1903.

the patient was a woman of 34. Tubercle bacilli were repeatedly found in the urine before operation. Removal of the kidney was accomplished by the extraperitoneal and vaginal method, the removal of the lower end of the ureter through the vagina being first accomplished. This is considered by Bovée to be the best method to employ. As such a large percentage of the patients are operated upon for tuberculosis it would appear unreasonable to go across the peritoneal cavity and expose it to infection. [A.G.E.]

Full-term Extrauterine Pregnancy.—J. Oliver[1] reports the case of a woman aged 33, who had had 3 children and 1 miscarriage, the last child born 3½ years previously, since which time she had enjoyed good health. She had suffered for 11 months from amenorrhea with no symptoms different from ordinary gestation, but when menstruation returned with no decrease in the size of the abdomen she sought medical advice. The abdomen was occupied centrally by a large globular swelling and palpation detected the various parts of the fetus but the cervix uteri deviated but little from its normal position. When the abdomen was opened mesially the right mesovarium and mesosalpinx were spread out over the lower right half of the tumor, the posterior wall of the slightly enlarged uterus was closely applied to the left anterior surface of the tumor, which was elsewhere adherent to omentum and bowel. The right mesovarium and mesosalpinx were ligatured and severed from the tumor, which when freed from other adhesions, was found to have a broad and thick attachment to the posterior abdominal parietes. The peritoneal sac, containing the fetus and placenta, similar to the socalled ovarian capsule found in some vertebrates, was now drawn out, freely incised and contents removed. Its wall varied in thickness from ¼ to ¾ of an inch and was thickest toward its junction with the posterior abdominal parietes, with which it appeared structurally continuous. On this account and because the placenta had been implanted over this situation, he excised the anterior half of the sac and stitched the remaining portion to the abdominal wall, leaving an opening for free drainage. Eventually the inner lining of the sac was shed piecemeal and in about five weeks granulation from the bottom had so progressed that the cavity was almost obliterated and convalescence was well advanced. [W.K.]

The Movability of Portions of the Right Lobe of the Liver.—In 4 women, 3 of whom were aged respectively 31, 35, and 50, and all of whom had borne children, Penzoldt[2] observed a freely movable constricted portion of the right lobe of the liver. They all had more or less pain which was made worse by work, and while bending over. They were not in the habit of wearing corsets, and fastened their skirts with strings around their waists. Above the navel there was a furrow passing transversely across the abdomen. The lower part of the abdomen was prominent on ascount of the mass of the liver spoken of. This could be turned up into epigastrium on its axis, and the kidney felt beneath it. The diagnosis usually is easy, the kidney and gallbladder alone probably making difficulty. The treatment consists in preventing pressure and tension against abdominal wall; suturing of the liver may be required. [E.L.]

Autointoxication Theory of the Hyperemesis of Pregnancy.—E. Dirmoser[3] discusses the autointoxication theory of hyperemesis, gives a full history of a case with the effects upon animals of the injection of material taken from different organs of the patient, and he believes that it was determined with certainty that the poisonous substance which caused the hyperemesis had formed itself in the intestines of the patient; that it could not be of bacterial origin since such poisons require for their development at least the space of 24 hours, whereas the animals experimented upon in this instance died in a much shorter time. The poison existed in abundance in the urine, also in the intestines and in the stomach, so that it must have circulated through the entire organism, and was in the case reported the cause of cerebral inflammation. The persistent vomiting was, in the writer's opinion, only a symptom of the general disease which, at the best, on the theory of self-poisoning, will be limited in its dangerousness. [W.K.]

[1] Lancet, May 23, 1903.
[2] Münchener medicinische Wochenschrift, March 10, 1903.
[3] Wiener klinische Wochenschrift, April 2, 1903.

Polyp of the Septum Nasi Occurring Twice in a Woman, each Time at the Seventh Month of Pregnancy.—The case reported by J. Wright[1] was one of angioma or "bleeding polyp" of the nose, occurring in a woman of 25 during the seventh month of pregnancy. The growth rapidly recurred twice after removal, but was apparently cured by the last operation. One year later the woman appeared with a renewal of the growth. She was then seven months pregnant. The facts in this case are believed to point to a more or less important relationship between the nasal and genital mucosas. [A.G.E.]

Treatment of Cranial Depression in the Newborn.—Cranial depression in the newborn is usually the result of some abnormal difficulty in labor or delivery. P. Baumm[2] reports 4 cases in all of which this condition was the result of difficult labor because of narrow pelves, the pressure of the promontorium in 3 cases producing deep impressions in the skull-bone, and in the fourth case causing fracture of the frontal bone. In the first case, troubled how to restore life, he thought of a corkscrew, and after sterilizing the instrument bored into the bone, gave a pull and suddenly the skull was rounded out and the child's breathing and heart action improved for a time, but it soon died. The subsequent section showed no injury to the brain but an internal cranial hemorrhage which, however, seemed to have no connection with the operation. The second case was but a repetition of the first; in the third however, the child lived and became healthy and strong. In the fourth case as the skull was fractured the corkscrew was more easily inserted, the skull was more readily restored to its normal shape with a complete recovery of the infant. In these cases it may be objected that the child would have lived without the operation, but it is probable that there would have been permanent deformity with defective brain action. Hence Baumm feels justified in recommending the use of the simple procedure mentioned in cases not too difficult and always to strive for the removal of any skull depression. [W. K.]

Gummatous Syphilis of the Mamma.—Julius Heller[3] reports a case of gumma of the breast occurring in a woman over 60. She was suffering from a number of skin tumors, some soft and others hard. They were undoubtedly syphilitic gummas, and were readily explained by the fact that her husband died of syphilis of the brain. By medical treatment her general condition was much improved, her weight increased from 95 to 125 pounds, and most of the tumors were reduced in size or disappeared, a few healing after being emptied spontaneously. During the next three years, in spite of energetic medication with iodoform, mercury, and different kinds of baths, the symptoms would return and gummas would reappear, some in the periosteum of the bones. Finally, in 1902, the patient noticed a small tumor in the right breast, which Heller found had all the characteristics of a scirrhus, and explained the bad general condition of the patient. This bad condition and the possibility of its syphilitic nature led to general treatment in the hospital, with strengthening diet and the administration of preparations of iodin. Soon the tumor began to soften and lessen, and the diagnosis of cancer was no longer tenable. In a few months not a trace of it was left. Very soon, however, another appeared in the left breast. This did not yield to similar treatment, and an incision was made in the right axillary cavity. The tumor was retromammillary, enclosed in a capsule which lay close to the ribs. It was removed, and the incision healed without incident. The tumor contained a gummatous fluid. The importance of the gummas lies in the possibility of their developing into carcinoma. [W.K.]

Ovarian Dermoids.—Ahrens[4] reports three cases of dermoid cysts in all of which operation was made necessary by some unusual complication. In the first there was metastatic suppuration and resulting peritonitis; in the second, pregnancy which was not interrupted by the removal of the dermoids; and in the third, twisting of the pedicle of the dermoid cyst occurring about five weeks postpartum. All recovered. [W.K.]

[1] American Journal of the Medical Sciences, June, 1903..
[2] Zentralblatt für Gynäkologie, May 9, 1903.
[3] Münchener medicinische Wochenschrift, April 28, 1903.
[4] Zentralblatt für Gynäkologie, May 2, 1903.

TREATMENT

SOLOMON SOLIS COHEN

H. C. WOOD, JR. L. F. APPLEMAN

REVIEW OF LITERATURE

Formaldehyd in the Treatment of Acute Tonsillitis.—A. C. Jordan [1] has obtained good results from the application of a 1% to 4% solution of formaldehyd in glycerin in the treatment of aphthous stomatitis, diphtheric and scarlatinal sore throat, and especially in acute tonsillitis. The applications should be made from the beginning of the affection. This solution causes some pain in the throat for several hours after its application, but it is not unbearable. After each treatment the patient should not eat or drink for a half hour or an hour, in order to favor the antiseptic action of the formaldehyd on the parts. A simple gargle of potassium chlorate may be used to complete the cure. [L.F.A.] [There is no doubt of the efficacy of the formaldehyd treatment in cases of this character. S.S.C.]

The Physiologic Action of the Kenyah Dart Poison (Antiarin).—Seligmann [2] has obtained from Antiaris toxicaria, commonly known as ipoh, a plant used as a poison for blowpipe darts by the Kenyahs, a crystalline glucosid. This glucosid he believes is a different substance from the antiarin of Kiliani. When injected into the frog it causes clonic spasms, followed by complete motor palsy of central origin; the frog's heart is arrested in systole. In the mammal there is a rise of blood-pressure with slowing of the pulse (sometimes there was complete inhibitory still-stand of the heart), followed in some cases by a gradual heart failure with consequent fall of pressure. Certain birds were immune to the poison. Antiarin evidently belongs to the digitalis group of poisons. [H.C.W.]

Sodium Hyposulfite in the Treatment of Dental Caries.—M. Claret [3] calls attention to this new application of this drug. In two cases of dental caries of the fourth degree, he packed the dental cavity daily with a piece of cotton which had been dipped in a saturated solution of sodium hyposulfite and covered this with another small tampon. In a few days the putrid odor and taste which had annoyed the patient had entirely disappeared. One of these patients had been treated for a long time by applications of carbolic acid without appreciable results. Claret recommends this agent because it is easily employed, it is neither caustic nor toxic, and it gives good results. [L.F.A.]

Treatment of Sciatica by Compression.—M. A. Rjond [4] has obtained good results in sciatic neuralgias by compression of the sciatic nerve at its point of exit from the sciatic notch. The pressure may be exerted with the finger or by means of a small ball. It must be applied with considerable force but not with violence. Each application should last from 1 to 1½ minutes. Of 60 patients with sciatica thus treated, 57 were cured after six or seven applications of pressure. [L.F.A.]

Treatment of Psoriasis.—Du Castel [5] states that the external treatment of psoriasis varies with the period and intensity of the disease. If seen early, it is necessary to employ purely soothing treatment: baths in starch-water, and in the interval a weak zinc oxid or sulfur ointment should be used. After the acute stage has passed, the scales should first be removed by means of alkaline or vapor baths and friction with soap. After this, the diseased area must be treated with either oil of cade, chrysarobin or chrysophanic acid, or pyrogallic acid. Oil of cade may be used in the proportion of 2 to 5 parts to 10 parts of glycerid of starch; in the later stages it may be used pure. This should be applied with friction every evening and the part then enveloped in flannel for the night. It may be removed with olive oil. Oil of cade has the disadvantage of causing irritation in some cases and it stains the skin brown. The odor is also objectionable to some patients. Chrysophanic acid is used in the proportion of 1 to 3 parts to 30 of vaselin. It should never be applied over a large area, nor to hairy regions or to mucous membranes. Pyrogallic acid is used in the same proportion as chrysophanic acid. Care should be exercised in its use, as it may give rise to serious gastrointestinal disturbances, to anemia, hemoglobinuria and pulmonary congestion. The urine should always be examined and if it becomes smoky in appearance, the applications should be stopped. On the face and hairy regions, these drugs are substituted by calomel ointment, 3 parts to 30 of vaselin. [L.F.A.]

[1] Bulletin Général de Thérapeutique, Vol. cxlv, No. 10, 1903, p. 391.
[2] British Medical Journal, May 16, 1903, p. 1129.
[3] Bulletin Général de Thérapeutique, Vol. cxlv, No. 6, 1903, p. 214.
[4] Le Mois Thérapeutique, Vol. iv, No. 4, 1903, page 45.
[5] Journal des Praticiens, Vol. xvii, No. 7, 1903, page 101.

Treatment of Fibrinous Pneumonia with Hetol Injections—Krone [1] treated 16 cases of incipient fibrinous pneumonia with injections of sodium cinnamate, with a production of a very early crisis in 13 of them, and therefore the prevention of a general infection. Of the other three, two were alcoholics (one died with delirium tremens), the third had a mixed infection. The drug sets up a leukocytosis, thus combating the pulmonary inflammation in its initial stage; it lowers the fever, produces early resolution, quiet respiration and prevents general infection. He concludes by saying that used early and in proper doses (4 milligrams, or $\frac{1}{16}$ grain) cinnamic acid reacts favorably against fibrinous pneumonia. [E.L.]

Sodium Chlorid in the Treatment of Scrofula.—Liégeois [2] recommends sodium chlorid in the treatment of scrofula. It stimulates the appetite, the salivary and gastric secretions and perhaps the biliary and pancreatic secretions; it increases assimilation and the combustion of albuminoid materials; according to L. Coze, it opposes the loss of phosphates from the organism; it accelerates the phenomena of endosmosis and exosmosis in the course of the lymphatic vessels; it increases the number of blood corpuscles and the quantity of hemoglobin—in fact, it assists in building up the entire organism. L. Coze combines sodium chlorid with calcium carbonate and phosphate, as follows:

Sodium chlorid	0.1 gram (1½ grains)
Calcium phosphate	0.20 gram (3 grains)
Calcium carbonate	0.01 gram (⅛ grain)

For 1 paper. One 4 times a day at meal time for 15 days.

Patients suffering from scrofulosis and treated by this means should receive abundant fatty and nitrogenous food. [L.F.A.]

Treatment of the Night-sweats of Pulmonary Tuberculosis.—According to Hirschfeld, [3] good results are obtained in the treatment of night-sweats by sponging the body with the following mixture:

Balsam of Peru	1 cc.	(15 minims)
Formic acid,		
Chloral hydrate, of each	5 grams	(80 grains)
Absolute alcohol	100 cc.	(3⅓ ounces)

The activity of this preparation may be increased by adding 1 gram (15 grains) of trichloracetic acid. [L.F.A.]

THE PUBLIC SERVICE

Health Reports.—The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended June 27, 1903:

SMALLPOX—UNITED STATES.

		Cases	Deaths
Alabama:	Mobile, June 13-20	3	
California:	San Francisco, June 7-14	1	
Colorado:	Denver, May 23-June 6	24	
Georgia:	Atlanta, June 3-17	3	
Illinois:	Belleville, June 13-20	3	
	Chicago, June 6-20	6	1
	Danville, June 6-13	1	
Indiana:	Indianapolis, June 6-20	3	
	Kokomo, June 13-20	1	
Iowa:	Des Moines, June 13-20	1	
Louisiana:	New Orleans, June 13-20	2	
Maine:	Ft. Kent and vic't'y, June 18	9	
Maryland:	Cumberland, May 1-31	24	4
Massachusetts:	Fall River, June 6-20	7	
Michigan:	Detroit, June 15-22	7	
	Flint, June 13-20	1	
	Grand Rapids, June 13-20	2	
	Port Huron, June 13-20	10	

[1] Münchener medicinische Wochenschrift, March 3, 1903.
[2] Journal des Praticiens, Vol. xvii, No. 11, 1903, page 163.
[3] Le Mois Thérapeutique, Vol. iv, No. 4, 1903, page 47.

Minnesota:	Winona	June 13–20	1	
Missouri:	St. Louis	June 7–21	18	
New Hampshire:	Manchester	June 13–20	2	
	Nashua	June 13–20	1	
New York:	Elmira	June 13–20	3	
Ohio:	Cincinnati	June 12–19	7	
	Cleveland	June 6–13	1	
	Dayton	June 13–20	2	
	Hamilton	June 13–20	3	
	Toledo	May 30–June 13...	8	1
	Warren	June 13–20	1	
Pennsylvania:	Carbondale	June 7–21	4	
	McKeesport	June 6–20	1	
	Pittsburg	June 6–20	40	4
			1 case imported.	
	Philadelphia	June 13–20	35	4
Tennessee:	Memphis	June 13–20	2	
	Nashville	June 13–20	1	
Utah:	Salt Lake City	June 6–20	18	
Washington:	Tacoma	June 15–22	1	
	Whatcom	Jan 1–June 1	14	2
Wisconsin:	Milwaukee	June 13–20	10	

SMALLPOX—FOREIGN.

Argentina:	Buenos Aires	Mar. 1-31		8
Austria:	Prague	May 30–June 6	4	
Belgium:	Antwerp	May 30–June 6	3	1
	Ghent	May 16–June 6		4
	Liege	May 23–30	1	1
Brazil:	Bahia	May 23–30	2	
	Rio de Janeiro	May 10–27		7
British Guiana:	Demerary	Feb. 10–May 16	344	2
Canada:	Hamilton	June 6–13	1	
	Ontario	Apr. 1–30	122	2
	Vancouver	May 1–31	1	
Canary Islands:	Las Palmas	May 18–June 6	37	
Colombia:	Bocas del Toro	June 2–9		4
Germany:	Strasburg	Apr. 1–30	13	
Great Britain:	Birmingham	May 30–June 13	9	
	Bristol	May 30–June 6	1	
	Dublin	May 30–June 6	15	3
	Dundee	May 30–June 6	1	
	Leeds	May 30–June 6	40	
	Liverpool	May 30–June 13	81	5
	London	May 30–June 6	24	
	Manchester	May 23–June 6	20	4
	Newcastle-on-Tyne	May 30–June 6	2	
	Nottingham	May 23–30	2	
	Sunderland	May 30–June 6	2	
India:	Bombay	May 19–26	45	
Japan:	Kobe	May 9–16	2	
	Yokohama	May 16–23	1	
Mexico:	City of Mexico	May 31–June 7	24	14
Russia:	Moscow	May 23–30	8	1
	Warsaw	May 16–23		1
Spain:	Cadiz	May 1–31	1	
Straits Settlements:	Singapore	Apr. 11–18	4	
Turkey:	Smyrna	Apr. 19–26		1
Uruguay:	Montevideo	Mar. 1–Apr. 5	22	

YELLOW FEVER.

Brazil:	Rio de Janeiro	May 10–24		12
Colombia:	Panama	June 8–15	3	1
Costa Rica:	Limon	June 4–11		4
Mexico:	Coatzacoalcos	May 30–June 6	1	
	Tampico	June 6–13	11	8
	Vera Cruz	June 6–20	57	17

CHOLERA.

India:	Bombay	May 19–26		1
	Calcutta	May 16–23		71
Straits Settlements:	Singapore	Apr. 11–May 16		30

PLAGUE.

Australia:	Brisbane	Apr. 11–May 9	5	
Brazil:	Rio de Janeiro	May 10–24		2
India:	Bombay	May 19–26		255
	Calcutta	May 16–23		47
	Karachi	May 17–24	136	127
Mauritius:		May 14–21	2	

Changes in the Medical Corps of the U. S. Army for the week ended June 27, 1903:

STEARNS, CHAS H., contract surgeon, is granted leave for two months, with permission to visit the United States. He will report on or about August 1 to the commanding officer of the first available transport leaving Manila, P. I., for the United States, for duty thereon enroute to San Francisco, Cal.

TIGNOR, EDWIN P., contract dental surgeon, is granted leave for one month from about August 1.

SHEPARD, First Lieutenant JOHN L., assistant surgeon, is assigned to duty at the Army general hospital, Presidio of San Francisco, Cal.

ROGERS, R. C., contract surgeon, leave granted May 18 is extended one month.

MCCALUM, FRANCIS M., contract surgeon, now on leave, is relieved from further duty in the department of the Lakes, and will proceed to Fort D. A. Russell for duty.

PRICE, RICHARD J., contract surgeon, is granted leave for three months on surgeon's certificate, to take effect about July 1.

WELLS, Captain GEORGE M., assistant surgeon, will report to Major Louis A. La Garde, surgeon, president of the examining board at the Army Medical Museum building, Washington, D. C., for professional examination for promotion.

PIPES, HENRY F., contract surgeon, now in Washington, D. C., will proceed to Governors Island, N. Y., and report to the commanding general, department of the East, for assignment to temporary duty.

BOSLEY, JOHN R., contract surgeon, will proceed to Fort McPherson for duty.

BACON, ALEXANDER P., contract dental surgeon, now at Fort Snelling, will turn over the dental instruments and property in his custody to a commissioned officer of the Army to be designated by the commanding general, department of Dakota, and will then proceed to his home, Edwardsburg, Mich., for annulment of contract.

FISHER, Captain HENRY C., assistant surgeon, is relieved from duty as attending surgeon and examiner of recruits at Baltimore, Md., and from further temporary duty at Fort McKinley and will proceed to Camp George H. Thomas, Chickamauga Park, Ga., for duty to relieve Major William D. Crosby, surgeon. Major Crosby will proceed to San Francisco, Cal., and report for transportation to the Philippine Islands, where he will report for assignment to duty.

BRECHEMIN, Major LOUIS, surgeon, is relieved from further duty in the division of the Philippines, and will proceed to San Francisco, Cal., and report by telegraph to the adjutant general of the Army for further orders.

LYSTER, First Lieutenant THEODORE C., assistant surgeon, is relieved from duty at West Point, N. Y., and will proceed to New York City for temporary duty as attending surgeon and examiner of recruits, to relieve Major William H. Arthur, surgeon. Major Arthur will repair to Washington, D. C., and report in person to the governor of the United States Soldiers' Home for duty as attending surgeon, to relieve Major Louis A. La Garde, surgeon.

BLOOMBERGH, First Lieutenant HORACE D , assistant surgeon, now on leave at Easton, Pa., will upon the expiration of said leave proceed to San Francisco, Cal., and report for transportation to the Philippine Islands, where he will report for assignment to duty. Extension of leave granted First Lieutenant Horace D. Bloombergh May 19 is further extended fourteen days.

PURVIANCE, Captain WM. E., assistant surgeon, will report to Major Louis A. La Garde, surgeon, president of the examining board at the Army Medical Museum building, Washington, D. C., for examination for promotion.

Changes in the Medical Corps of the U. S. Navy for the week ended June 27, 1903:

AMES, H. E., medical inspector, commissioned medical inspector from January 20, 1903—June 19.

STOKES, C. F., surgeon, detached from the Navy Yard, League Island, and ordered to the Bureau of Medicine and Surgery, Navy Department—June 19.

BROWNELL, C. D., EVANS, S. G., RIGGS, C. E., JOHNSON, M. K., GROVE, W. B., HUNTINGTON, E. O., surgeons, commissioned surgeons from March 3, 1903—June 19.

ODELL, H. E., passed assistant surgeon, commissioned passed assistant surgeon from November 8, 1902—June 19.

SNYDER, J. J., assistant surgeon, detached from the Naval Hospital, Philadelphia, Pa., and granted sick leave—June 20.

VERNER, W. W., assistant surgeon, ordered to the Naval Hospital, Philadelphia, Pa.—June 20.

WHEELER, W. M., MORRIS, L., PLEADWELL, F. T., KINDLEBERGER, C. P., and COOK, F. C., surgeons, commissioned surgeons from March 3, 1903—June 24.

PICKRELL, G., surgeon, detached from the Iowa and ordered home to wait orders—June 26.

Changes in the Public Health and Marine-Hospital Service for the week ended June 25, 1903:

GASSAWAY, J. M., surgeon, granted leave of absence for two days from June 7—June 19, 1903.

WASDIN, EUGENE, surgeon, granted leave of absence for three days from June 20—June 25, 1903.

BROOKS, S. D., surgeon, granted leave of absence for one day, June 22—June 25, 1903.

WHITE, J. H., surgeon, granted leave of absence for one month from July 2—June 25, 1903.

CARRINGTON, P. M., surgeon, six days' leave of absence, under paragraph 189 of the regulations, from June 20, 1903. Granted extension of leave of absence for seven days—June 23, 1903.

YOUNG, G. B., passed assistant surgeon, granted leave of absence for two months from July 7—June 22, 1903.

SPRAGUE, E. K., passed assistant surgeon, leave of absence for seven days from June 4, 1903, granted passed assistant surgeon Sprague under paragraph 191 of the regulations, amended so as to be for four days only. Relieved from duty at Fort Stanton, N. M., and directed to proceed to Calcutta, India, for duty in the office of the U. S. Consul General—June 25, 1903.

GRUBBS, S. B., passed assistant surgeon, granted extension of leave of absence for seven days from June 23—June 18, 1903.

GWYN, M. K., assistant surgeon, to report to Assistant Surgeon V. G. Heiser, recorder of board of examiners, Manila, P. I., on August 8, 1903, for examination to determine his fitness for promotion to the grade of passed assistant surgeon—June 20, 1903.

HOBDY, W. C., assistant surgeon, to report to Passed Assistant Surgeon L. E. Cofer, recorder of board of examiners, Honolulu, T. H., on August 15, 1903, for examination to determine his fitness for promotion to the grade of passed assistant surgeon—June 20, 1903.

EARLE, B. H., assistant surgeon, granted leave of absence for seven days from June 25—June 23, 1903.

BREADY, J. E., acting assistant surgeon, granted leave of absence for three days by Bureau letter of June 6, revoked—June 22, 1903.

HARRIS, B. Y., acting assistant surgeon, granted leave of absence for thirty days from July 22— June 22, 1903.

SWEETING, C. B., acting assistant surgeon, granted leave of absence, on account of sickness, for thirty days from June 10—June 18, 1903.

ILTIS, G. W., pharmacist, to report to Passed Assistant Surgeon W. G. Stimpson, chairman of board of examiners, San Francisco, Cal., on June 29, 1903, for examination to determine his fitness for promotion to the grade of pharmacist of the second class—June 22, 1903.

American Medicine

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PUBLISHED WEEKLY AT 1321 WALNUT STREET PHILADELPHIA BY THE AMERICAN-MEDICINE PUBLISHING COMPANY

VOL. VI, No. 2. JULY 11, 1903. $5.00 YEARLY.

Roof-gardens for Tuberculous and Others.—In Oriental countries the utilization of the best sleeping-place, the roof of the house, and even the best living-place, is not neglected. It is strange that in northern countries, and especially in ours, the opportunity has not been seized. Because for three months, at least, so far as climate is concerned most of the United States is decidedly Oriental. Is it the energetic Dr. Martin, of Philadelphia, to whom we are indebted for the inauguration of the plan? The top of the building of the Philadelphia Hospital is to be used as a roof-garden for the tuberculous patients. The hospital roof, 26 by 150 feet, is covered with a canvas roof, to which are attached side-flaps for use when protection from sun or rain is necessary, and will be fitted up with beds, so that the patients may be kept in the open air twenty-four hours out of the day. Dr. Martin is quoted as saying that not only as a mere sleeping-place and a space to work about in has this been planned. It is expected that flowers and shrubbery will be scattered on the roof and that it will really be a garden, with walks and shade, attractive to the patients. In planning the construction of hospitals hereafter will not architects have to allow for this excellent method of treating patients? And why only for the tuberculous? And why for the sick alone?

Medical Articles in Newspapers.—A lay periodical of the highest character recently asked a physician to write for it a series of articles on his specialty. Nothing, answered the medical man, would give him greater pleasure, because it would be a perfect opportunity to bring to a class of readers in great need of the instruction, such truths as would be of great benefit to them and to the community. The physician made but one condition: his name must not be published as author of the articles. The editor, a man of probity and intelligence, could not understand the reason for this to him absurd condition. Without the name the readers of the newspaper would not read. Truth for them had no interest except it were made a personal matter, and the speaker could be seen and known. The articles, indeed, would have been a splendid advertisement for the writer, given gratis, said the editor. It was called to his mind that if this were so, what would he think of the medical specialist who should bring him such a frank advertisement for his advertisement columns. Was the immorality of the advertisement not all the more heinous if to the fact were added the universally detested hypocrisy of the "reading notice?" The articles were not written.

The Press Committee of Medical Societies.—The New Castle County Medical Society of Delaware has adopted a method of meeting the complication presented in the preceding editorial note in the following manner:

A committee of three was appointed to be known as the "Press Committee of the New Castle County Medical Society." The function of this committee shall be: 1. To write up as occasion demands popular articles on live hygienic, sanitary and medical issues. 2. To control, so far as possible, the reporting of medical news in the local press. 3. To endeavor to influence the lay editors in favor of the proper handling of medical subjects, editorially or otherwise. The reason medical men are generally averse to the publication of signed communications in the daily press is that it savors of advertising; at all events, the author of such a communication may justly or unjustly be suspected of a desire to have his name (and often address) appear before the lay readers. No such suspicion can be attached to the communications written and signed by the "Press Committee," the readers not knowing who the members of this committee are. The article shall be signed thus: "The Press Committee of the New Castle County Medical Society."

This plan seems admirable, and if such a committee was appointed by every medical society the advertisers who seize every opportunity to get their names before newspaper readers would have no excuse, and the honorable members of the profession would be able to secure the opportunity to instruct those readers in matters of the greatest concern to the public health and well-being. The newspapers themselves could thus be prevented, at least the best of them, from being forced, or of choosing, to publish medical rumors, false and nonsensical medical news. The more honorable could be brought to agree not to publish such trash, except by the *visé* of the Press Committee.

The Revised United States Quarantine Regulations.—The Treasury Department has issued a revised edition of the quarantine laws and regulations of the United States. The book has no index; a serious fault. The chief interest of the pamphlet is found in the regulations concerning maritime quarantine, which the Sur-

geon-General has endeavored to modify into accordance with the fresher and more exact knowledge of quarantinable diseases. In his work of revision the Surgeon-General has probably gone as far toward the recognition of new facts as common sense and expediency will justify. In respect to yellow fever he has failed to satisfy those who are most enthusiastic about the recent achievements in Cuba, while those who doubt the all-sufficiency of these demonstrations believe that the Surgeon-General has carried his modifications beyond the bounds of prudence. In 1902 no outbreak of yellow fever occurred at Havana. The few cases arriving from Mexico and Central America were handled with exclusive regard to the idea of mosquito transmission, and the results confirmed the experience of the preceding year, 1901, when in September the city was declared free from yellow fever for the first time in 139 years. The usual quarantine restrictions were imposed upon Havana during 1902, but in 1903, under the new regulations, vessels clearing with a bill of health have been granted free pratique. At a certain distance one is easily convinced that the absence of yellow fever for nearly two years gives Havana a sound claim to be considered a non-infected port. But to the citizens of the Gulf States the infective energy of Havana has always meant impending and appalling disaster, and the reluctance of Southern health officers to adapt their practice to the new revelation is easiest understood by those who have had analogous experience. Perhaps theirs is the attitude of prudence, for their whole sanitary organization is directed against this single disease, and is equipped at vast expense in accordance with the older ideas of defense. Immediate conversion to the new ideas would be not a reform but a revolution. A hasty readjustment of their complicated machinery would certainly be dangerous, and the consequences of a slight mishap might so impress the public mind as to postpone indefinitely all hope of further progress. Those who were fortunate enough to hear the memorable address of Chaillé at New Orleans on May 6, must have been convinced that the lesson of the Cuban experience is safely lodged where it is most needed, and that its influence will soon appear in an enlightened public opinion. The responsible health officials of the South evidently have not the hardihood to go very far in advance of public opinion, but they surely will not allow themselves to be passed or even overtaken by that merciless power.

The International Quarantine Bureau.—The commercial interests which bear the chief burden of quarantine may be depended upon to work unceasingly for their own relief, and they are shrewd enough to seek allies among those scientific men who chafe at the slow growth of public opinion. Scientific men are easily led into such alliances, and sometimes find themselves unwilling partners in a game of shocking unfairness. During the meeting of the American Public Health Association in December, 1902, some of the best public hygienists in this country lent the influence of their names to the organization of an International Quarantine Bureau, whose professed aim was to educate the people of the South, and secure uniformity in quarantine methods. The first circular issued by this concern is scareheaded in bold type "Wyman vs. Souchon." Two letters which follow, one by the president of the Louisiana State Board of Health, and the other by the surgeon-General of the U. S. Public Health and Marine-Hospital Service, fail to justify the warlike caption. The circular is intended for distribution among interested merchants and ship-owners, and attempts to mislead them into the belief that the quarantine regulations of Alabama, Mississippi, Louisiana, and Texas are contrary to the laws of the United States and cannot be enforced. "Captains, merchants, and shippers" are expressly advised to defy the local regulations and to report "violations" to the International Quarantine Bureau, Nashville, Tennessee. The basis of organization of the "Bureau" is, according to its president, a brief statement concerning the etiology and prophylaxis of yellow fever which, either in form or substance, was rejected by the Conference of State and Provincial Boards of Health at New Haven in October, 1902, by the International Sanitary Congress at Havana in November, and by the American Public Health Association at New Orleans in December. The membership of the "Bureau" includes, beside the president, the 40 odd gentlemen previously referred to who obligingly signified in writing their approval of this thrice discredited resolution. Among the influential men whose names are paraded in the circular, there are many who, even if they approve the professed purpose of the International Quarantine Bureau, cannot lend countenance to its moral obliquity, and must be put to the blush by the bad taste and gross ignorance displayed in its first published utterance. The authorship of the circular is not declared, but of the 24 members of the "Bureau," who are well known to *American Medicine*, all are above suspicion. As soon as this circular has been read by all the gentlemen under whose patronage it was produced, the International Quarantine Bureau will proceed rapidly to disruption.

Antisepsis in Heart Surgery.—Even so lately as 25 years ago, a surgeon who would dare to suggest such a proceeding as laying open the pericardium, opening and cleansing a wound in the tissue of the heart itself, and then closing the latter with stitches—afterward treating in similar fashion the opening in the pericardium and that in the chest-wall, and finally sending his patient to bed with the confiding assurance that there existed a reasonable hope of recovery—would, most assuredly, be looked upon by his professional brethren as either a criminal experimentalist, or a dangerous lunatic, or an unhappy admixture of both these types. Even the use of anesthesia in surgical practice did comparatively little toward insuring safety in exploration of the cavities of the human body till the terrible danger of septic poisoning was gradually eliminated by increasing skill in the application of antiseptic means and methods. Each of the organs contained within the great cavities of the trunk, and for the fulfilment of whose functions a considerable range of free mobility is necessary—as is the case with most of them—is invested

with varying degrees of approximation to completeness, according to natural requirements, by a smooth (socalled "serous") membranous covering. This membranous investment in each case is double—closed all round the edges, so as to form a shut sac—the opposed surfaces of which are kept continuously lubricated by its own secretion, which is exuded and reabsorbed with great rapidity, whereby its freshness is maintained in such a way as to secure the least attainable degree of friction. Accordingly, the introduction of septic matter into one of these serous investing sacs is specially liable to be rapidly followed by all the phenomena of the most virulent form of blood-poisoning. This fact accounts for the gruesome fatality of the opening of any of them before the introduction of antiseptic agents into surgical practice.

A Case of Surgery of the Heart.—The wonderful progress which surgery has made during the past quarter of a century was recently demonstrated in the accident ward of the London Hospital by an additional case of surgery of the heart. A tailor, who had been stabbed in the chest with a knife, was hastily conveyed to the hospital in a state of complete collapse. As his condition was obviously desperate the house surgeon on duty determined to examine the wound to the very bottom, as the only means of warding off septic complications, if he could succeed in saving the wounded man's life from the immediate consequences of the injury. Accordingly, as the wound was found to be situated over the region of the heart, the portion of the chest-wall lying in front of the heart was reflected, when the pericardium was found to have been laid open. On enlarging the wound in this membrane it was found that the heart-muscle itself had been penetrated. The opening in the latter position was rapidly cleansed with antiseptic fluids, the bleeding vessels were secured and the wound sutured. The cavity of the pericardium was then cleansed of the clotted blood, the opening in its membranous wall similarly treated and secured, and lastly the opening in the chest-wall was closed with corresponding precautions. Artificial respiration was kept up till normal breathing was fairly well established, and latest reports give a fair hope of recovery. Even laymen must recognize that such an occurrence represents a splendid triumph of professional skill.

Wounds of the Heart.—The fact that the heart is the sole organ of the human (or animal) body, which from the dawn to the close of life is never allowed a moment's rest, and the cessation of whose action is the characteristically essential phenomenon of the occurrence of death, satisfactorily accounts for the mysterious awe with which its activity was regarded in the prescientific ages. It well explains why it was generally regarded as the true "center of life," as the essential mainspring of all the vital functions—even as the organ of all the higher emotions, the "seat of the soul," the "organ of the nerves," the focus of all the nobler aspirations and ideals of the human mind, as it was by many of the subtlest of the philosophers of ancient times. In those days it was, of course, the unquestioned opinion that the slightest wound of this organ was unavoidably followed by immediate cessation of all the vital functions. The existence of this view down to comparatively recent times is well shown by the historic account of the death of Admiral Villeneuve, who was subjected to political (or professional) disgrace in the period of the rise of the Napoleonic autocracy. He is said to have procured anatomic plates, by the study of which he made himself familiar with the exact position of the heart, upon the attainment of which knowledge he ended his own life by running a long needle into the substance of the vital organ. But the light of the disillusioning criticism of latter-day science sheds doubt on the authenticity of this romantic item of history. Even before the discovery of "antiseptics" and their application in surgical practice, it had been well known to the initiated that recovery after wound of the heart was possible—even if not probable—in cases which could be ranged in three groups. The first of these was the very small puncture, such as that of a needle, which might be immediately closed by the contraction of the muscular tissue around; so that no blood, or extremely little, escaped into the surrounding cavity of the pericardium. The second was the "nonpenetrating," which did not pass into one of the cavities of the heart itself; and which, if it reached no bloodvessel of considerable size, would be followed by a merely slight oozing of blood into the pericardium. The third was the "valvular," which laid open one of the cavities of the heart by an extremely oblique incision, the edges of which were actually closed by every contraction of the cardiac muscle, and accordingly allowed no considerable escape of blood from within. The fact that wounds of any of these classes were not necessarily followed by fatal results is due to the other (physiologic) fact that the heart is not at all the uniquely high-class organ that it was formerly believed to be—that its functions are almost purely mechanic. Being the great central "pump" of the circulation, by which the nutritious materials of the blood are passed on to all the tissues of the body, its activity is always in requisition. And as all vital structures—especially the more highly specialized—exist in a continuous process of waste and repair the supply must be unceasing. Accordingly, the complete interruption of nutritional change in the higher nerve-centers—which govern all the functions of the animal economy—is necessarily followed by immediate death. This explains the fact of the fatal result of rapid withdrawal of a considerable quantity of blood from the circulation.

Mode of Deaths in Wounds of the Heart.—In wounds of the heart itself the escape of blood is never in large quantity, and the lethal consequences are due to the fact that the escape of blood from within its cavity (or cavities) into the surrounding sac of the pericardium mechanically interrupts the alternate contraction and expansion by which its pumping action is maintained. Accordingly, the results of wound of the heart are usually identical with those of gradual suffocation. This fact was strikingly demonstrated in the case of the late Empress of Austria. And the diabolic skill and precision with which the wound

was inflicted in her case offer a diagrammatic illustration of a necessarily fatal wound of the heart. The instrument used was too large to form a mere "needle puncture;" it was inflicted too high in the chest to be "nonpenetrating," for it was aimed with truly fiendish ingenuity at the position of one of the thin walled of the four cavities of the heart, and the directness of the penetration, combined with the thinness of wall of the cavity, rendered it physically impossible that the wound could be "valvular." The Israelite warrior of old smote the enemy—when possible—"beneath the fifth rib," because the impulse of the heart is felt there. But he probably did not know that it is in that precise position that wound of the heart is least necessarily fatal. The Italian assassin of recent date displays incomparably greater skill and knowledge. The science of the present day also proves that the historic account of the death of Admiral Villeneuve is open to skeptical doubt. And the recent cases of suture of the heart give illustration that modern surgical skill may attempt, and with success, the seemingly impossible.

Radium and Carcinoma.—The close interrelations between the sciences and the immediate practical results from a seemingly insignificant and remote discovery have often been illustrated in modern times, but never so dramatically as in the case of radium. It is said that the entire amount of the pure element that has been extracted by chemists is less than a teaspoonful. But in a year a study of the minute properties of these few grains has apparently revolutionized physics and chemistry, almost if not absolutely abolished, at least theoretically, the atomic theory of matter, which with gravitation seemed the most certain of truths. Where it will end no one can foresee. One wonders if the greatest mystery of physics, gravitation, is soon to be explained. Immediately that radium is studied, a medical use is found. From Vienna comes the report that in the clinic of Professor Gussenbauer there has been one cure of chronic carcinoma. The patient, who was 61 years old says the cabled newspaper report, had long suffered from cancer of the palate and lip, and had repeatedly been operated upon fruitlessly, until the autumn of 1902, when the physicians of the Viennese Hospital declared it was absolutely useless to operate again. One physician determined, as a last resort, to try radium rays, and treated the afflicted parts by exposing them to the light of radium bromid, the strongest radium preparation in existence. He was rewarded by a gradual and complete disappearance of the tumors. Physicians at the same meeting reported that radium rays had cured a case of melanosarcoma and several cases of red mole.

The Workman's Dinner Bucket.—At the last quarterly meeting of executive officers of Iowa State institutions the subject of the cause and cure of inebriety was up for discussion. At last arose a woman, and it was good to hear her testimony that "the solution is in the food and home question." She said:

I believe the foreign mother is a better home-keeper than the mother of the same class among the Americans. The foreign mother makes wholesome rye bread, whole wheat bread and black bread; while the American mother will go to the bakery and buy the cheapest product, and the poorer it is the better it suits.

I have for several years had a strong idea that the whole solution of this question of inebriacy was in prevention rather than cure and I have been doing what little I could along that line and have been studying foods and talking foods. I find on the American table condiments, pickles, chow-chow, and kindred substances that excite the child's appetite. Two years ago, to ascertain what working men were living upon in relation to the divorce problem and the home problem—wherever I might, I have taken a glimpse at their tin buckets. I find that the laboring men of this town take baker's bread, baker's doughnuts, and a chunk of meat as big as my fist or larger that has been boiled, and the soup from which the meat has been taken is left at home for the consumption of the family. It is no wonder that under these conditions the man will go home from a day's work and passing a saloon, etc.

EDITORIAL ECHOES

"Good Advertisers" Retired.—The man arrested in Trenton under one of the many names by which he had operated schemes for sending obscene matter through the mails is an old and profitable agent of more than one Philadelphia newspaper, that would probably feel indignant at having itself considered in that kind of a relation with him. The Sunday issues of these newspapers have been making a specialty of the kind of "personals" inserted by the rascal who, under various names operated four offices in New York and two (North Ninth Street and Drexel Building) in Philadelphia. The extent of the harm done, especially to young people, by the "ads" an unscrupulous man can manage to get into reputable newspapers without which he would be comparatively harmless, is almost incredible. *City and State* supplied a chapter on this subject in one of its issues a month or so ago.—[*City and State.*]

Work of the U. S. Bureau of Animal Industry, says Dr. Salmon has proved successful in the eradication of the contagious pleuropneumonia of cattle from this country, at a comparatively small expense, by the development of a single vaccine for blackleg, which has been used upon millions of cattle and has reduced the losses in infected herds of cattle to less than 1%, thus saving many millions of dollars to the cattle industry; by the development of a federal meat-inspection service which last year inspected at the time of slaughter 38,829,439 carcasses, insuring healthy meat to domestic consumers and enabling the government to certify to the wholesomeness of that which is exported; by its successful control over the exportation of live animals, a trade embracing 300,000 to 400,000 cattle and 200,000 sheep a year, and which has done away with all unnecessary suffering aboard ship and reduced the losses to 0.13% with cattle and 0.89% with sheep; by the successful investigation of many diseases and the dissemination of a vast amount of information relative to the breeding and management of domesticated animals in health and disease. The first great task was to establish what is known as the Texas-fever line, which now extends from ocean to ocean, and serves to divide the section of the country in which the disease originates from that in which its ravages are usually seen. This line needs constant rigid supervision to prevent the spread of the infection. It involved last year the inspection of 1,545,000 cattle and the cleaning and disinfection of 46,736 railroad cars.—[*Science*, June 12, 1903.]

BOOK REVIEWS

The Medical and Surgical Uses of Electricity.—By A. D. ROCKWELL, A.M., M.D., formerly Professor of Electrotherapeutics in the New York Postgraduate Medical School and Hospital, New York: E. B. Treat & Co., 1903.

This work is a bulky volume of 656 pages representing a new edition of the author's 1896 revision of the work of Beard and Rockwell. Much of the book has been rewritten and six chapters added, three on the x-ray in diagnosis and therapeutics, and one each on the Finsen Light, Vibratory Therapeutics, and High Frequency Currents. The main headings of the book are Electrophysics, Electrophysiology, Electrotherapeutics, and Electrosurgery. Upon the first two of these we have no particular criticism to offer. They contain a vast amount of information that is stated in a very readable manner and with a sufficient degree of accuracy. The third part bears the impress of being written by a specialist who is enthusiastic over his subject, as any specialist truly should be. The part dealing with Electrosurgery, however, which is stated to be that branch of electrotherapeutics which includes the electric treatment of the diseases commonly known as surgical, contains many generalities that either ignore known pathologic conditions or leave them undifferentiated. For instance, in speaking of malignant growths, the author states that "under this head may be classed epithelioma, recurring cysts and fibroids, encephaloids, scirrhus, and so forth." What does he mean by "recurring fibroids" that are malignant? On page 565 is an illustration with this legend: "Scirrhus of the Breast Treated by Ordinary Electrolysis. Three needles connected with negative pole in body of tumor; connection made by a sponge, the positive pole at the indifferent point on the lupus." What is meant by "lupus?" Following a description of what the author calls two general varieties of cancer of the breast is this remarkable statement: "Whether what we call, for convenience' sake, and for clinical reasons, only two varieties, are really but different stages of one variety; whether the latter may sometimes come under the head of abscess, or of the atrophying cancer described by Billroth—these questions we resign to the pathologists of the future." We sincerely hope that "the pathologists of the future" will prove equal to any task that may be required of them. Is it too much to hope that the electrotherapeutists of that era will learn something of pathology before they write of pathologic conditions? Too much valuable space would be wasted were we to mention only a small part of the ambiguous inconsistencies in these chapters on Electrosurgery. They alone would cause the reader to lose confidence in an otherwise valuable book. The chapters on the Röntgen ray, Finsen light, etc., are very good for the amount of space devoted to them. In connection with the former the name of Lenard is constantly spelled Leonard, this being only one example of the very bad proofreading that obtains throughout the book.

A Laboratory Textbook on Embryology.—By CHARLES SEDGWICK MINOT, Professor of Histology and Human Embryology in the Harvard Medical School. P. Blakiston's Son & Co., Philadelphia. 380 pages, with 218 illustrations. Price, $4.50 net.

"Human Embryology," by this distinguished teacher and scientist, who was the first practically in America to introduce a systematic course of embryology into the medical curriculum, has long been the best type of textbook devoted to a systematic study of the subject. The book which he now offers is equally the model textbook of those intended for practical laboratory instruction. That such a book in English has been badly needed will be admitted by all who have attempted to work out their laboratory embryology by the aid of the larger systematic treatises. That Dr. Minot has filled this need will be gratifying to all, and especially so to those who, even under his masterful guidance, found the study of embryology not unattended by difficulty and uncertainty. Let us hope that this laboratory textbook will cause the important study of embryology to lose much of the terror which it has had for the average medical student.

"The author's experience has led him to believe that the study of carefully selected sections of embryos accompanied by directions and explanations of the significant structures in each section, offers many advantages." This conviction has determined the arrangement of the book. The first chapter is devoted to "General Conceptions," and the second to "Early Development of Mammals," and in these two chapters the development of the vertebral structure and the laws governing this development are discussed in a most thorough and readable manner. The third chapter is devoted to the study of the human embryo up to the fourth month; the fourth to the characteristic stages of the development of the pig embryo; the fifth to the chick embryo. These three chapters, with the sixth devoted to the study of the blastodermic vesicle and the segmentation of the ovum, constitute one-half of the book. The uterus and fetal appendages in man are thoroughly described, and a short chapter on methods completes the work.

Such points as serve to explain adult anatomic relations or pathologic deviations are continually emphasized, as are also those illustrating general biologic principles.

The illustrations, which number 218, and which are almost entirely original, can be described only as magnificent. An excellent index increases the value of the book for purposes of ready reference. The publishers have done their share to make the volume perfect.

The New International Encyclopedia, Vol. IX, (Dodd, Mead & Co., New York), covers subjects between *Hall* and *Infant Phenomenon.*

The principal medical and related subjects treated are:

Hallucination,
Hallux Valgus,
Hand,
Hanging,
Harelip,
Hashish,
Hay Fever,
Headache,
Health Boards,
Health Assn., Am. Public,
Heart,
Heating and Ventilation,
Heat Stroke,
Hectic Fever,
Hellebore,
Hemiopia,
Hemiplegia,
Hemlock,
Hernia,
Heredity,
Heroin,
Herpes,
Heterophoria,
Hiccough,
Hip-joint,
Hippocratic Oath,
Hives,
Homatropin,
Homeopathy,
Hops,
Hospital,
Hospital Corps,
Hospital Ship,
Housemaid's Knee,
Humidity,
Hydrastis,
Hydrocele,
Hydrocyanic Acid,
Hydrogen Dioxid,
Hydrophobia,
Hydrotherapy,
Hydrothorax,
Hygiene,
Hyoid Bone,
Hyperesthesia,
Hypertrophy,
Hypnotics,
Hypnotism,
Hypochondriasis,
Hypodermic Medication,
Hysteria,
Hysteroepilepsy,
Ichthyol,
Ichthyosis,
Idiocy,
Idiosyncrasy,
Ileus,
Illusion,
Imitative Insanity,
Impetigo,
Indigestion.

Many subjects we would naturally look for in this volume are relegated by their spelling to Volume VIII. These include a long list derived from the Greek *aima*, such as Hemorrhoids, Hemoptysis, etc. Other subjects altogether omitted or without cross reference, are *Handkerchief Dressings*, *Hemorrhage*, *Hereditary Ataxia*, *Hodgkin's Disease*, *Hymen* (Imperforate), *Hypertrichosis*, *Hysterectomy*, *Hypoglossal Nerve Lesions.* Under *Ice* there is no allusion to its medical uses. The article on the *Hand* while noting its anomalies and diseases contains nothing as to its surgery. The article on the *Heart* and its diseases does not refer to treatment. That on *Headache* is very short but well written. Among other excellent articles are those on *Hydrophobia*, *Hydrotherapy*, *Hygiene*, *Hypnotics*, *Hypnotism* and *Illusion.* About 40 physicians receive mention, including Hippocrates. We miss the name of Jonathan Hutchinson and several of our own medical writers.

The Treatment of Fractures.—By CHARLES LOCKE SCHUDDER. Published by W. B. Saunders & Co., Philadelphia and London.

That a third edition of this valuable work has already appeared is sufficient evidence of its appreciation by the profession. A chapter on gunshot fractures of the long bones has

been added. Gunshot fractures, now much better understood from the writings of those in the South African war, have been carefully and fully considered by the author. That which strikes the reviewer most is the practical manner in which the author considers the various fractures, and the common-sense method of treatment. Conditions rather than theories are discussed. The work abounds in some 645 illustrations, and comprises almost 500 pages. Plaster dressings are more fully considered than in the preceding edition and many illustrations of their application are given. The work as it now appears is fully up to date, and will doubtless augment the popularity already achieved.

International Clinics.—Edited by A. O. J. KELLY, M.D., of Philadelphia. Vol. I, Thirteenth Series, 1903. Philadelphia: J. B. Lippincott Company.

This volume contains a number of excellent articles. Lack of space precludes mention of all, but of special note are those on Aneurysm of the Descending Thoracic Aorta by Osler, which includes a 25 page summary of the 14 cases observed at Johns Hopkins Hospital; Primary Intestinal Tuberculosis by Frank Billings; Pyloric Obstruction and Gastric Dilation by Max Einhorn; Reports of Surgical Clinics by Keen, Senn, and Jonnesco, the latter speaking of the enduring results of bilateral sympathectomy in Basedow's disease; Convulsions in Young Children by John Thomson; Treatment of Weakfeet and Flatfeet by A. R. Shands; and papers on Functional Reversion and The General Principles of Embryology by A. F. A. King and J. W. Ballantyne, respectively. The last hundred pages, one-third of the volume, is devoted to a Review of the Progress of Medicine During 1902 by E. W. Watson and H. W. Cattell. This is the first volume under the new editorial management and Dr. Kelly is to be sincerely congratulated because of the general worth of its contents. The names of many of the contributors are household words among the profession and the subjects discussed are eminently practical. International Clinics has made for itself an enviable reputation among medical publications and if this volume is a fair sample of what is to come, the new management will not only sustain but will add to that reputation. The review of the progress of medicine is necessarily condensed but is an exceedingly valuable review. More careful proofreading is necessary. The appearance of a noted English surgeon's name as A. W. Mayo Robinson might be pardoned but when we are told of lost finger tips being restored by sponge *education* instead of sponge eduction, we must mildly protest. But these are minor points. The book as a whole can be commended. We extend to the new management our cordial wishes for the future success of International Clinics.

Essays on Clinical Medicine.—By BEVERLY ROBINSON, A.M., M.D., Clinical Professor of Medicine at University and Bellevue Hospital Medical College. Philadelphia: W. J. Dornan, 1903.

This is a neat little volume of 171 pages, containing 11 articles which have at various times been published in the *American Journal of Medical Sciences*. The majority of them deal with heart lesions. They are valuable essays, and the author is to be commended for publishing them in collated form.

Physical Chemistry for Physicians and Biologists.—By DR. ERNEST COHEN, Professor of General and Inorganic Chemistry in the University of Utrecht. Authorized translation from the German by MARTIN H. FISCHER, M.D., Instructor in Physiology in the University of California. New York: Henry Holt & Co., 1903.

This book is made up of a series of 17 lectures prepared in response to the request of a number of physicians to give a review of those subjects in physical or general chemistry which are of importance in medicine. It is not a textbook, but rather an introduction to textbooks on this subject. The subjects of the lectures include the action of ferments, equilibrium, friction of liquids, osmotic pressure, electrolytic dissociation, and the application of these principles. The elementary facts discussed are plainly set forth. A table of contents would add to the value of the book.

AMERICAN NEWS AND NOTES.

GENERAL.

Better Sanitary Regulation in Toronto.—A bill has been passed by the City Council of Toronto which aims at securing better sanitary conditions in the Chinese and Italian quarters of the city. It provides that a medical health officer may enter lodging-houses, etc., wherever crowded or filthy and compel better sanitary accommodation. At least 400 cubic feet of air must be provided for each occupant in a sleeping-room, and the rooms must be kept "in a condition fit for proper human habitation."

Postoffice Physicians Discontinued.—Postmaster-general Payne has issued an order abolishing the position of physician in postoffices at the close of business June 30, 1903. This order wipes out a small list of officials whose employment without specific authority of law has caused wide discussion in connection with the postoffice investigation. Some at least of these offices paid $1,700 a year, and were sinecures. The postoffices employing physicians up to the close of the fiscal year, which expired June 30, when the Postmaster-general's order took effect, are New York, Chicago, Brooklyn, Philadelphia, and Boston.

Amount of Water in Creamery Butter.—It is stated that during the year 1902 the United States Department of Agriculture had opportunity for examining 730 different packages of butter, representing the product of 400 different creameries, located in 18 States. The butter was made in May, June, August and September. Moisture determinations were made on 802 samples. The range of water content was found to be from 7.20% to 17.62%, and the general average was 11.78%. There were but three results below 8%, and only eight above 16%. Seven-eighths of the 802 samples were between 10% and 14%, and more than half between 11% and 13%. Making all reasonable allowance for error, it seems safe to state that American creamery butter, during the months named, has an average water content not exceeding 12%.

Contract Army Surgeons Not United States Officials.—An interesting question involving the authority of army contract surgeons has just come before the War Department for adjustment. As a result Private Herbert P. Mark of the Hospital Corps, who was convicted in the Philippines of disobeying the orders of Contract Surgeon James C. Rutledge and sentenced to three years' imprisonment, will probably be released from confinement. Mark has already served nearly a year of his sentence, having been tried and sentenced on August 29, 1902, at Santa Cruz, in Cavité Province, Island of Luzon. Mark got into trouble with the contract surgeon at the Santa Cruz garrison, refused to obey the doctor's orders, and is said to have been profane in telling the doctor what he thought of him. For this he was tried by a general court-martial and convicted of insubordination and disobedience of orders. According to the officials of the War Department, this conviction was not warranted by law, as a contract surgeon is not an officer of the army, but only a civilian doctor employed by the government.

EASTERN STATES.

Open-air Wards for Hospital Patients.—News from Boston states that the Boston City Hospital has established open-air wards for the treatment of the sick and disabled. To these convalescent patients are removed from the general hospital. Four large tents, each 40 x 90 feet, are used for this purpose, two for surgical cases and two for medical cases, providing 60 beds in all.

Scarlet Fever at Woburn.—It is stated that scarlet fever is spreading in Woburn so rapidly that the Board of Health has recommended suspension for a time of public gatherings. There are in the vicinity of 100 cases in the city, but no fatal cases have been reported yet. The fact that they have been so mild enabled the disease to spread widely. Schools were closed ahead of time on account of it, and if there is no abatement the health authorities may decide to close the churches.

Patient and Physician.—The *Springfield Republican* says: "The Massachusetts Medical Society is moving to secure legislation for the protection of the confidential relations between physician and patient. The lawyer and clergyman now have the protection of the law for their professional secrets against the questions of examining counsel, and the argument is that the consultation and confidential conference between the doctor and the patient, which the law does not protect, should be held equally sacred in the courts. When called into court as witnesses the respect in which confidences given to the two other professional men are held falls away from the doctor. He can be forced to reveal that which has been given to him under pledge of secrecy, and this is revolting to his sense of honor. Hence the protest and appeal which comes from the State Medical Society."

NEW YORK.

To Muzzle the Dogs.—Mayor Low has signed the ordinance which provides that all dogs within the city limits shall be muzzled under penalty of being impounded.

Changes in Curriculum.—The faculty of the Postgraduate Medical School of New York have instituted a new system by which certificates of proficiency will be given to physicians attending the clinics for six months continuously and who pass a satisfactory examination in one subject. No undergraduate will be admitted to the institution under any conditions.

To Stop the Sale by Health Board of Antitoxin.—Health Commissioner Lederle, in a letter to Mayor Low, concerning the manufacture and sale of antitoxin and vaccine virus by the Health Department, recommended that the sale of both to persons outside this city be stopped, as such sale is no longer justifiable. He also suggests another radical change—that the Health Department shall hereafter dispense all its laboratory products free upon proper requisition by Department officers and private physicians to all residents of the city who need them.

PHILADELPHIA, PENNSYLVANIA, ETC.

Dr. Browning has, by decision of the court, been awarded $34,000 in his suit for $290,000 for professional services against the estate of the late Senator Magee.

Hospital Reconstruction.—It is stated that the contract has been let for the reconstruction of the Medico-Chirurgical Hospital, which was partially wrecked by an explosion last winter. The hospital capacity will be increased and modern furnishings installed.

University of Pennsylvania.—Allen J. Smith, formerly professor of pathology and dean of the medical department of the University of Texas, has been elected professor of pathology to succeed Dr. Simon Flexner. He was graduated from the University in 1886 and had been demonstrator of pathology there.

Tetanus Germs in Blank Cartridges.—It is stated that Dr. Richard M. Connolly, bacteriologist of the Board of Health of New Jersey, has found the germs of tetanus in blank cartridges offered for sale at Newark. An effort has been made to stop the sale of the cartridges in question.

Frankford Hospital.—The new Frankford Hospital was opened July 4 for the reception of patients. The hospital obtained its charter about five months ago, and will be supported by voluntary contributors. The mill owners of the locality have aided largely by gifts to the institution.

Change in the Bureau of Health.—It is stated that Byron E. Wrigley and Rev. J. Gray Bulton have been asked for their resignations as members of the Board of Health, and that Dr. Charles B. Penrose and Dr. George A. Piersol will be appointed to the positions made vacant by these resignations.

Nurses for Tenement Districts.—The Red Cross Society have offered to furnish 25 trained nurses to visit the tenement districts in the city during the hot months, under the direction and supervision of the Department of Public Health. It is stated that the offer has been accepted, and the hope is expressed that this innovation may reduce the infant morbidity and mortality in the certain districts in the city.

Henry Phipps' New Charity.—Henry Phipps, former partner of Andrew Carnegie, donor of $1,000,000 for the cure of the tuberculous in Philadelphia, and of magnificent conservatories to the Pittsburg and Allegheny parks, and the founder of a free manual training school and playground in Allegheny, signalized a public exhibition of the pupils' work by the announcement that all children in the school would have their eyes examined free of charge and that those needing special glasses would be provided with them.

Barricades Against Smallpox.—News has it that Dr. George Gross, of Philadelphia, representing the State Board of Health, has established an armed quarantine in northern Pennsylvania against smallpox and has made his headquarters between Susquehanna and Lanesboro. Barricades have been erected across the roads leading from Lanesboro, and no one is allowed to approach without a pass from a health officer. Several have run the gaunlet and got into town and are now compelled to stay. The assembling of more than six persons on the street is prohibited.

Further Provision for Tuberculous.—Dr. J. T. Rothrock, of the State Forestry Commission, has awarded the contract for the erection of an assembly hall and six cottages at the White Pine Sanatorium, which the State has established for tuberculous on the State Reservation near Waynesboro. Plenty of pure fresh air is the only medicine given at the sanatorium. One rule rigidly enforced is, that all patients shall keep the windows of the houses open winter and summer. The establishment of a complete sanatorium settlement is contemplated.

SOUTHERN STATES.

Announcement.—Dr. J. Shelton Horsley, of El Paso, Texas, has been elected to the chair of principles of surgery at the Medical College of Virginia, Richmond, Va. He has also been elected one of the attending surgeons to the Memorial Hospital. He will leave El Paso early in July, and will locate in Richmond during August.

Hospital at Annapolis.—Surgeon-general Rixey has selected a site for the proposed new naval hospital, to be erected in the Academy grounds at Annapolis. The hospital will be built on what is known as the open-air plan. The wards will be separated and fitted with many windows so as to secure an abundance of light and ventilation. Both midshipmen and enlisted men will be accommodated though in different parts of the hospital.

Baltimore Health Report.—The monthly report of the Health Department for June has been made public by health commissioner Bosley. There were 707 deaths, as compared with 819 for 1900; 740 for 1901, and 874 for 1902, comprising 306 white males, 235 white females, 83 colored males, and 83 colored females. There were 231 deaths of children under 5 years of age, being 32.67% of the whole number of deaths. There were 724 births reported during the month, comprising 278 white males, 296 white females, 76 colored males, and 74 colored females.

WESTERN STATES.

Students are Light Eaters.—The Chicago *Tribune* says: Thirty cent appetites are scarce at the University of Chicago, if statistics made up from the checks in the university café can be relied upon as indicative. As nearly 500 students are fed at the café every day the figures are fairly representative. The café serves only breakfast and dinner at noon. Here are the figures for June 30:

Meals.	Cents.	Meals.	Cents.
160	10	36	5
140	15	14	25
106	20	1	30

The café is a temporary restaurant run by the university for the convenience of the students. It will be supplanted next fall by the university commons.

Rush Medical Fund and John D. Rockefeller.—Whether John D. Rockefeller will approve certain items in the $1,000,000 fund which the trustees of Rush Medical College have just completed is the question on which hinges not only the admission of Rush as a department of the University of Chicago but the possibility of gifts from Mr. Rockefeller to aid in carrying out the trustees' broad plans for medical education. The items of the fund concerning which questions are raised are certain gifts connected with the work of Rush, but not definite cash contributions. It was intended that the entire $1,000,000 should be in cash. One of the donations is the offer made by Mr. and Mrs. Harold F. McCormick to support for an indefinite period the new *Journal of Infectious Diseases*. As the endowment for this probably will amount to about $125,000 it is not an inconsiderable item.

Old Lumber Camps May be Utilized.—The *Military Sentinel* calls attention to the feasibility of utilizing the old lumber camps in the forests of Michigan and Wisconsin as summer sanatoriums for the tuberculous. These camps are usually provided with one rather extensive log building about which are grouped a number of board shanties, which served for places of lodgment for the men in the camps. These have been abandoned, and in many instances are in a fair state of preservation. Slight repair and the addition of a few tents would in many instances convert them into almost ideal retreats for the outdoor treatment of tuberculosis. Attention is called to the fact that Dr. Flick, now in charge of the Phipps Institute in Philadelphia, recognized the possibilities in an old logging camp in Pennsylvania and converted it into a sanatorium for the tuberculous, and thereby was enabled to cure many patients afflicted with this disease.

Diphtheria and Antitoxin.—The Bulletin of the Health Department of Chicago, for the week ended June 27, says: With all the favorable showing of general mortality the deaths from the contagious diseases of childhood—notably diphtheria—remain distressingly high. The steadily increasing mortality of diphtheria is nothing short of a reproach to the medical profession. The value of antitoxin, both as a curative and as a preventive, has been demonstrated as no other medicinal agent ever has. And yet within the week the death is reported of the wife of a physician, and after but a few days' illness of diphtheria. The doctor himself was stricken and unable to attend her funeral. Antitoxin, in full strength and quantity, never yet failed to cure a case of diphtheria when administered on the first day of the disease, and but rarely when on the second or third days. Just as certainly, when administered within even three days after exposure to a case, it will prevent contracting the deadly disease. In every case of suspicious sore throat give antitoxin at once and in large amount. It can do no possible harm if the disease should prove not to be diphtheria; it will save life in 99 cases out of 100 if it be diphtheria.

FOREIGN NEWS AND NOTES

GENERAL.

The Loss of Life from Wild Animals.—The destruction of life in certain parts of India by wild animals can only be emphasized by recording figures. In the central provinces alone 513 human beings were killed by wild beasts and 1,304 by snakes during the past year. As a recent writer has endeavored to minimize the work of the Pasteur Institute at Kasauli it may be worth mentioning that from this one district 56 people died from rabies after bites received from jackals. This danger exists over the greater part of India, and the total mortality from rabies is probably considerable. The great mortality from snake-bite indicates the necessity of a more wide distribution of antivenene. The Jubbulpore district stands out as in particular danger from snakes. Over and above this destruction of human life something like 12,000 domestic animals were killed by snakes in the central provinces alone—a pecuniary loss which the sporting instincts of Europeans and the rewards for natives do not seem to prevent.—[*The Lancet.*]

Infant Mortality in Bombay.—The Transactions of the Bombay Medical and Physical Society contain some startling figures in relation to infant mortality in that city. From these it appears that during the year 1899 there were 593 deaths among every 1,000 infants born, and 867 deaths among every 1,000 children under 1 year of age. Matters have been growing worse from year to year. One-quarter of the total mortality of the whole city consists of deaths of children under 5 years of age. From 1892 to 1900, 70% of the total city mortality was among children less than 1 year old. These conditions are due mainly to unsanitary surroundings, abject poverty, which is intensified by famines and epidemics, and native superstition and prejudices. The number of still births has almost doubled within the last decade, while of the infants born alive few possess any constitutional strength. It appears that smallpox commits great ravages among children under 5 years of age, and especially among those who are less than 12 months old.

GREAT BRITAIN.

Retirement of Sir Frederick Treves.—It is reported that Sir Frederick Treves, the leading surgeon of England, who performed the operation upon the king for appendicitis, will retire from practice at the end of July. He will retain the honorary post as surgeon to the king and adviser of the army medical board. As he is only 50 years old, full of energy, it is suggested that he closes his surgical career for the purpose of entering parliament.

Child Labor in London.—A recent crusade against child labor in London has resulted in some interesting discoveries. Among boys and girls under 14 years, 132 of the former and 34 of the latter earn a livelihood on the stage. There are no fewer than 10 girls, 10 years of age, engaged in laundry work. Another 10-year-old is entered as a general shopkeeper, while a girl of 11 is a pawnbroker. Two girls of 11 serve in the bars of public houses; one is an itinerant preacher and one a clerk.

Magazine Medicine.—Commenting upon the report by the *Pall Mall Gazette* of "A Surgical Marvel," the *British Medical Journal* says: "After being informed that 'an operation on the heart is difficult, not only owing to the paramount importance of the organ, but because of its deeply-imbedded position in the body, and in order to do his work the surgeon had to temporarily displace the breast, cartilage, ribs and lungs,' we are further told that 'it was at first thought that *the heart itself would have to be removed.*' Fortunately this formidable contingency was avoided, for 'on washing away the blood clots and raising it a little the puncture was found.' The man, we are glad to learn, continues to improve, and we hope that he will live long in undisturbed possession of the heart which he so nearly lost."

CONTINENTAL EUROPE.

Rats Died of Bubonic Plague on Shipboard.—Under date of July 1 information from Marseilles states that: When the steamship France from Buenos Ayres arrived today it was found that 30 rats on board had died of bubonic plague. The necessary precautions were adopted to prevent a spread of germs, and the crew was put under observation.

OBITUARIES.

Henry M. Chase, of Lawrence, Mass., June 15, aged 65. He was graduated from the Dartmouth Medical College, Hanover, N. H., in 1863. He was a member of the Massachusetts State Medical Society, the Lawrence Medical Club, and was formerly an assistant surgeon in the United States Navy.

Arthur E. McBride, in Sterling, Ill., June 12, aged 42. He was graduated from the Louisville Medical College in 1883, and was a member of the Illinois State Medical Society, the North Central Illinois Medical Society, and the Whiteside County Medical Society.

J. W. F. Moore, of Butler, Pa., June 13, aged 35. He was graduated from the Jefferson Medical College, Philadelphia, in 1894, and was a member of the American Medical Association, Pennsylvania State Medical Society, and the Butler County Medical Society.

Charles Lancaster, a wellknown physician, lawyer and author, died in Plainfield, N. J., July 6, aged 95. He had practised the medical profession for many years, and was also the author of many newspaper and magazine articles and of several textbooks.

F. J. B. Rohmer, a retired physician, died in Mobile, Ala., June 30, aged 91. He was graduated from the medical department of Tulane University of Louisiana, New Orleans, in 1836. He was one of the founders of the Charity Hospital in New Orleans.

William H. Foster, of Augusta, Ga., June 17, aged 63. He was graduated from the Medical College of Georgia in 1867, and was professor of materia medica and therapeutics in that institution. He had also served for 20 years as city physician.

Robert B. Ewing, of West Grove, Pa., July 3, aged 65. He was graduated from the University of Pennsylvania, in 1865. He was a member of the American Medical Association and of the Pennsylvania State Medical Society.

Charles H. David, of Bridgeport, Conn., died in Waterbury, Conn., June 18, aged 47. He was graduated from the Victoria Medical College, Montreal, in 1878, and was a specialist in diseases of the ear, nose, and throat.

Charles F. Deetken, of Council Bluffs, Ia., June 19, aged 61. He was graduated from the Long Island College Hospital, Brooklyn, N.Y., in 1874, and was a member of the Council Bluffs Medical Society.

Nelson H. Henderson, in Chicago, Ill., June 23, aged 45. He was graduated from the College of Physicians and Surgeons, Chicago, in 1886, and was a member of the American Medical Association.

Anthony L. Carrick, of Cincinnati, Ohio, died at East Walnut Hills, June 22, aged 79. He was graduated from the College of Physicians and Surgeons, Dublin, Ireland, in 1852.

William W. Betts, in Los Angeles, Cal., June 15, aged 41. He was graduated from the Albany (N. Y.) Medical College in 1883, and was well known as a specialist on climatology.

George W. Crouch, in Shaftsburg, Mich., June 19, aged 59. He was a graduate of the Middlebury (Vt.) Medical College, and a member of the American Medical Association.

Francis Grandy, of Fairfield, Mich., died in Adrian, Mich., June 19, aged 75. He was graduated from the University of Michigan, Ann Arbor, in 1852.

David B. Fonda, of Chicago, Ill., June 20, aged 68. He was graduated from the Bennett College of Eclectic Medicine and Surgery, Chicago, in 1878.

Thomas J. Buchan, in Eastman, Ga., June 14. He was graduated from the Georgia College of Eclectic Medicine and Surgery, Atlanta, in 1884.

Fred. C. Miller, in Tacoma, Wash., June 7, aged 45. He was graduated from the Bennett College of Eclectic Medicine and Surgery, in 1883.

Thomas T. Marshall, in Floydsburg, Ky., June 26, aged 43. He was graduated from the Kentucky School of Medicine, Louisville, in 1884.

Francis A. Miles, in Greenville, S. C., June 16. He was graduated from the Medical College of the State of South Carolina, Charleston, in 1854.

David R. Francis, of Mansfield, Ohio, June 11, aged 60. He was graduated from the College of Physicians and Surgeons, New York, in 1866.

D. L. Heath, in Seneca Falls, N. Y., June 10, aged 75. He was graduated from the University of Michigan, Ann Arbor, in 1853.

F. F. Marshall, in New York City, June 21. He was graduated from the College of Physicians and Surgeons, New York City.

Moses J. Bushenville, of Bowbells, N. D., June 20, aged 35. He was graduated from the Barnes Medical College, St. Louis, in 1899.

M. F. Marble, in Gardiner, Maine, June 15, aged 77. He was graduated from the American Medical College, Cincinnati, in 1855.

Hiram Phillips, in Lexington, Ky., June 18, aged 52. He was graduated from the University of Louisville, in 1875.

M. J. Dudley, in Sonoraville, Ga., June 20, aged 75. He was graduated from the Macon (Ga.) Medical College, in 1856.

James Gerry, of Shrewsbury, Pa., July 2, aged 63. He was graduated from the Jefferson Medical College, in 1863.

Alonzo Garwood, of Cassopolis, Mich., July 1. He was graduated from the Rush Medical College, Chicago, in 1881.

Theodore Connell, in Scranton, Pa., June 15, aged 32. He was a graduate of the University of Pennsylvania.

A. E. Levinson, of Duluth, Minn., June 19. He was a graduate of the University of Minnesota, Minneapolis.

William Rubinstein, of Baltimore, Md., July 1, aged about 60.

SOCIETY REPORTS

AMERICAN MEDICAL ASSOCIATION.

Fifty-fourth Annual Meeting, Held at New Orleans, La., May 5 to 8, 1903.

[Specially reported for *American Medicine*.]

Section on Obstetrics and Diseases of Women.

FIFTH SESSION (CONCLUDED).

Conservative Surgery of the Sclerotic Ovary.—HUGO O. PAULZER (Indianapolis) said that utmost conservatism is the essential characteristic of the principles and practices of general and of gynecic surgery as well. Efforts along this line show eminent successes, albeit many disappointments. Cirrhotic ovaries are at this time accepted to afford an indication for their immediate removal. The case about to be recited pertains to cirrhosis without decrease in size of the ovaries. Pertaining to sclerotic ovaries with shrinkage of the organs the writer has had no case of resection that was followed by pregnancy. There seems, however, to be unmistakable evidence that the morbid process of a shrunken ovary may be arrested and its function restored by conservative surgical effort. The case recited was one of sterility, with various symptoms of pelvic disorder. Celiotomy showed the tube and ovary on the left side to be massed by inflammatory adhesions. No pus was found. Both ovaries were densely and thickly sclerotic, rather larger than normal. Left ovary was removed. A narrow wedge was cut from the entire length of the convex border of the right ovary. This displayed a ledge of sclerotic tissue one-eighth of an inch and more in thickness, revealing no evidence of normal ovarian stroma in this area. The deeper parts, however, revealed small islets of what seemed normal tissue. The surface of the ovary was pared in wedge form. The central slit only was sewed, the pared surface being left raw. There was practically no bleeding. Ventrosuspension was done. There was uneventful surgical recovery. The patient, previously weak and poorly nourished, gained strength and health slowly under hygienic and tonic treatment. Six months after operation great physical and psychic improvement were noted. Vaginal examination showed the right ovary to be small, of normal consistency; there was no evidence of ovarian adhesions. Pregnancy was diagnosed and 13½ months subsequent to operation the patient gave birth to a large healthy child.

Discussion.—MASSEY (Philadelphia) remarked that he had been trying to make out what kind of surgery should be used in the case of sclerotic ovaries. The old method was to remove. It did not seem to him necessary to remove either ovary in the case reported. DUNNING (Indianapolis) pronounced the method of the essayist as somewhat new. The latter had questioned the advisability of leaving a raw surface of the ovary. The speaker makes it a habit to cover raw surfaces. The case was unique in that there was so little hemorrhage. The author of the paper has given us something new to think about. DUDLEY (New York) gave as his experience that true cirrhotic ovaries had not been fruitful after they had reached a certain stage. Cirrhosis here, as elsewhere, is due to a dammed-up circulation. The case reported was complicated by adhesions. Relief for a cirrhotic condition of the ovary is obtained not solely by work on the ovary, but also by the relief of other pathologic conditions accompanying. The organ is benefited by a new circulation. The ovary should never be incised transversely because the nerve supply is thus injured. Any amount of tissue necessary may be removed along the upper horizontal surface. Many ovisacs will thus be left down near the hilus, and the circulation may be renewed giving new life. The speaker stated that he has been experimenting upon tuberculous testicles. He splits the organ, touches with formalin and pure carbolic acid and sutures it. No ill symptoms have resulted. This is another suggestion of advancement in operation upon the pelvic organs of woman. PAULZER, in closing, stated that while the procedure of leaving a raw surface is questionable, we must always remember in operating upon the ovaries that great interests may be at stake. He has had only eight or nine pregnancies follow conservative operation upon the ovaries. In one case, after having left only a very small ledge of ovarian stroma, two pregnancies followed. A sclerotic condition with shrinkage offers the least hope, but if operation be done early, the chances are fair for success.

A Study of Intestinal Perforation and Peritonitis in Typhoid Fever, with a Report of Three Successful Operations, and a Collective Investigation of 295 Operative Cases.—WILLIAM D. HAGGARD (Nashville, Tenn.) claimed that the possibilities of rescuing a hopeless sufferer from fatal peritonitis, a result of perforation in typhoid fever, have not yet been keenly appreciated by the profession. It is almost a score of years since Mikulicz did his first operation in 1884. Since that time the writer has been able to collect from literature, together with cases personally communicated, only 295 cases that have been subjected to operation. Granting that there have been as many, or twice as many, more cases that have not been reported, still the total sum is piteously meager. It is estimated that 7,500 persons perish from this complication yearly in the United States who might be saved. The reasons for this are complex. One explanation is the reluctance with which the practitioner invokes the aid of surgery in the presence of such forbidding symptoms. Another is the likelihood of death with operation; but the great reason of all is the difficulty of making a positive diagnosis in the early stages. With our present methods of diagnosis this difficulty will always be present. It may be lessened by a proper appreciation of even suspicious abdominal symptoms, by intelligent alertness and frequent examination. There is no characteristic picture of the early symptoms of perforation. Some cases are fairly typical, but others, presenting such presumably typical symptoms, are found not to have perforation. Peritonitis may be the first symptom. Given a man in the third week of a mild attack of typhoid fever without abdominal symptoms and pursuing a regular course, who is suddenly seized with an acute paroxysmal pain in the right lower quadrant of the abdomen that causes him to cry out, such pain being unrelieved by ordinary measures, this condition followed by collapse, subnormal temperature, and rapid pulse, these symptoms succeeded by a rise of temperature in a few hours, pain continuing and accompanied by considerable tenderness and rightsided rigidity, together with a rapidly increasing leukocytosis, given these conditions, and the diagnosis of intestinal perforation is reasonably certain, not absolutely, but surgically so. All such cases should be operated upon as quickly as possible. The difficulty is that all cases do not present this typical grouping of symptoms. The total series was then analyzed as to sex, age, date of occurrence of perforation in the course of the disease, the symptoms, physical signs, length of time after the onset of symptoms before operation was done, the location of the perforation and the result of operation. Of the grand total of 295 cases only 246 were sufficiently complete in data for purposes of study. Of this number there were 89 cases of free perforation, 29 recoveries, 36%; 19 cases of localized peritonitis, 9 recoveries, 47.3%; 138 cases of general peritonitis, 29 recoveries, 21%. A saving of over 27% in all cases, good and bad, extending over a period of 20 years, is a most encouraging showing, and 36% in cases of free perforation should encourage to a more prompt diagnosis and surgical relief. A more general appreciation of the possibilities and application of the principles of operation in typhoid perforation will be a great surgical triumph, and will add many years to human life.

Discussion.—RICKETTS (Cincinnati) believed that success in these cases depends upon their early diagnosis; the profession lack in this ability, and the conditions are not met in time. Two cases in his recent experience were in such profound shock as to preclude operation. The cases must be seen early and ofttimes operated upon in their own homes. THIENHAUS (Milwaukee) stated that when he had a case in which perforation from any cause is suspected he does not transport the patient, as there is great danger in doing so. In epidemics of typhoid fever he thinks that appendicitis may sometimes be mistaken for typhoid perforation. HAGGARD, having the closing paper, refrained from discussion, and thanked the section for their courtesy.

Officers Elected: Chairman, L. H. Dunning, Indianapolis; secretary, C. L. Bonifield, Cincinnati; delegate, W. P. Manton, Detroit; committee, H. P. Newman, Chicago, J. H. Carstens, Detroit, H. O. Paulzer, Indianapolis, J. G. Clark, Philadelphia, D. S. Lewis, St. Louis.

Useful Device.—Officers of the medical corps of the army at Washington barracks have invented a device designed for the better protection of surgical instruments and hospital stores in transportation in the field. It consists of a water-tight receptacle made of tin fitted in a wooden case arranged for attachment to the bottom of an ambulance. It is possible to take the cases out and heat the contents, such as beef tea and other supplies issued to patients. Considerable interest attaches to the result of tests to be made during the coming fall which will be along practical lines intended to determine whether the new features meet all the requirements of actual service.

Deathrate in Manila.—Surgeon-general O'Reilly has received a report from the medical officers in the Philippines that shows a steady decrease of the deathrate of the city of Manila, as a result of the enforcement of sanitary regulations since 1900. It appears from the figures that the annual death list for the first quarter was as follows: 1900, 46.80; 1901, 38.19; 1902, 30.33; 1903, 22.17. These figures show that so far during the present year the Manila deathrate is less than half what it was for the same period four years ago; and also that based on present estimates of population, the number of lives which may be expected to be saved in 1903, judging from the three months already past as compared with the year 1900, will amount to no less than 7,442. Attention is invited to the fact that the present annual mortality in Manila, 22.17, is lower than that of many cities not commonly regarded as unhealthful, situated in the United States and elsewhere. Washington city is included in this list, with an annual deathrate per 1,000 in 1900 of 22.80. According to Dr. Munson, the present deathrate of Manila compares not unfavorably with that of many representative cities throughout the world, which possess all modern sanitary conveniences, a long-established government, and a highly educated population, such as San Francisco, Boston and New York, Glasgow, Paris, Vienna and Havana.

CLINICAL NOTES AND CORRESPONDENCE

[Communications are invited for this Department. The Editor is not responsible for the views advanced by any contributor.]

THE TWENTY-FIFTH ANNIVERSARY OF DOCTOR VICTOR C. VAUGHAN'S GRADUATION.

On June 18 there was presented to Doctor Victor C. Vaughan in the presence of alumni, students, colleagues and friends, a volume of contributions to medical research, containing 34 papers, dedicated to him by colleagues and former students of the Department of Medicine and Surgery, in honor of the twenty-fifth anniversary of his doctorate.

ADDRESS OF PRESIDENT JAMES B. ANGELL.

Ladies and Gentlemen: My duty is a very simple and a very pleasant one, as the official head of the University to express the gratification which the authorities of the University, as well as alumni and undergraduates feel on this interesting occasion. We have come to follow a very agreeable custom, which we may say we are indebted to our German friends for establishing, of recognizing the services of a friend who has been of great use to this institution, and I am very glad in introducing this pleasant German custom that we have present our German friend, Dr. Kiefer, who has done so much for this movement. I should prefer that he would have discharged this pleasant duty, but perhaps it is proper that I should appear, if only for a moment, in these services.

I can well remember the pleasure with which we watched Dr. Vaughan's brilliant progress as a student. The medical department of this University has undergone great changes since that time. The courses of instruction were much briefer then, the period allotted to the study of medicine was very much shorter than it is now and I presume the young gentlemen on the upper seats will believe that it was much less rigorous than it is now. The instruction was very largely given by lectures, and perhaps some of these recent graduates will be surprised to learn that some of the faculty at that time strenuously urged that it was far more profitable for the students to hear the lectures the second time than it was to hear them the first time. I used to argue this question out at length with one of the professors, because as a layman it was very difficult for me to understand how hearing the whole course of lectures the second time helped matters, but I was assured that pedagogically it was right, that it took the first year to mellow the medical student's mind up to the point where in the second year he could understand what was meant by the lectures. As you look down upon some of these older graduates, who went through that process of training, you must not interpret too literally as correct that view of the case. I presume these gentlemen will deny that that was the pedagogic reason for the course of instruction.

As I have said, the medical work in those days was more largely given by lectures than at present. The laboratory courses have come into use since that time. It is due very largely, I may say, to the dean of the department, with the aid of his associates, that so great emphasis is now placed upon this new, and more profitable, mode of scientific instruction. Of the important part that he has played during these 25 years, I need hardly speak in detail; I can assure you, however, that it was with great pleasure that we who had witnessed his career as a student saw him very early fulfilling the promise which he had given as a student, in the scientific discoveries which he has made, and which are of importance in the hygienic history of his time. I am sure there is no one here and no one who has ever been connected with the University who does not feel grateful to him for the services he has rendered.

I am sure you all rejoice with us on this occasion, and I shall not detain you from the pleasure of enjoying the services which have been more especially appointed. I have risen merely to speak an official word, and also to have the pleasure of speaking a personal word of congratulation to one whom I delight to count as one of my most cherished friends.

Professor Albert B. Prescott, of the University of Michigan, made the presentation on behalf of the contributors.

ADDRESS OF PROFESSOR ALBERT B. PRESCOTT.

Fellow Alumni and Friends: It is a privilege to speak on the part of such men as those who are making this gift, men who are the most cherished and most influential of the medical alumni of this University.

For gifts there are returning times and seasons. For a gift there is now and then a period standing almost alone by itself. Of gifts there are various kinds and various meanings. Whatever a gift may be it means more than it is. It is a mode of speech, a form of expression, a record of events. In the making of this gift a memorial volume has been wrought out piece by piece in the unwearied toil of strenuous life. For the making of this gift we have a quarter of a century, a period in the lifetime of an alumnus, an era in the history of this University, a memorable period in the advancement of a great scientific profession. The occasion is one that touches all our hearts.

This festschrift is a symposium of scientific learning, a production of lasting import, an essential record of the advancement of science and of the profession of medicine. It consists of 34 separate investigations, each one conceived in faith and wrought in patience, each one the chosen product of its author's personal power. In such a piece of research work as is undertaken in the making of any one of these papers we can but imagine how advances are gained step by step, finding out what is right by proving what is wrong, reaching forward in this direction and then in that, assured that every result of truth adds something, may add much, to the sum of the knowledge and power and good of mankind.

If I were competent to speak of these records of researches in the domain of medical knowledge I should not have time now even to enumerate them, but I recognize that they are from men who have become authorities in the world by their several investigations and through their experience in scientific pursuits. As I have looked over the titles of these papers I see that they form a symposium of research, embracing certain fundamental principles and presenting a series of discoveries which unite together naturally and inevitably to constitute a tribute of honor to the one man unto whom this gift is now being made. The book belongs to him by virtue of its history and by virtue of its subject matter. We are but rendering what is due, and so this gift is made to you, Dr. Victor C. Vaughan, made to you as an acknowledgment of the services you have rendered to the world of science and this University, to the cause of medical education, to advances in scientific work wherever undertaken.

We have great pleasure in recalling, as President Angell has so feelingly done, the last quarter century of progress in this University. It is in fidelity to the spirit of advancement and to service of the truth that this volume is presented. It is in the conviction that scientific labor is at the heart of education and educational means and methods that this expression is made. It is to you, Victor C. Vaughan, who 25 years ago received the degree of Doctor of Medicine from this University, previously having received two degrees in science upon examination here; our friend known and honored in the country and in the world, Major and Surgeon of the United States Volunteers, a trusted counsellor, preeminently a leader in the work in which you are engaged, in the name of the working contributors to this volume, in the name of the Alumni of the Department of Medicine and Surgery, in the name of all the Alumni of the University, we take great pleasure in placing this volume in your hands.

ADDRESS OF PROFESSOR VICTOR C. VAUGHAN.

On accepting the volume Professor Vaughan spoke as follows:

Mr. President, Gentlemen of the Board of Regents, Doctor Prescott, Members of my old class, Colleagues and Friends: This I do not deserve. The world has been more than kind to me; my friends have conferred upon me many honors which might have been more worthily worn by others; but I have never received an honor which I appreciate more highly and in the receiving of which I feel more keenly my unworthiness than in this. The work that I have done for the University and for science is overestimated by those who have been kind enough to speak.

I owe much to the University of Michigan. Thirty years ago when I had secured the best education possible in my native State, and when I was looking about for an opportunity to pursue my studies farther, the State of Michigan offered me what I desired and at a cost within the limits of my scanty purse. Whatever I have done and whatever I may do in the future will hardly repay the University of Michigan for what it has done for me. This is my feeling toward the University. To those who make up the University I owe much. To our worthy president, to whom I have always gone in times of discouragement for words of cheer, to whom I have always gone in times of indecision or doubt for wise and able counsel, I owe much. To the honorable members of the Board of Regents I owe much. A few years ago when it became necessary on account of death and resignation to reorganize the Medical Department the members of the Board of Regents enabled me to select the present most excellent medical faculty. To my colleagues in the University as a whole I owe much. It has been a pleasure to live among them; it has been an inspiration to work and be associated with them; and so far as my immediate colleagues on the medical faculty are concerned, I am in the habit of saying and with great truth that of all the research work that I have ever done the grandest and best piece is that by the authority of the Board of Regents I have been able to collect together a medical faculty, every member of which is a master in his specialty.

It is easy enough to have a good medical school, and it is easy enough to be dean of such a school, if you have a good faculty and good students, and I owe much to the students in this department. I want to say that the spirit for good honest work and the inclination to be gentlemanly and honorable in everything have always prevailed among the student body in this University. It is an honor to me that I have been associated as teacher with some of the greatest scientific men in this country; however, these men do not owe their attainments to any instruction that they have received from me. They would have been great and probably greater still had their instruction been received from others.

I want to express especially my personal gratitude to him from whose hands I have received this volume. When I came a student to the University of Michigan, Doctor Prescott was then, and he still is, the Nestor of scientific research in this University. From him more than from any other man have I received the inspiration for scientific work which has led me to accomplish whatever I have done. I well remember one of the first problems at which he placed me. It was a new test or a newly-reported test for arsenic, reported by one of the most distinguished chemists, and the doctor asked me to determine its delicacy. I reported from day to day and week to week as to the delicacy of the test, until I was getting it down to high dilutions. One day when I made such report the good doctor raised his eyebrows and said that possibly I might make that test without any arsenic present, and I made it and found the result equally positive.

President Angell has explained how it is that my classmates who occupy the second and third rows of seats before me, the class of 1878, got through the University. It was necessary, in order to get us through, that the lectures be repeated to us for two successive years, and in this way we were finally nourished sufficiently to become doctors and be turned out on the world.

Now, my friends, in accepting this volume I shall not regard it as a trophy of any achievement. I shall regard it as a tribute of love and respect, which I shall prize more highly than anything else from my colleagues, my students, and my friends. In its pages I expect to find inspiration for farther work; in its pages I expect to find comfort in my hours of rest, and when I am through with it I shall bequeath it to my children as my most valuable earthly possession. I take it that this volume is presented to me as a result of the spirit of scientific research of those who have made these contributions, and I wish to say to the honorable Board of Regents that I hope that you will grant me the privilege never denied an old servant, to offer one word of advice and to say that if you wish to maintain the glory, honor and reputation of this University you will encourage the young man who is able to do research work. It was not until scientific research came with experimental investigation that the world began to grow and develop until within the last century its progress has been greater than in all the preceding centuries. It is scientific research that has made the German universities the very center not only of science, but of letters as well. I read only a few days ago a very interesting book by a graduate of Oxford, entitled "Oxford at the Cross-road," and this man inquires whether Oxford and Cambridge are to continue as literary boarding-houses, or whether they are to join the great universities of other lands in working out the problems of the twentieth century. Scientific research has not always found the most congenial atmosphere in American universities. It has not been as thoroughly appreciated as it might be and as it should be, and the American university of today, like Oxford and Cambridge, stands at the cross-roads. Shall it be an enlarged and amplified high school, or shall it become a center for the evolution of knowledge and discovery? Has not the State the right to ask of its University the very best knowledge possible upon every subject in which the welfare of the people may be involved?

My friends, I desire to thank all of you for this highly appreciated, but I fear poorly deserved, tribute.

REMOVAL OF OPEN SAFETY-PIN FROM CHILD'S ESOPHAGUS.

BY

A. H. TRAVER, M.D.,

of Albany, N. Y.

Instructor of Anatomy and Surgery, Albany Medical College; Attending Surgeon, Child's Hospital; Assistant Surgeon, Albany Hospital; Assistant Surgeon, South End Dispensary.

I report this case not so much because of the rareness of the condition as because of the somewhat novel manner of treating it.

CASE.—L. R., a female aged nine months.

History.—On April 13 the little patient was placed on the floor to play. Soon afterward the mother found her choking, and on examination found that one of the safety-pins used to pin up the stockings was missing. The mother distinctly remembered that she had put the pin in the stocking but a short time before. The child soon became quiet, but refused to take its milk. Later she drank milk without any apparent difficulty. The same evening she was brought to the Child's Hospital. Chloroform was administered, and the pharynx was examined but no pin was found. The child had a quiet night and drank its milk as usual. The next morning she was taken to the Albany Hospital and a Röntgen ray picture taken. The pin could be plainly seen, open, with point upward, located about half way down the esophagus (see accompanying cut).



Now that the pin had been located the problem of getting it out presented itself. As the pin was open, point upward, it could not be drawn up into the mouth. The age of the child

rendered it impossible to get it to swallow a bolus of food to push the pin down into the stomach. The pin was too far down for esophagotomy, so the following method of procedure was adopted: The child was anesthetized with chloroform and placed on a table beneath which the Röntgen ray tube had been placed, so that the pin could be seen without difficulty. While thus keeping watch of the pin, a whalebone bougie, which could also be seen, was passed down the esophagus till it came in contact with the safety-pin. Then by means of the bougie the pin was carefully pushed down into the stomach, and was seen to fall down into the cardiac end. The bougie was then removed. The child was now taken to the operating-room. The abdomen was opened in the median line. The pin was located and worked up under the anterior stomach wall. An incision one-fourth of an inch long was made through the wall of the stomach and the pin removed. The incision in the stomach was closed with Lembert sutures, and the abdomen was closed in layers. The wound was dressed in the regular way. The child made an uneventful recovery, and left the hospital on the seventh day.

In closing I wish to express my sincere thanks to Dr. W. G. MacDonald, who assisted me in the operation.

ADRENALIN CHLORID IN THE TREATMENT OF PURPURA.

BY

A. E. BLACKBURN, M.D.,

of Philadelphia.

To the Editor of American Medicine:—The following case is of interest as having some bearing on the value of adrenalin chlorid in the treatment of purpura:

W. N., an American, aged 27, is single, an instrument maker by occupation, and has good habits. His father and two brothers died of heart disease and kidney disease, two sisters are living and well. Patient was under observation at the time of attack for a cardiac lesion. Urine was normal. He was working when bleeding began.

Without known cause he was seized February 12, 1903, at 11 a.m., with severe epistaxis; the bleeding was continuous and free. When first seen at 1 p.m. he showed perceptibly the loss of blood. A 4% solution of cocain hydrochlorate was applied on cotton at intervals until 6 p.m., but gave no relief. The nares were then packed with gauze, saturated in the same solution, and calcium chlorid .65 gram (10 grains) was given every hour. At 9 p.m. the bleeding was still free, but diminished.

The nasal cavity was now packed with gauze, saturated in adrenalin chlorid 1–2,000. The following morning free bleeding had ceased, but oozing continued. Thirty-six hours after the onset blood was passed in the urine, and ecchymoses appeared on the tongue, mucous membrane of the mouth, and all over the surface of the body.

From 6 a.m. February 14, to 6 a.m. February 15, the patient passed 50 ounces of very dark bloody urine, and was in a state of semicollapse. Pulse was rapid, of low tension, and fair volume. Skin was clammy. When the general bleeding appeared the calcium chlorid was stopped, and adrenalin chlorid, .6 cc. (10 minims) 1–1,000 was given every two hours.

The subsequent favorable course seemed to indicate that the adrenalin had been given to good effect. The ecchymoses did not increase, the circulation improved, the quantity of blood in the the urine gradually decreased, until at the end of a week it had entirely disappeared.

There was no previous tendency to excessive bleeding in the patient or in his family.

PARENCHYMATOUS KERATITIS IN VARIOLA.

BY

JOHN GREEN, JR., M.D.,

of St. Louis, Mo.

In his paper, "The Ocular Complications of Variola" (*American Medicine*, April 18, 1903), Dr. Burton K. Chance states that he observed only two cases of parenchymatous keratitis in over 2,000 cases of smallpox. He adds that, "Parenchymatous keratitis after variola has been reported by but few observers." The following case would therefore seem worthy of record:

Mrs. M., aged 42, consulted me January 18, 1902. She stated that on December 10, 1901, she was attacked with smallpox which was epidemic in the town in which she lived. On the fourteenth day of the disease (December 24), she began to have severe smarting pain in the eyes accompanied by lacrimation and photophobia. The attending physician prescribed "drops," and later an ointment to apply to the lid margins. This treatment afforded only temporary relief. Vision was impaired from the first and was thought to be growing worse daily.

The patient was a poor, nervous, prematurely aged woman, and decidedly anemic. Recent typical scars on the face left no doubt as to the correctness of the diagnosis of variola. She had never been vaccinated.

Ocular examination disclosed a moderate grade of conjunctival hyperemia. The palpebral surface of the membrane was studded with very minute vesicular elevations. The corneal epithelium was somewhat uneven, but failed to show any reaction to a 2% solution of fluorescin. Both corneas presented a diffuse greyish infiltration situated in the upper layers. The areas of infiltration were approximately triangular, the base of the triangle corresponding to the lower corneal limbus, the rounded apex extending upward and just covering the pupillary space. The lesions were symmetrically placed and identical in size. The remaining portion of each cornea was entirely clear. Pupils semidilated (presumably from atropia). The ophthalmoscopic examination was unsatisfactory, owing to the corneal lesions and intense photophobia, but there appeared to be no deep-seated trouble. V. 3/150 in either eye.

Treatment.—The pupils were kept well dilated with a solution of the alkaloids of atropia and cocain in castor-oil, and an aqueous solution of silver nitrate (65 mg. to 30 cc.—gr. i ad ℥i) was dropped on the everted lids once a day. In addition the patient was given a preparation of iron internally.

One week after beginning treatment a small ulcer appeared near the center of either cornea. Both ulcers quickly healed under topical application of a 3% aqueous solution of quinin bisulfate, and an occlusive bandage applied to each eye.

The infiltration cleared rather slowly, being still fairly dense after two months of continuous treatment. I last saw the patient August 15, when my notes read, "The patient has made an excellent recovery with a small, thin central nebula of either cornea. V. 15/30 with either eye."

The bilateral character of the lesion and the exact symmetry of the appearance are the features of especial note.

RECOVERY OF BULLET FROM THROAT TWO YEARS AFTER INFLICTION OF WOUND.

BY

PIERCE J. CANDEE, M.D.,

of Buffalo, N. Y.

To the Editor of American Medicine:—The following rather unique case may interest some of your readers:

On May 3, 1903, Mrs. C., aged 43, came to my office complaining of sore throat. I examined her throat and found what appeared to be a syphilitic ulcer on her right tonsil, however she denied ever having syphilis, and there was no history of tuberculosis. She said she had suffered from throat trouble for about two years during which time she had recourse to different physicians for treatment. I cocainized the tonsil in order to scrape the ulcer, and cauterize its base, but before doing the latter I passed a probe deep into the ulcer and struck what I thought to be a calcareous deposit, the result of a chronic follicular tonsillitis. I now noticed a small scar in the patient's left cheek, around which was scattered flakes of powder, this led to a new theory and I therefore asked if she had been shot. Her story was as follows:

"During June, 1901, almost two years ago, my husband shot me through the left cheek. I held him at bay for some little time; he thinking he had finished me, sent a bullet through his brain, which instantly killed him; he was taken to the morgue, and I was removed to the hospital. No trace of the bullet could be found, and all the surgeons agreed that during the act of yelling I was shot, the bullet passing through the left cheek between the upper and lower teeth, and escaping through the open mouth. After three weeks' stay at the hospital I was discharged cured, the cheek healing entirely. During the following winter I suffered severely with throat trouble, which has bothered me more or less ever since."

With the assistance of a knife and artery forceps I now removed from deep behind the right tonsil a 32 caliber bullet, the last gift of one who would take her life. One week later I discharged her cured.

So confident was she that the bullet was not in her that she wagered to give me $50.00 if I could produce the bullet.

Food Experiments.—The first of the series of experiments to test the effect of preservative chemicals used upon foods which the Secretary of Agriculture was authorized to conduct by act of Congress, was concluded June 30, having continued for six months. The preservatives tested were borax and boracic acid. After a lapse of two months, experiments will be undertaken with reference to other preservatives, the next in the list being salicylic acid. Investigation has been conducted by Dr. Wiley, who will later give out a detailed report of his findings.

ORIGINAL ARTICLES

100 CONSECUTIVE CASES OF MYOMA OF THE UTERUS.[1]

BY

GUY L. HUNNER, M.D.,

of Baltimore.

Associate in Gynecology, Johns Hopkins University, Baltimore, Md.

When your president honored me with an invitation to enjoy with you this fifty-sixth anniversary of your State society my first regret was that I had no fruits of original work done the past year to lay at your feet. But I felt that in our gynecologic records at the Johns Hopkins Hospital I could find something worthy of your attention.

After the revelation of truth by patient and painstaking laboratory investigation, I know of nothing which adds so much to our knowledge, and thereby to the sum of human happiness, as the careful study of our patients and truthful recording of symptoms, treatment, and results.

A criticism that I not infrequently hear from the lay member in Baltimore is that the Johns Hopkins Hospital is a place where patients are experimented upon. I always agree to the stricture and lament that more patients cannot be the subjects of experiment. For what more or less than a scientific investigator, an experimenter, if you please, are you, my colleague, if when a patient enters your office you listen patiently to his account of symptoms; by carefully directed questions learn about his past life, and his past and present mental conditions and social surroundings, and carefully weigh the importance of these different factors as influencing his present condition; then strip him and systematically examine every organ; if necessary subject to chemic and microscopic tests his blood, stomach contents, urine, and feces; place him on treatment and carefully record the results, changing his treatment, if necessary, changing his climate, or possibly subjecting him to the surgeon's knife, and watching him 1, 2, 5, 10 years, always keeping notes and comparing results with a similar case, or a dozen, a score, a hundred cases. Is this not experiment, and is it not scientific if it raises us out of careless empiricism to more exact knowledge and to better judgment for application in the individual case? Would it not be beneficial to our patients if our hospitals, and if we as individuals, were more wide awake, enthusiastic and accurate in our experiments?

The subject I have chosen for consideration has one attribute common to most of our scientific problems, *i. e.*, its unsettled character. This is particularly true with reference to the therapeutics of myoma. We all agree that myoma of the uterus is a common malady, and that it frequently leads to disastrous results, but the burning question is what to do in the individual case? I cannot answer this question, but by presenting a few facts incident to an experience with 100 consecutive cases I hope you may be able to draw conclusions helpful in your daily rounds among those who invest you with the safekeeping of their lives.

During a five years' hospital experience I became more and more impressed with the seriousness of myoma of the uterus as a disease.

This series of 100 cases occurred in the service of Dr. Howard A. Kelly during my term of 18 months as resident gynecologist, from January 1, 1901, to April 1, 1902; and my thanks are due Dr. Kelly and his pathologist, Dr. Cullen, for the privilege of reporting them. The series is particularly valuable as representing 100 consecutive and unselected cases of operation upon myomatous uteri, some of the patients having been operated upon primarily for some other malady. No case was closed as inoperable.

It must not be forgotten, however, that the list is not a representative one of myomas as they occur in your practice; for while they are unselected as regards the Hopkins clinic most of them were selected by practitioners of the country as cases demanding operation, and some of them were twice selected, having passed from the general practitioner to the local surgeon and from him to Dr. Kelly. Therefore the percentage of serious and fatal cases is undoubtedly high. But this will not detract from the value of my report, for my purpose is not so much to draw conclusions as to show you a few of the dangers that must be watched for and avoided in your daily rounds as a general practitioner.

I shall consider the more important clinical features of the series, and draw illustrations from a very few out of a large number of interesting and instructive cases.

There were in my series 31 colored and 69 white women, showing a greater frequency of myoma in the colored race, for the admissions in the gynecologic wards for all diseases average about 1 colored to 5 white women. The youngest patient was 24 years of age, the oldest 67. The numbers in decades were as follow:

20 to 29 years	7
30 to 39 years	45
40 to 49 years	36
50 to 59 years	10
60 to 69 years	2

This corresponds closely to the tables of other authors, and shows that of all cases operated upon for myoma about 80% are in the period from 30 to 49 years.

Of the women 20% were not married. Of the 80 married women 26, or 32%, had never been pregnant, while of the 54 women who had been pregnant, 11, or about 20%, had borne but 1 child, and 6 had never carried a child to viable age. One woman had miscarried 6 times, the fetus at no time going beyond the fifth month. Another woman had borne 1 child and subsequently suffered 5 miscarriages. Of the 54 women who had been pregnant, 20 had miscarried at some period in life.

I operated upon one patient for a right tubal pregnancy, associated with a small myoma in each horn of the uterus, causing pressure at the proximal ends of the tubes. She was 33 years old, had been married 10 years, and this was her first pregnancy.

I removed from a colored woman, aged 38, a dead abdominal fetus of 5 months' development, together with a large multinodular fibroid uterus and a large cyst springing from the right infundibulopelvic ligament. She had one child 21 years old, and had had a miscarriage three years before her admission.

A white woman, aged 29, had been married five months, and came to the hospital because of a movable abdominal tumor and pain. A diagnosis was made of four months' pregnancy, associated with an ovarian cyst. At operation I found a large, soft, pedunculated myoma and two small subserous myomas. These were removed, and the woman was delivered of her child at full term.

I believe the instances to be rare in which myoma interferes with labor if the patient has reached full term. The chief danger in the case just reported would be from twisted pedicle during the pregnancy, or more particularly, just after the expulsion of the child and descent of the fundus.

We must constantly guard against error in diagnosis between fibroid and pregnancy. During the 18 months several patients were anesthetized before the diagnosis could be made, and I have seen patients returned to the ward and temporarily dismissed to await developments because the diagnosis could not be made even under anesthesia. In one case I had the disagreeable experience of opening the abdomen before making the diagnosis of pregnancy, and I think this same error occurs sooner or later in the experience of most men who do much pelvic surgery. One of this series, Gyn. No. 8,427, was reported by Dr. Kelly in a recent paper, "The Mimicry of Pregnancy by Fibroid and Ovarian Tumors" (*American Gynecology*, 1902, Vol. i, p. 449), and illustrates the difficulties in making a diagnosis from the history:

[1] Read before the Medical Association of the State of Alabama, at Talladega, April, 1903.

The patient was 45 years of age, had given birth to one child, and was certain that she was again pregnant. She had some disturbance of menstruation in June, 1900, but had menstruated regularly from that time until seen in December. In July and August she had indigestion and nausea. Since August she had felt fetal movements on both sides of the abdomen. At times so distinct were these movements that she could feel them with the hand. Her abdomen had gradually enlarged since August, and she had been pronounced pregnant by her family physician. Her breasts were enlarged, and on pressure yielded a whitish secretion. Dr. Kelly saw her at her home and made a diagnosis of multinodular fibroid uterus, this being confirmed at the operation in January, 1901.

Of the chief symptoms noted in these 100 cases, 35 patients complained of an abdominal tumor. In two cases this was the only sign or symptom. Dr. Russell removed a tumor weighing 27 pounds from a colored woman aged 39. As is usual in these large tumors this one was parasitic, obtaining a free blood supply from the greatly enlarged omental vessels.

Pain in the abdomen or pelvis or dysmenorrhea was complained of by 53 patients. The pain usually depends upon some other factor than the size of the tumor. A very small subserous tumor, too small to be detected by bimanual palpation, may be the cause of serious dysmenorrhea. The pelvic inflammatory disease often associated with myoma and adherent ovarian cysts is more frequently the cause of pain than is the tumor itself.

Increased menstrual flow was noted in 41 cases and copious hemorrhages at or between the menstrual periods in 15 cases, making 56% in which myoma caused unusual loss of blood. The hemoglobin at time of operation was 46% or lower in 9 cases. It was 33% in 3 cases and but 22% in 1 case. Although anemia is a serious complication, recovery followed operation in all of these cases. A patient living in Baltimore entered the hospital with hemoglobin of 15%. She was given iron as a tonic and remained at home or at the seashore for several months, entering the hospital at every menstrual period when she was kept absolutely quiet in bed. Her hemoglobin gradually increased until it reached 46%, when Dr. Kelly removed a large myoma with a right pus-tube. Within a year of her first examination her hemoglobin had increased from 15% to 80%.

Of the 12 patients, 50 years of age or older, hemorrhage was a prominent symptom in 9, and 3 of these had carcinoma of the fundus associated with myoma. In only 3 of the 9 was the hemorrhage of the menstrual type. Thus you see there were 6 suffering with more or less profuse and irregular hemorrhage, and carcinoma existed in half of this number.

One patient, 53 years of age, had had severe uterine hemorrhages 12 years ago, for which double oophorectomy was performed 11 years ago, resulting in the cessation of hemorrhage for three or four years. For the past five years she had again suffered with severe hemorrhage, together with constipation and frequency of micturition. Dr. Kelly removed a large multiple fibroid and found both ureters enlarged from pressure at the pelvic brim. The case illustrates the futility of double oophorectomy, an operation that, as you know, was in vogue a few years ago. It also illustrates another very serious and not infrequent complication in fibroids, viz., pressure on the ureters. This was noticed in but 4% of this series, but systematic observation would undoubtedly have revealed more affected ureters.

Gastric symptoms were prominent in six cases. Sixteen patients complained of bowel symptoms, such as unusual constipation, defecation pains, and pressure-symptoms. A feature not often mentioned in the literature is disturbance of the urinary function. Of this series 28% complained of urinary symptoms apparently dependent upon the presence of the tumor. These symptoms varied in importance from a simple frequency of urination to absolute retention.

Complications.—I have already mentioned some of the complications occurring with myoma of the uterus. Carcinoma of the fundus occurred in three cases, of the cervix in two cases. Sarcoma was present in two, making 7% in which malignant disease existed. Adenomyoma was present in two cases. One of my difficult operations was upon a stout woman of 50, who had an umbilical hernia, a large multinodular myoma of the uterus raised out of the pelvis by a cyst of the right ovary, and a tuboovarian abscess on the left side. Examination of the pus showed streptococci, necessitating liberal suprapubic packing. On opening the uterine cavity after the operation an adenocarcinoma was found in the fundus. She returned to me one year later for a radical cure of a suprapubic hernia resulting from the drainage. At the same time I removed the healed remnants of the left tuboovarian abscess.

In the case of a colored woman I removed the left inguinal glands and an extensive pelvic tuberculous disease, together with a myomatous uterus.

I did not follow all of the tumors to the pathologic laboratory, and therefore will not speak of the various degenerations noted. Two cases, however, of infective necrosis deserve mention:

A woman, aged 51, had been at Dr. Kelly's private sanatorium a few years previously and was in the operating-room ready for myomectomy when her husband, a physician, decided he did not believe in operating for myoma when a woman was at the age of menopause. In the summer of 1901 she was hastily brought to the hospital suffering from severe symptoms of shock. Operation by Dr. Russell revealed several myomas, one of which with twisted pedicle had become necrotic and infected. A rapid operation was performed, but the patient never rallied from her shock and died in 10 hours.

A patient, aged 36, came to the hospital in September, 1901, complaining of dysmenorrhea and severe bladder and rectal symptoms. She was the mother of two children, aged 13 and 7 years. Three years ago she suffered a miscarriage at the third month—cause unknown. After an illness of a few months she entered the hospital and examination under ether revealed a myoma in the left broad ligament and another at the right cornu. She refused operation. Again in July, 1901, she aborted a 3½ months' fetus and afterward suffered such severe pelvic pain that she came to the hospital for operation in September. I found a general inflammatory condition in the pelvis, a small intraligamentary fibroid on the left, and a pedunculated tumor about three inches in diameter springing from the right cornu. This tumor had become adherent to the cecum and was covered and nourished by the omentum. After freeing the omentum the tumor was easily rolled from its necrotic attachment to the uterus and as easily rolled away from the cecum. On detaching it from the cecum a hole one-fourth inch in diameter was found to have existed between the head of the cecum and the tumor. The tumor had necrosed internally and was a mere shell filled with intestinal material and drawing a precarious subsistence from the omentum. The appendix lay under the tumor in a mass of indurated tissue. After freeing the appendix a large area of cecum was resected, including the base of the appendix and the opening to the tumor.

Time does not permit me to dwell upon the many serious complications found outside of the uterus and tumor involving the uterine adnexa. Pus-tube or tuboovarian abscess was present in 6 cases; either hydrosalpinx or perisalpingooophoritis was noted in 15 cases; ovarian cysts, not counting the approximately normal cystic ovaries, were present in 9 cases; ovarian hypertrophy of marked degree was noted in 3 cases.

Six patients died. Our average deathrate for all gynecologic cases is 3%. When one considers the many cases of advanced carcinoma, and the relatively large number of serious puerperal cases that come to the hospital, and then sees that the percentage of death from myoma is double that for all gynecologic cases, myoma included, I think the effect is both surprising and suggestive. I regret that time does not permit a detailed study of these cases resulting in death. In five of them the tumor was complicated by serious pelvic inflammatory disease. One died on the sixth day from septicemia, one on the third day from general peritonitis, one on the fourth day from thrombosis of the left common iliac vein with embolus carried to the pulmonary artery, one I have already cited as suffering with an infected tumor and dying in 10 hours from shock, which was profound even before operation. Two died in 20 hours and 4 hours, respectively, from shock due to loss

of blood at operation. One of these, and possibly both of them, could have been saved had more time been taken and the tumors removed by slow dissection and careful control of hemorrhage by the usual method of working across the pelvis from left to right. In all six of these fatal cases the pelvic mass was removed by the method of bisection, an invaluable procedure in a very few selected cases.

The following operations were done for the 100 cases: Myomectomy, 19; panhysteromyomectomy, 14; supravaginal hysterosalpingooophoromyomectomy, 40; supravaginal hysteromyomectomy, leaving one or both ovaries, 16; vaginal myomectomy, 5; vaginal hysteromyomectomy, 6. Nine patients were treated by the method of bisection.

I have presented facts; you must draw conclusions. Such a report lacks in many ways the scientific accuracy of a laboratory investigation. The fate of the 100 patients, had they not been operated upon, can only be conjectured. The record of our experiment is incomplete, because we do not know the final result, except in the six patients who failed to recover from the operation. It is yet too recent to report on this feature of our experiment, but access to the Hopkins' records will, in the course of time, enlighten you on the results in a large percentage of these cases.

I know you are waiting for me to draw conclusions. I have already stated that this is not my purpose, but if in a brief series of 100 cases we can find such a record of suffering, sterility, miscarriages, extrauterine pregnancies, hemorrhage, anemia, malignant growths, infections, and death, I am sure you will not wonder that I announce my attitude toward myoma of the uterus as radical. I do not believe in operating on every uterus containing myoma, but as our knowledge regarding the serious nature of this affliction grows and as our ability for doing conservative work increases, I believe the indications for operation will expand until no good surgeon's record of 100 cases will show that six women have been sacrificed because they waited until it was forever too late.

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SELECTION OF THE ANESTHETIC: METHOD OF ADMINISTRATION: COMPLICATIONS ENCOUNTERED AND HOW TO DEAL WITH THEM.[1]

BY

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I have been asked to contribute a short paper setting forth my personal experience with anesthetics. In doing so it is not my object to advance any new idea or theory, or to discuss the theories which have been previously advanced in regard to systemic anesthetics.

From the fact that such a large number of agents are recommended for inducing general anesthesia we know that no one of them can be relied upon to fulfil entirely all the requirements. Each one has its advocates and its adversaries. My own experience has been confined practically to two anesthetics—ether and chloroform, with and without oxygen. I am sure that if one will remember that ether and chloroform may kill; if he will bear in mind how these agents produce death; if he is capable of recognizing unfavorable symptoms quickly, and if he has at hand such instruments and agents that are needed to effect resuscitation, he will find, if he does not lose his head, that ether and chloroform will in most instances fill all requirements.

We admit that any agent which induces unconsciousness is dangerous, and the individual to whom it is given must be watched carefully from the start to the finish.

It is the custom in many institutions to furnish blanks to the anesthetist, and have him fill out these in regard to the patient's respiration, pulse, temperature, pupils, etc., during the administration. Personally, I advocate the keeping of such a history in all cases, but *not* by the one who is giving the anesthetic. To attempt bookkeeping diverts the attention from vitally important matters. While he is counting the pulse, looking at his watch, or recording the pulse-rate, the patient may develop some complication, and by the time the jaws are forced apart and the tongue controlled enough time has elapsed to allow profound poisoning of the respiratory center to take place and death may follow.

A little incident occurred at Professor Keen's private hospital three years ago that impressed upon me the importance of not taking my eyes from the patient's face during the administration of an anesthetic. The patient, a man of about 55, was being operated upon for a neuroma of the hand. He had passed without trouble through the stage of intoxication and the stage of excitement. I wished to raise his head a little, and reached under the table to dislodge the ratchet. The sleeve of my coat caught in the ratchet and it took about one minute to loosen it. By that time the patient's jaws were fixed and his face was slightly cyanotic. By the time I opened his jaws and got control of his tongue he was blue in the face. We had to suspend the operation, apply restoratives, and perform artificial respiration for five minutes before his color was restored. Experience has taught me that it takes some little time to force rigid jaws apart if we would avoid breaking the jaw or fracturing the teeth. This is particularly true in dealing with young muscular individuals, or those who have indulged in alcohol or tobacco to excess.

I recall another incident, and if at this time I had been engaged in taking notes of the case during the administration of the anesthetic, the patient would in all probability have died. It was a case of renal calculus, the patient being operated upon by Professor Keen. The anesthetic first used was ether, but as she did not take it well I substituted chloroform. The patient was struggling; she took a deep inspiration, and suddenly the pulse stopped, but the breathing continued. Fortunately I had my finger on the radial artery. She passed into syncope, but by prompt action, and with the assistance of Dr. Morris J. Lewis, Dr. Keen, and Dr. Taylor, reaction was brought about. The mode of resuscitation in this case I will speak of later.

These two cases will serve to illustrate the reasons for stating that if a record of the effect of an anesthetic is to be kept some one who is not actively engaged in its administration should do it. The anesthetist should keep his eyes on the patient's face and respiratory movements, and his finger on the radial or temporal pulse throughout the entire period of anesthesia.

In selecting an anesthetic, the type of the patient, the condition of the organs, and the operation to be performed must always be considered, as the selection of the proper anesthetic will often prevent complications.

[1] Read before the Philadelphia County Medical Society March 25, 1903.

As regards the type of patient, one who is of the better walks of life, who has not indulged in alcohol or tobacco to excess, and who has a somewhat weak pulse, will take ether or chloroform comfortably and often pass into complete anesthesia without a struggle. To such a patient I always give pure ether. When I am called upon to give an anesthetic it pleases me to learn that the patient has a feeble heart, if the feebleness is not due to fatty change. Such patients do remarkably well under ether without the aid of stimulants, passing readily into complete anesthesia without a struggle. I have had more trouble with strong healthy young men than with any other class of patients, as in these patients the cardiac action is strong and the muscular system is well developed. Muscular rigidity, respiratory derangement, and excessive secretion of mucus are often seen. By placing a gag in such a patient's mouth shortly after the anesthetic is begun and keeping it there and gaining full control of the tongue by means of a pair of tongue forceps, and keeping the throat well cleared of mucus, he can stand an immense amount of ether, and I think ether is the only safe anesthetic to give him. Such patients struggle considerably, at the same time the inspirations are full, and if chloroform is given death may ensue by paralyzing the heart muscle. Occasionally, in such cases it seems impossible to get the patient sufficiently relaxed to permit the operator to proceed with his work. He becomes impatient and requests the anesthetist to give chloroform. I never like to be asked to give chloroform following ether. If the operator wishes it I always wait a few seconds until the patient has taken seven or eight respirations, and then commence carefully with chloroform in drop doses. If I have access to oxygen I always give oxygen with chloroform in such cases.

When the patient is struggling and is taking deep inspirations, chloroform is very dangerous, as it is apt to be inhaled in a concentrated state, and this has been shown to cause paralytic distention of the right side of the heart. Chloroform and oxygen given carefully to this class of patients will permit the operator to proceed.

Patients with short, stout necks and well developed masseter muscles, as a rule do not stand any anesthetic well. If such patients breathe freely through the nostrils, they stand ether best; but if there is any nasal obstruction, such as adenoids, it is a difficult matter to get them well under the influence of ether, for the moment the ether is pushed they are either struggling or cyanotic, and may be both. In such cases the best plan is to gag the mouth widely open and bring the tongue well forward and administer chloroform mixed with oxygen.

Patients who are accustomed to use alcohol and tobacco to excess are bad subjects to anesthetize. Though ether seems to keep them a little cyanotic, I think it is safer than chloroform, because in such cases the latter is apt to cause sudden syncope. I can recall four cases, though only one was mine, in which death occurred on the operating table while chloroform was being administered. The patients of such a type I usually give a good drink of whisky before beginning the anesthetic, in order to get them as nearly as possible in their normal condition. Then ether, as a rule, can be given with little trouble. If ether does not prove satisfactory, after a short time has elapsed, chloroform and oxygen may be given. Pure chloroform is too severe on the heavily taxed heart of such a patient.

Children with nasal obstruction take ether well, because in them the cardiac action is not strong and the muscular system is not fully developed, and at any time during the operation the jaws can be retracted easily. I consider ether the safest agent in children, for the reason that the average child is afraid, holds its breath, then begins to cry, and takes deep inspirations and struggles. If chloroform is used there is great danger of getting a sudden charge of undiluted chloroform vapor which may kill the patient instantly.

For the past three years I have done the anesthetizing for Dr. Freeman in his private throat-and-nose work, and thus far have given an anesthetic to 40 patients operated upon for the removal of adenoids. These operations were in children varying from 3 to 12 years. Ether was given in each case without trouble. When a child is completely anesthetized with ether it will remain unconscious of pain for about 10 minutes after the administration is suspended; during this time much can be done in operating on adenoids or tonsils. If the patient shows signs of sensibility a few more inhalations of ether will be sufficient to allow the operation to be completed. Occasionally in the beginning of the administration, after a child has taken a few deep inspirations of ether, its face gets a little flushed and a trace of cyanosis is seen. These symptoms will generally disappear if the administration is suspended for a few seconds and the jaw pulled forward.

Field of Operation.—In kidney disorders ether is no longer prohibited, as it has been shown that in chronic Bright's disease both kidneys can be decapsulated while the patient is under ether, and the effect of the ether upon the kidneys has not demonstrated that it is counterindicated. I have administered ether alone in four cases when nephrectomy was performed, in eight cases when nephrorrhaphy was performed, and in two cases when nephrotomy was performed. In one case of nephrotomy performed for stone the patient was given chloroform and died the next day of uremia. I have given chloroform and oxygen in the following with good results: Nephrectomy, 4; nephrorrhaphy, 1; nephrotomy, 2.

While I did not see any bad effects from the ether in the above patients, they did not react as quickly as when chloroform and oxygen were given, and the gastric symptoms following the administration of ether were more pronounced than with chloroform and oxygen. Hereafter it is my intention to use chloroform and oxygen in this sort of case.

For years it was thought that ether was strongly counterindicated in brain operations. Cushing has shown that it is the proper anesthetic to use in such cases. The table below will serve to demonstrate that ether has no deleterious effects upon such patients. At the Jefferson Medical College Hospital, Professors Keen, Hearn, and Da Costa use ether as the agent for inducing anesthesia in brain surgery, and at Professor Keen's private hospital I have given ether alone in the following cases:

Tumor of the brain	13
Removal of the gasserian ganglion	10
Exploratory operations	4
Operations for epilepsy	6
Operations for craniotomy	4
Traumatic insanity	2
Compound fracture of the skull	1
For meningeal hemorrhage	1

making in all 41 cases. The patients all recovered, and no bad effects were noticed from the ether. At the Jefferson Hospital we have had no bad complications arising in brain operations that could be attributed to the use of ether.

The claims made for chloroform as the anesthetic for laparotomy are too great. I have given ether in 120 and chloroform in 50 laparotomies, and have come to the conclusion that chloroform has no advantage over ether. In fact I have had better results with ether than with chloroform. The anesthesia induced by ether seems to be more uniform than that by chloroform. The patient is less liable to vomit and less liable to react suddenly while on the table from the anesthetic, as occasionally happens with chloroform. I give ether in all abdominal sections unless its administration is counterindicated by some constitutional disorder. If I meet such a complication as bronchitis in a case in which the abdomen is to be opened, and if the patient's heart is strong, I give pure chloroform; but if the heart is weak, then I mix the chloroform with oxygen. If the heart is

organically diseased and the patient has bronchitis, then I give ether with oxygen.

While a resident physician in the Jefferson Hospital I formed an opinion as to why some laparotomy patients behave badly under ether. I think in most instances when patients cough, gag, and struggle, it is due to some of the ether which has got into the pharynx and larynx during the early stage of the administration. If the patient's head is a little elevated and the ether cone kept at a slight angle and the ether slowly distributed drop by drop over the cone, the symptoms mentioned can be avoided.

In prolonged operations about the nose and mouth in adults the operator is hampered for room unless the anesthetist provides some means of keeping the patient quiet and at the same time does not allow the technic of the administration to interfere with the manipulations of the surgeon. In such cases ether cannot be given satisfactorily. At the Jefferson Hospital, and also in Professor Keen's private hospital, such patients are given pure chloroform from the beginning. It is dropped upon an Esmarch inhaler until complete anesthesia is obtained, after which chloroform is given by means of a small gauze sponge, which is held in a long pair of forceps. This method allows the operator to proceed with his work and at the same time the anesthetist has a chance to keep the patient fairly well anesthetized. In such cases I never use nor advocate the use of the Junker inhaler, though it seems a very convenient method. I am afraid to give chloroform in such a concentrated state, particularly to this class of patients, as they are constantly struggling more or less.

Operations Upon the Chest.—In breast operations I always give ether unless some counterindication like bronchitis is present. I have given ether for Professor Keen in 72 operations for removal of the breast. In none of the cases was there any trouble. If I am called upon to give a systemic anesthetic in empyema the amount of dyspnea will indicate the agent to be used. We must remember in these cases certain voluntary muscles are taxed to their utmost in order to carry on respiration and any agent which has a tendency to abolish the activity of these muscles will greatly predispose the patient to suffocation. When dyspnea is great I do not approve of giving any systemic anesthetic. The rib should be resected after the tissues have been infiltrated with a local anesthetic. If tapping the chest and drawing off some of the fluid lessens the dyspnea then I do not hesitate to give ether, but if this procedure only slightly lessens the amount of dyspnea and the patient is very sensitive then I think chloroform and oxygen should be used.

I find that patients suffering with rectal disorders, such as hemorrhoids, fistulas, and prolapse, are often difficult to anesthetize, particularly at the beginning of the administration. They usually become rigid and a little cyanotic and remain so unless the anesthetic is pushed. Stretching the anal sphincter will sometimes cause the patient to breathe more freely; then by keeping the jaw pushed forward, and by pushing the anesthetic and limiting the amount of air these patients can be brought to such a condition that the operator can proceed. They stand an immense amount of ether. At Professor Keen's hospital I have administered ether to 20 such patients with slight trouble. I have never had a rectal patient that could not be handled with ether if this method of procedure was adhered to. The rigidity and struggling in such cases counterindicate the administration of chloroform.

In operations upon the extremities I always give ether unless there is some condition present to counterindicate it, such as bronchitis or diabetes. If such complications are met, chloroform and oxygen should be given, but chloroform alone is admissible.

The age of the patient never indicates or counterindicates any particular anesthetic. The youngest patient I ever gave an anesthetic to was 24 hours old. The operation was an inguinal colostomy for imperforate anus, performed by Professor Keen. The oldest patient was 89. This was also a patient of Professor Keen. In both cases I gave ether with good results.

Both at Professor Keen's hospital and at the Jefferson Hospital ether is given in all cases in which there is not some bronchial, pulmonary, or kidney trouble to counterindicate its use and when the administration will not interfere with the operator's technic.

In operations upon the larynx or the jaws, and in prolonged operations about the lips, nose, or the interior of the mouth, chloroform is given, simply because it can be administered on a small gauze sponge and the anesthetist can keep out of the operator's way. If the patient shows signs of suffocation during the administration of chloroform, oxygen is also given.

Technic of Administration.—I always give ether with the Allis inhaler, because this apparatus allows a free admixture of air and considerable evaporation, and I always see that three pieces of sterilized gauze are placed on the inhaler just before the administration is begun. This, I think, has been a factor in preventing pneumonia in our cases.

In the administration of ether to upward of 2,000 patients I have never had a case of pneumonia following the administration. In placing the cone on the patient's face the head of the patient should be a little elevated so that the cone will set at an angle. If the head be on a level with the shoulders and the cone be held vertically, occasionally a few drops of ether will get into the larynx or the pharynx, and this causes coughing, which is a great annoyance to the operator, particularly if he is doing an operation on the chest or abdomen.

Before the cone is put in position a folded towel should be placed over the patient's eyes, so as to protect them from the ether. I have seen two cases of conjunctivitis as a result of ether getting into the eyes. For the past two years I have been guarding against this accident by keeping the eyes well protected and I frequently irrigate them with a warm saturated solution of boracic acid, which is kept in readiness.

Before the administration is begun, the anesthetist must see that the patient has no foreign bodies in his mouth, and to gain his confidence against suffocation, I tell him to look through the cone in order to convince him that he can get plenty of air. Before any ether is placed on the cone, tell him that he will be taken good care of, and ask him to breathe just as if he were going to sleep, and to make no extra efforts in his respirations. After the cone has been placed on his face for about 15 seconds, 1 drop of ether is deposited on the cone, then in a second 1 more drop, then 2 drops, then 4, then about 10, then 30, and continue in 30-drop doses until complete anesthesia is obtained, increasing or diminishing the amount as indications arise. When the average patient is anesthetized, a few drops every few seconds will keep him under its influence, although each case is a law unto itself.

In alcoholic subjects and those addicted to the use of tobacco, cocain, or morphin, the drop system does not always work satisfactorily. In alcoholic subjects, sometimes two ounces of whisky given at once about 10 minutes before the ether is administered will be of assistance in obtaining anesthesia. Individuals who have been in the habit of taking opium or cocain should have about one-half of the average dose of their favorite drug about 15 minutes before the beginning of the anesthetic. Most individuals who suffer for years with tic douloureux have established the morphin habit, and I have noticed that in the cases in which Professor Keen removed the gasserian ganglion to cure the above condition, if the patients had .02 gram (⅓ grain) of morphin 15 minutes before the administration, they required only a moderate amount of ether, and at the end of the operation were comparatively free from shock.

Treatment of Complications.—In a few instances after the administration of ether has begun, and after the patient has passed through the exciting stage, he suddenly stops breathing. This condition is spoken of by some as "forgetting to breathe." In such a condition the administration should be stopped, the jaws be pushed forward, and a little ether be thrown on the abdomen. If this procedure does not cause him to take a full inspiration, the jaws should then be forced open with a mouth-gag and the tongue be pulled forward. This generally causes reflex inspiration and the patient then continues to breathe naturally.

Sometimes in the beginning of the administration the patient's face gets white and he has spasmodic movements of the muscles of deglutition and the abdominal wall. When the above phenomena are seen, it means that the patient is going to vomit. If this comes on when the patient is rigid or struggling, the vomiting and gagging can be prevented by pushing the anesthetic. If the vomiting comes on late in the administration, and the patient is in a relaxed condition, it means he has received too much of the anesthetic at one time. Sometimes elevating or lowering the head will cause vomiting. When vomiting comes on late and the patient is fairly relaxed, he should be turned on his side and his head lowered. If the operation is of such a nature that the patient's body cannot be turned, the head should be turned, the jaws be forced open with the mouth-gag and the throat be mopped out with a moist, gauze sponge held by a curved hemostatic forceps. Late in the operation (about the time the operation is completed) if the vomiting is persistent, the stomach should be washed out. If asphyxia should suddenly take place while the patient is vomiting, the inference is that a clot of blood or some occluding substance from the vomitus has been carried into the larynx or trachea. In such a condition, the throat and mouth should be mopped out, the patient be placed in the Trendelenburg posture, and if no air is entering the lungs, an assistant should make bimanual compression of the chest at intervals of from 5 to 10 seconds while the operator does a tracheotomy. If no tube is at hand, the margins of the incision in the trachea should be stitched to the margins of the skin incision.

Patients with powerful muscles, those with short necks, and those who use tobacco and alcohol to excess, generally during the first stage give a considerable amount of trouble. They not unusually have temporary fixation of the muscles of mastication or tonic spasm of the chest and abdominal muscles. I have had two cases in which asphyxia was present from fixation of the muscles of mastication, and one in which it was caused by tonic spasm of the muscles of the chest and abdomen. The three patients were treated alike, and all recovered. Resuscitation was brought about in the following manner: The operation and administration of ether were suspended. In each case it took all my strength to get the jaws forced apart with the mouth-gag. In one case I bent the mouth-gag in trying to force the jaws apart, the rigidity was so great. After the jaws were forced apart, the tongue was grasped with a pair of tongue forceps and brought well out of the mouth, and rhythmic traction was made upon the tongue. Mucus was sponged from the throat, a tube carrying oxygen was placed in the mouth, and by means of artificial respiration by the Sylvester method and anterolateral compression of the lower part of the chest resuscitation was accomplished. In one patient the artificial respiration and rhythmic traction of the tongue and the administration of oxygen were continued for half an hour before he was out of danger.

Thick tenacious mucus sometimes causes patients to become a little cyanotic. The mucus interferes with the ingress of air. When this occurs the jaws should be forced apart and the mucus swabbed out. In swabbing the throat, a gauze sponge on a pair of curved hemostatic forceps is used. The sponge is about the size of a walnut, and is made of gauze twisted in such a manner that the fringed edge is turned in. This maneuver prevents threads becoming detached and lodging in the throat. A dry sponge, when used to sponge the throat, causes irritation and excoriation of the mucous membrane. For this reason I always dip the sponge before introducing it into the throat into a basin containing the saturated solution of boracic acid that I have in readiness for the eyes. By this means disagreeable throat symptoms can be avoided. Each time it is necessary to use a sponge, a fresh one should be taken, moistened and squeezed so that the excess of the solution will be forced out.

When a patient is thoroughly relaxed under an anesthetic, the tongue is liable to drop back and obstruct the entrance of air, producing symptoms of asphyxia. In most instances this condition can be remedied by pulling the head backward or forcing the jaws forward. In about 1 case out of 30 the foregoing method will fail. In such a case no time should be lost in forcing the jaws open with the mouth-gag and pulling the tongue out of the mouth with either the fingers or some mechanical device made for the purpose. When the tongue has been straightened out, the patient generally takes a few full inspirations, and then the anesthetic can be continued.

I have never seen a case of edema of the lungs caused by an anesthetic, but if such a complication should arise, I would treat it by placing the patient in the Trendelenburg posture, performing artificial respiration, bleeding from a large vein, giving inhalations of amyl nitrite and oxygen, and hypodermic injections of nitroglycerin.

In three cases during the administration of an anesthetic I have noticed hiccoughs, and strange to say the three cases happened to be in individuals following the same profession and all living in the same house. The anesthetic used was ether. Nothing was done to check the hiccoughs except to push the anesthetic and they ceased after the ether had been pushed a little.

Occasionally the patient perspires profusely while taking an anesthetic. The rule for dealing with this is as follows: If the sweating is slight in amount and the patient is in good condition, let nature take its course. If the sweating is profuse and there is a tendency for the pulse-rate to become weaker 1 mg. ($\frac{1}{60}$ grain) of atropin is given hypodermically, but if the sweating occurs late in the administration and the pulse is very feeble, atropin has no effect, probably because the patient is in such a condition that the drug is not absorbed. In such cases, drying the skin and giving an enema of whisky, 1½ ounces; black coffee, 1 ounce; salt solution, 2 ounces, at a temperature of about 110° will do more good toward remedying this trouble than anything else. If the patient's skin is cold, artificial heat should be applied.

With me it has long been a problem how to combat shock in a patient under the influence of an anesthetic, and I have never arrived at any satisfactory conclusion. In my earlier experience textbook methods were followed and stimulants were given boldly, but in case after case I saw that bold stimulation was not producing the desired effect. If the patient is in extreme shock drugs introduced into the subcutaneous tissues cannot be absorbed, and if they are not absorbed they surely are of no value.

When dose after dose of such drugs as strychnin, atropin, and digitalin is given hypodermically during extreme shock the drugs remain untouched so far as absorption is concerned, and when the patient begins to react they are absorbed rapidly and the sudden overpowering effect is a great disadvantage to the patient. Strychnin 3 mgs. ($\frac{1}{20}$ grain) given before the patient has passed into extreme shock can be absorbed and is of value in preventing shock. While the patient is in extreme shock suspend the anesthetic, lower the head, and apply artificial heat to the extremities and give an

enema of hot black coffee, 1 ounce; whisky, 1½ ounces, and water, 2 ounces. In cases in which intravenous injection of normal salt solution at a temperature of 110° has been given I have noticed slight improvement. By this method the fluttering heart has something to contract upon and the warmth of the solution will keep the patient's blood warm.

At Professor Keen's private hospital and at the Jefferson Hospital chloroform is only administered when for some reason ether cannot be given. It is dropped from an Esmarch inhaler, allowing plenty of air. If the case is one in which an operation is to be performed on the nose, lips, or interior of the mouth or throat, the Esmarch inhaler is placed to one side as soon as the patient is completely anesthetized and the administration is continued by means of chloroform on a gauze pad held in a long pair of forceps. If the patient takes kindly to this mode of administration pure chloroform is continued. But if he becomes cyanotic then oxygen is given with the chloroform through a rubber tube, which is placed in the patient's nostril or mouth.

Before beginning the administration of chloroform sterilized vaselin is smeared on the nose and lips. This prevents a burn. During the administration frequently irrigate the eyes with a warm saturated solution of boracic acid. In giving chloroform start gradually, placing at once 3 drops on the inhaler, then in several seconds put on 6 drops, then in a few more seconds 9 drops, and so on until a dose of 15 drops is reached. Then the chloroform is given in 15 drops until the patient is under its influence, diminishing or increasing the number of drops as indications arise. Here, as with ether, each case is a law unto itself. If there is much struggling in the early stage and the patient's heart is sound and the breathing satisfactory push the administration a little, but if the patient is struggling and taking deep, irregular inspirations give the chloroform slowly and allow plenty of air by holding the inhaler 3 or 4 inches from his face. If a patient holds his breath while taking chloroform instantly remove the inhaler and leave it off until he has taken three or four mild inspirations, then replace the inhaler and continue with the administration. Very frequently after such an occurrence the patient takes full inspirations. Under such circumstances he is liable to get considerable unevaporated chloroform vapor if the inhaler is left in place, and this might result in paralytic dilation of the right side of the heart.

During the administration of chloroform keep the finger on either the radial or temporal pulse. If the heart shows signs of depression, about 20 or 30 drops of ether placed on the inhaler will stimulate the patient. I often give ether directly after chloroform, but I never like to give chloroform directly after ether.

In cases in which the heart gradually becomes weaker, strychnin 3 mgs. ($\frac{1}{20}$ grain) and whisky 4 grams (1 dram) given hypodermically will often be beneficial.

I have already spoken of the treatment of vomiting, accumulation of mucus, profuse perspiration, rigidity of the jaws, falling back of the tongue, asphyxia, shock, and hiccoughs as the complications which are liable to arise in ether narcosis. If similar complications should arise in a patient under the influence of chloroform, they should be treated in the same manner.

I have never seen sudden syncope occurring when ether was being given, but in two cases of my own and in three other cases I saw it occur from chloroform, four out of the five patients dying. Of the four that died one patient was mine. In two of the four cases the administration of the anesthetic was begun with ether, but the patients could not be kept quiet, and chloroform was substituted for ether. So soon as they got a few whiffs of chloroform they began to exhibit ominous signs, such as asphyxia and a very rapid pulse, which continued until death ensued. Nothing that was done to resuscitate them proved of any value.

The following is a description of my two cases:

CASE I.—This is the case I alluded to before. The patient was a young woman, who had renal calculi, and was being operated on by Professor Keen. Chloroform was the anesthetic used, and she had passed into complete anesthesia without struggling. Toward the end of the operation her pulse ceased beating and her face became blanched. Fortunately I had my left index finger on her temporal pulse, and at the same time Dr. Morris J. Lewis had his finger on her radial pulse. The moment her pulse ceased chloroform was suspended, and I gave her 2 grams (½ dram) of ether on the Allis inhaler. Her lower extremities were elevated, anterolateral compression of the lower part of the chest was practised; 3 mgs. ($\frac{1}{20}$ grain) of strychnin was administered, and in a few seconds the radial pulse could be detected. The operation was completed under the administration of ether, her heart responded, and we had no further trouble.

CASE II.—This patient is the only one that ever died while I was administering the anesthetic. The patient was a male, weighing 190 pounds. He had a short fat neck and had used alcohol and tobacco more or less for years. The operation was for carcinoma of the larynx. Owing to the dyspnea present and his general condition, it was decided to operate under cocain anesthesia, which worked very satisfactorily until the interior of the larynx was reached. The pain was so great and he coughed so constantly and violently that it was thought advisable to give him chloroform, which was done on the Allis inhaler. I was unable to give him a sufficient amount to quiet him without producing signs of heart-failure and blueness of the face. Strychnin was given him to prevent heart-failure and oxygen was administered to stimulate the respirations. Under great difficulties, the left half of the larynx was finally removed. A tracheotomy tube was inserted in the lower angle of the wound, stitched there, and the patient put to bed. The operation was performed at 10.30 a.m. and I saw him that night at 10 p.m. He was then comfortable, there was no dyspnea, and the heart sounds were good. The tracheotomy tube was removed on the fifth day and the wound allowed to heal. He made a good recovery from this operation. About two months later he developed dyspnea to such an extent that on his way to the city his wife was afraid that he would die on the train. At that time it was decided to remove the other half of the larynx. Again I started to give chloroform, but the dyspnea was so great that I was obliged to give oxygen with it. After he was thoroughly under the influence he was placed in the Trendelenburg posture and a low tracheotomy was performed with considerable difficulty, partly because the patient struggled when he was not completely under the influence of the anesthetic, and when he was quite under the influence he was asphyxiated to such a degree that it kept us constantly alarmed. After the trachea had been opened and the tube introduced chloroform and oxygen were given through a tube, the distal end of which was placed at the entrance of the tracheotomy tube. Even by this method he was either struggling or asphyxiated. His pupils were dilated, but reacted to light, and his pulse was good up to this time. The remainder of the larynx was finally removed, the hemorrhage controlled and the wound was ready to be closed, when suddenly his pulse failed rapidly and his face got blue. The operation and the administration of the anesthetic were suspended, 3 mgs. ($\frac{1}{20}$ grain) of strychnin was given hypodermically, oxygen was administered, artificial respiration was instituted and rhythmic traction of the tongue and anterolateral compression of the chest were performed. The electric current was also applied to the phrenic nerves. In spite of all these remedies, his heart continued to beat faster and get weaker, and the face more cyanotic. While six experienced and well-trained assistants continued to work with him, the operator opened the abdomen and massaged the heart between his left hand introduced into the abdomen and the wall of the chest, but to no avail. He died in less than three minutes after his pulse began to fail. Death was due, I believe, to vasomotor paralysis of the capillaries and the respiratory failure was secondary to the heart failure.

OBSERVATIONS ON THE DIAGNOSIS OF NASAL SINUSITIS.[1]

BY

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of Philadelphia.

Most of the points to which I shall call your attention are doubtless well known, but nasal sinusitis is so common, and the diagnosis of its exact location often so difficult, that I wish to emphasize the particular significance of certain signs as indications of its presence in one sinus or another. The frequent failure of the transillumination test renders it more than ever necessary that we should perfect and extend all other methods of examina-

[1] Read before the American Laryngological Association at the Congress of American Physicians and Surgeons, Washington, D. C., May, 1903.

tion. While the ease and rapidity with which this test can be used make it advisable that it should be employed as a routine measure, as by its means much valuable information and corroborate evidence may be secured, the reliance that has been placed upon it in the past has no doubt caused many a failure to recognize cases of inflammation of the antrum and frontal sinuses in which the physical signs were poorly accentuated. A point to be noted in this connection is that the antrum, acting simply as a reservoir for pus from the frontal sinus, does not usually answer to the shadow test in transillumination, as pus alone does not hinder the transmission of light rays.

One of the greatest hindrances encountered in reaching a correct diagnosis is the fact that the sinusitis very frequently occurs in the narrowest side of the nose. This is in part due to interference with proper ventilation and drainage, such as we see under like conditions in the middle ear. The presence of polypi, which are almost always found in chronic cases, also frequently interferes with the detection of the cavity affected. Edema or even congestion of the mucous membrane in the immediate neighborhood of a sinus ostium is most significant and should draw our attention to this cavity. As the disease progresses the membrane becomes more edematous, forming polypi, which Grünwald states is almost pathognomonic of sinusitis.

Taking up the anterior group of cells, comprising frontal sinus, antrum and anterior ethmoid cells, we come first to the frontal. The clinical history of the late morning headache; fulness over the eyes on leaning over; exquisite tenderness at the inner angle of the orbital roof, causing that characteristic shrinking even before pressure is applied, backed by the discovery of mucopurulent secretion at the peak of the vestibule, present a clinical picture sufficiently clear for an exact diagnosis. When, however, the disease is of less pronounced character, or when there is coexisting inflammation in some of the other sinuses, many difficulties in making even a probable diagnosis arise. In the absence of pain, usual when there is free drainage, our attention may not be directed to the frontal as the cause of a purulent rhinitis or of reflex disturbances at a distant seat, but the persistent appearance of pus on the agger nasi or in the upper angle of the vestibule is so characteristic that a positive diagnosis of frontal sinusitis may be made from this sign alone. That pus from the frontal sinus tends to flow down over the agger nasi and into the vestibule, rather than through the hiatus groove, is due partly to capillary attraction, the septum here being so close to the outer wall, and partly to the coincident swelling of the mucous membrane under the middle turbinal which prevents its escape in this direction.

In the diagnosis of antrum inflammation, whether acute or chronic, especially when there is only a small amount of discharge, no sign has stood me in such good stead as the discovery of pus flowing over the upper surface of the posterior end of the inferior turbinal. By this appearance alone my attention has been repeatedly called to cases of indolent or latent suppuration when there was none of the usual symptoms, and yet where most distressing and obstinate inflammation of both upper and lower respiratory tracts was evidently caused by the pus from this cavity. Not infrequently also I have been able to make a tentative diagnosis of sinusitis by certain well-defined odors, those of sour pus and of sulfuretted hydrogen. These odors are very different from that found in antrum suppuration due to dental caries, the latter being more foul and clinging, and seldom noticed by the examiner. These cases are often mistaken for cases of parosmia, and such patients may be reduced to the verge of melancholia, unwilling to come near any one for fear of the odor being detected. The symptom of intermittent cacosmia is very significant of sinus suppuration, and the antrum will usually be found to be the cavity affected. In my experience, the continued presence of foul odor of the antrum secretion almost unerringly points to the teeth as the cause of the inflammation, and this would account for the frequency of its occurrence in antrum suppuration. An exception to this will be found in cases of diseases of any of the sinuses in which the foul odor is due to syphilitic necrosis.

The presence of discolored molars or bicuspids, even when they are not known to be dead, should always be viewed with suspicion, and the tests of heat and cold and of transillumination should be applied. The roots may not enter the antrum, and there may be no recognized alveolar abscess, but the presence of a carious tooth near the cavity may be the cause of repeated attacks of acute antrum sinusitis. A capped sixth year molar is always most suspicious, and before instituting any treatment of the maxillary cavity, the cap should be removed and the pulp chambers explored, although it should also be remembered that any tooth from the wisdom to the central incisor may be the cause of inflammation of the antrum. It may be that the examination of the root will reveal only a fetid odor, but the removal of the tooth should be insisted upon if the sinusitis does not yield quickly to treatment.

In endeavoring to wash the antrum through the normal opening, I have found it of value to explore first with a delicate cotton wound-probe, *the point curved downward*, as it thus enters the hiatus groove more readily, and after the opening has been detected and the correct curve attained, to fashion the curve of the cannula exactly after it. A difference of a couple of degrees in the angle will often make the difference between success and failure in entering the cavity. In this connection I wish to present an irrigation cannula, made by Ferguson, of Philadelphia, which has proved of great service to me. It is of hard rubber and a second's heating enables one to fashion it to any desirable curve, and being elastic, it will often bend and conform to the irregularities of the surface and slip into the opening without injury to the delicate soft parts. Among other advantages over the metal tube are, that it does not cause so much discomfort, and that its lightness often permits one to allow it to hang in the sinus ostium while preparing solutions, powders, etc., to be introduced. In this way one introduction suffices to wash and medicate, when repeated introductions would cause additional pain and sacrifice of time and patience. It has always been my custom to enter in the notes of each patient a drawing of the proper curve of the instrument, for there is such variation in cases that much time is lost in seeking the proper angle anew at every visit.

In considering disease of the ethmoid cells I feel that I am treading on dangerous ground in expressing my opinions. While acute inflammation of these sinuses is one of the commonest conditions observed during the prevalence of grip epidemics, I have yet to see a single exception to the rule that complete resolution takes place within a few weeks under appropriate local and constitutional treatment. That chronic suppuration of the ethmoid cells exists to the extent that certain statistics would lead us to suspect I cannot believe. Most of the cases I have seen have been inherited from other operators, and have been cured by treatment of a hitherto unsuspected antrum, frontal or sphenoid suppuration. I believe that most errors in diagnosis of ethmoidal trouble have been due to the false impression arising from probing in this region. As Zuckerkandl first pointed out, one readily obtains the feeling of bare bone where the mucous membranes are thin, as they are around the sinus openings. Woakes went so far as to claim that a special disease of the middle turbinal existed, to which the name of "necrosing ethmoiditis" was for awhile applied. Evidently he was misled by the false impression of bare bone on probing, and the appearance of the bulging wall of the antrum. Time and again cases answering to his description have been brought in consultation, and the socalled necrosing ethmoiditis has been cleared up by

removal of the polypi and lavage of the antrum. By irrigation many an unsuspected collection of pus will be found, which, bulging the nasal wall inward and forcing the middle turbinal against the septum, would seem to give warrant for the removal of the turbinal. The cases of turbinectomy in which death has followed are lessons to be carefully heeded, for a fatal termination after operation seems more frequent than should be expected from the disease itself, as Semon states that brain complications are rare contingencies in ethmoiditis. Therefore, before sacrificing the middle turbinal, as is now done yearly in thousands of cases, it is due the patient at least to suspect the antrum and to try irrigation, even if on account of the impossibility of reaching the normal opening it becomes necessary to puncture the sinus. When pus is not immediately found on puncture and thorough irrigation, one should conclude that a failure has been made in diagnosis. The frequently repeated punctures, which are reported after a time to have demonstrated pus, must be viewed with the suspicion of having been the cause of the suppuration.

As regards the frequency with which disease of the antrum is overlooked and ethmoid suppuration diagnosed, Lichwitz found the former cavity affected 155 times in 243 of his cases, the ethmoids in only 11 cases. Comparing this statement with that of another well-known writer, who found 150 cases of ethmoid disease, and who considers it "by far the most frequent of all diseases of the accessory cavities," and with the report of a more recent writer who found the ethmoids involved 44 times in 50 cases, it would seem that attention is still being directed too much to the ethmoids, and the antrum too often disregarded.

Except in atrophic rhinitis, or in rare cases of deformity of the septum with accompanying lack of development of the turbinals, the direct flow of pus from the sphenoid opening can seldom be seen. If viewed posteriorly, there is no certainty that the pus does not come from the posterior ethmoid cells, unless one accepts the assertion that secretion appearing at the upper part of the choanal arches is pathognomonic of sphenoid disease. Holmes in 50 cases found the ostium of the sphenoid from 1 to 15 mm. from the opening of the posterior ethmoid cell, with an average distance of 5½ mm. With such a short distance between the exits of the two cavities no one can make a differential diagnosis merely from the appearance of pus here. Edema or swelling of the mucous membrane at the upper portion of the septum posteriorly should direct our attention to the sphenoid sinus, just as similar conditions in the region of other openings call for examination of the other sinuses. That the formation of crusts in the vault, as asserted by Schäffer and others, warrants a probable diagnosis of sphenoid disease, I believe to be misleading. So far as I have seen, except in cases of atrophy, pus from any of the other sinuses does not form into crusts, but rather excites an active flow of mucus and serum wherever it touches the mucous membranes. Why, then, should that from the sphenoid act differently? It is true that crusts are found in the nose and vault in cases of sphenoid sinusitis, but so are they usually present when the other sinuses are involved. This is due, not to the drying of the pus from the sphenoidal sinus, but to the collection of secretion as the result of inflammation of the mucous membrane caused by the irritating sinus pus. The same dry catarrhal inflammation will be found spreading to the pharynx and larynx in these cases, and will clear up as soon as the irritating character of the sinus discharge is modified by cleansing the affected cavity, even though the discharge from the sinus still continues. As to probing the sphenoid sinus, Holmes found in the examination of the above 50 specimens that it would have been impossible during life in 61%. This assertion, however, may yet prove to rank with that of Cryer, who states that the antrum cannot be irrigated through the normal opening, an observation known from daily experience to be false. An appearance which is apt to deceive one is the yellow color of the body of the sphenoid just within the choana. This so closely resembles pus that I have at times been unable to convince myself of my mistake until I had thoroughly cleansed the surface.

Vertigo, and pain at the occiput, deep in the eyes and in the ears, may be caused by disease of any one of the sinuses, and the distressing pain across the bridge of the nose, considered so characteristic of ethmoid disease, I have repeatedly caused by manipulations within the cavity of the sphenoid. Indeed, in sphenoid inflammations the close proximity of the fifth nerve to the lateral wall of the sinus and the nearness of the sphenopalatine ganglion make reflex pain to any part of the head possible by reason of the rich anastamoses of the branches. I have had cases in which the frontal or the antrum were positively the only cavities involved, in which pus in these cavities would give rise to intense earache, sometimes of the corresponding side, sometimes of both together, the pain disappearing each time the cavities were irrigated. Again, I have seen pain and edema of the orbital tissue arise when only the antrum was involved, though one might rather expect ethmoiditis. In one case, frequent attacks of pain in the mammary region, in another pain under the shoulder-blade, were relieved only by washing the antrum. As to placing great reliance, therefore, on pain as pointing to the sinus involved, it seems well established that it cannot be done, although, on the other hand, absence of pain should not cause one to exclude sinusitis.

In regard to the ocular manifestations in diseases of the accessory sinuses, Posey says that general symptoms of asthenopia which are obstinate and not relieved by glasses should direct attention to the nasal sinuses. He further states that a slight veiling of the edges of the optic nerve with a dilation of the retinal veins and a choking of the lymphatics around the central vessels of the retina occur in latent cases of sphenoid sinusitis, while in severe cases the ordinary signs of optic neuritis are present.

When the discharge is abundant and the turbinal swollen, a positive diagnosis of the special cavity affected is at first often impossible; but by thorough contraction by cocain and repeated cleansing by anterior and posterior syringing, one can usually arrive at a fairly accurate diagnosis by watching the flowing pus make its reappearance at the characteristic locations. This washing should be done so that the water may be caught in a black basin, for by this means one may obtain really valuable hints as to the quantity and consistency of the nose and throat secretions. The use of suprarenal extract is not advisable in examination for sinus suppuration, as the blanching of the surface prevents the recognition of small amounts of secretion. A point I have found of value in carrying out the Fränkel and other position-tests, is to have the patient close the opposite nostril and sniff and blow alternately. By this means the pus is rapidly drawn from the sinus and much time saved. When there is difficulty in detecting the affected cavity by reason of the small quantity of pus, the patient should be examined early in the morning before the sinus has emptied, or late in the evening when the sinus, drained, it may be, during the night, has had a chance to refill. The morning is favorable for detecting pus from the frontal and ethmoids, the evening for secretion from the antrum and sphenoid.

The Gudsell-Bedell Bill.—The New York Academy of Medicine passed the following resolution with reference to this bill, which has since received the Governor's signature:

Resolved, That the New York Academy of Medicine deeply deplores the passage of the above bill, and urgently requests his excellency the Governor to withold his signature to the act, which, in case it became a law, would involve the loss of thousands of lives and increase the spread of tuberculosis within the crowded districts of our cities and towns, and would have to be considered an act of the greatest injustice and inhumanity.

A CASE OF DOUBLE CURVATURE OF THE SPINE WITH AN INTERESTING COMPLICATION.[1]

BY

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H. A., aged 3½ years, was admitted to the Women and Children's Hospital, July 5, 1902, with the following history: The child was born in England. Father and mother are living and well. One sister is living and in excellent health. Two sisters are dead. One died at 11 months of diphtheria; the other at about 4 months, cause of death is not known.

History.—The patient was a full-term child. Labor was normal. He was breast-fed for 16 months; began teething at 13 months and walked at 18 months. He has never had any of the diseases of childhood.

In September, 1901, he seemed inactive and tired easily at the least possible exertion. About this time he fell down stairs and hurt his back. Following this fall he complained of his back hurting him, and since then has cried out considerably at night. In the day time he would go around with a peculiar gait. Last fall he had ulceration of both corneas, was treated at the dispensary for several months and discharged cured.

Four weeks ago he began having trouble in the right eye again. At this time his mother noticed that his breastbone stuck out, and during the past four weeks this deformity has increased. At this time he also began losing weight. One week ago he had left earache; this was relieved by the ear freely discharging. He is a mouth-breather, and snores badly at night.

Physical Examination.—His weight is 29 pounds 10 ounces. Height is not given. Color is good. Head is large. He has the facial expression of a mouth-breather. The right eye has a small ulcer of the cornea. The left shows a small corneal scar. His teeth are regular and good. Tonsils are large. The neck is short, and the chest somewhat barrel-shaped. Abdomen is prominent. There is no enlargement of the lymphatics, but there is marked angular deformity at the junction of the lumbar and dorsal vertebras. In walking the child has the typical gait characteristic of this deformity. Heart and lungs are normal. Urine is normal and bowels are regular. The blood was not examined at this time. Abdominal organs are normal.

Diagnosis.—Enlarged tonsils and adenoids. Ulcer of the right cornea. Caries of the spine.

On July 5 the child was operated on by Dr. Halsted, and the tonsils and adenoids were removed. Contrary to the wishes of the attending physicians, the child left the hospital in a day or so, and did not return for further treatment till August 4, when he entered the service of Dr. Clifford Mercer.

At this time the ulcer in the right eye had healed, and the child was in the same general condition as when first admitted, except for a severe bronchitis. He later developed whooping-cough.

During August and September little was done for the spinal trouble excepting the administration of tonics. Owing to the severity and frequency of the paroxysms of coughing, strangling and vomiting, the child was kept off his feet.

By October it was possible to use fixation, and he was placed in a cuirass. About this time trouble was noticed in the upper dorsal region of the spinal column, where a beginning angular deformity was found. Beside the cuirass, a jury mast was also attached to keep the child in better control. His medical treatment consisted of syrup of the iodid of iron and cod-liver oil in liberal quantities.

From the time he first entered the hospital he had always had a slight rise in temperature, usually in the afternoon or evening, and his pulse and respiration were more frequent than normal. The temperature would seldom be over 100°, usually 99°—99.6°. Pulse 100—106. Respirations 28—30. The urine was always normal. The bowels were inclined to be somewhat loose. Blood examination was negative, except hemoglobin was somewhat below the normal. General nutrition was good. Pain in the back subsided. Night cries ceased after placing him in the cuirass. Cough persisted till December, when it disappeared, though evidence of considerable injury to the lungs was present, due to the severe bronchitis.

Early in January another physical examination showed the pulmonary areas to be improving. Cough had subsided.

On January 13 his condition was unchanged, except that his pulse reached 106–108. Respirations 30–38. No cough.

January 14, the same.

January 15, at 8 a.m., the temperature was 99.6°; pulse, 120; respirations, 40. I saw patient at 11 a.m. Temperature, 101.4°; pulse, 120; respirations, 60. No cough. No pain. Child was breathing very rapidly and hard, with nostrils dilated. Physical examination showed the left side absolutely flat. No breath sounds front or back. Heart was pushed to the right; there was no bulging of the intercostal spaces.

Diagnosis was at once made of fluid in the left pleural cavity, and it seemed to me possible that an abscess had formed unnoticed in region of the diseased upper dorsal vertebras and ruptured into the left pleural cavity.

Dr. Clifford Mercer saw the patient with me in a short time and paracentesis was at once done and 10 ounces of a clear pinkish serum drawn off. This relieved the little fellow and he was more comfortable, the condition in the left side being much improved.

Examination of the serum was as follows: Specific gravity was 10.8. Pinkish in color, clear, contained a few red and white blood cells and pus cells. No tubercle bacilli were found.

January 16. Temperature reached 102.6°. Pulse 120. Respirations 40–50. The condition of the left side showed some improvement.

January 17. Child was much worse. Temperature 102°. Pulse 140. Respirations 60–70. Breathing difficult, lips and finger-tips blue. Physical signs the same as when paracentesis was first done. Another operation was at once performed, Drs. McLennan and Cosgrove kindly assisting. This time about the same amount and kind of fluid was withdrawn. For some hours following the second operation the child's condition was serious, but by careful watching and stimulation he soon began to improve.

For a few days following, crepitant and subcrepitant rales could be distinctly heard in the left subscapular region, showing that the cause of the effusion was unquestionably a subacute pleuropneumonia, which in children of this diathesis frequently occurs with no symptoms, and can only be detected by a careful exploration of the chest. The left side was dull on percussion for a considerable period. The after-treatment consisted in keeping the bowels and kidneys active and in the use of tonics. During the period when the effusion was present and for some time afterward no attempt was made to keep the spine fixed and the child was only loosely fastened to the cuirass, so as not to embarrass the respiration.

His present treatment consists in being held firmly in a cuirass with plaster jacket and jury mast with extension, cod-liver oil, syr. iron iodid and syr. hydriodic acid internally, together with a liberal diet, sunlight and fresh air.

Physical examination of his lungs still shows evidences of the old trouble, but improvement continues. Night cries have ceased. The curve in the lumbodorsal region has lessened. The upper dorsal curve remains about the same. Weight, 32 pounds, 10 ounces; height, 38 inches. He is well-nourished, hemoglobin is 70. Urine and bowels regular.

It would seem from the history of this case that the cause was unquestionably tuberculosis, but no history of specific or tuberculous trouble could be obtained. However, Powers, of London, states that "syphilitic disease of the spine sometimes occurs at two different points in the vertebral column, separated by one or more healthy vertebras, while such healthy intervals less often occur in tuberculous diseases."

Many American authors claim that syphilitic disease of the vertebras is rare, and the cases reported as such are of doubtful syphilitic origin. Spinal disease, caries of the spine, tuberculosis of the spine or kyphosis is a disease common in childhood, and usually occurs between the first and tenth years. Statistics show the dorsal region more often affected. Double curvature is not common, and so far I have been able to find only a few other cases recorded.

[1] Read before the Onondaga Medical Society, March 21, 1903.

TWO CASES OF APPENDICITIS, AND SOME DEDUCTIONS THEREFROM.

BY

E. R. SECORD, M.D.,

of Brantford, Ont.

I desire to place on record the two following cases of appendicitis, not so much because of any unusual interest attaching to the operative procedure, or to the pathologic condition present, but more on account of the lesson which they teach regarding the value and possible fallacies of the medical treatment of this disease.

One is perhaps too apt to judge of cases and their prognoses entirely from the standpoint of the special branch of medicine in which one happens to be chiefly interested, and *a priori* the impartial judge might think that there may be some truth in the charge occasionally made by those whose experience has been chiefly along the lines of the medical treatment of disease, and unfortunately still more commonly by the great mass of the people—that the surgeon is too anxious to operate, and

that equally good results might be attained without the dangers and unpleasantness of operative interference.

This feeling is well expressed by Butler,[1] in speaking of the therapeutic value of opium, when he says: "One of its most valuable services is in peritonitis, although notwithstanding its incomparable value some physicians, more scientific than practical, have subordinated it to the treatment by free purgation of saline cathartics, or the irrigation of the peritoneal cavity with antiseptic solutions in order to eradicate from the sac the pathogenic bacteria. Despite the aggressiveness and dogmatism of abdominal surgeons, opium still remains, and justly so, the abiding resource of the great mass of conscientious physicians, more thoughtful of their patient's welfare than of enhancing their skill and technic in abdominal surgery."

In the following cases the conclusion as to what would have happened had opium been used instead of operative measures is so clear and easily drawn that, hopeful that my experience may prove of value to some one else when placed in a similar predicament, I take this opportunity of recording them:

CASE I.—M. O'C., a female, aged 33, is a domestic; was awakened at 5 a.m. on October 17, 1902, with severe crampy abdominal pain, which was soon followed by vomiting. At 12 o'clock noon, when I first saw her, she had a temperature of 99.4° F., pulse 86. Abdomen was soft; there was no distention or rigidity and only indistinct tenderness, which was chiefly located in the right lower quadrant of the abdomen. The pain was somewhat better than it had been early in the morning.

Her previous history was unimportant, other than the fact that she had had several attacks similar to this before, which had always been relieved by doses of castor-oil. She had also been in a sanatorium in a neighboring city about a year ago, where she had been treated for ulcer of the rectum. During her stay here she had had two of the attacks, but none previously had been so severe as the present. A tentative diagnosis of catarrhal appendicitis was made; rest in bed with absolute cessation of food ordered, and ice applied.

During the afternoon she vomited once more, and took against my positive directions a large dose of castor-oil. At 7 p.m. her temperature was still 99.4° and pulse 96. The tenderness was somewhat more easily elicited and was more marked over McBurney's point. There was no rigidity. During the night the patient vomited once and in the early morning she had a free movement of the bowels.

At 10 a.m. her temperature was 96.4°, pulse 124, and of small volume. The tenderness and abdominal symptoms remained about the same. She was immediately removed to the hospital, where operative measures could be carried out if found necessary. In the meantime the local application of ice was maintained. At 3 p.m. temperature was 98.4°, and pulse 110. The patient felt much more comfortable than she had done in the morning. At 8 p.m. the temperature had risen to 99.6°, while the pulse still remained 110. She complained of some abdominal pain. The patient had now been sick about 36 hours, had had ice constantly applied, and was in about the same condition as when first seen, except for the slight increase in pulse-rate. Two courses might have been followed, either to give her a small dose of morphia in order to secure a comfortable night's rest, or else to advise immediate operative interference. I determined on the latter course, and she was immediately prepared for operation.

On opening the peritoneum a small amount of free turbid odorless fluid escaped. The appendix was found firmly adherent to the lower end of the cecum, with its distal one-half inch bent sharply backward on the proximal portion, and held there by adhesions—the distal end was hard, distended and livid, while the convexity of the flexure was very dark and covered with lusterless peritoneum, in short, the appearances were such as would indicate early perforation from gangrene. There was entire absence of any limiting adhesions, so that the final result, had perforation occurred, would not be difficult to estimate. The patient made an uneventful recovery, and today expresses herself as feeling better than she has done for years. Had I committed the error of giving opium to relieve the pain and restlessness the result would undoubtedly have been early perforation, which probably would not have been recognized in a patient rendered insensitive by morphia, general peritonitis, and the usual result of such complication.

CASE II.—J. D. W., aged 30, a commercial traveler, was seen about 4 p.m. on a Monday afternoon. At that time he had a temperature of 101°, and pulse 80. Since Saturday he had had slight abdominal pain, unaccompanied by vomiting. There was distinct tenderness over McBurney's point, unassociated, however, with any rigidity or distention. Questioned as to his previous history, he told me that he had had several similar attacks before, but that none of them had been severe enough to render the calling of a physician necessary.

He was sent immediately to the hospital and ice applied. His temperature fell to 99.2° in three hours, and next morning was normal with pulse 70. During the two following days his temperature did not rise above 99.2°, while his pulse-rate varied from 60 to 70. The tenderness improved somewhat, but slight rigidity of the abdominal wall became evident over the appendicular region. Of more importance, however, was slight tenderness elicited on deeper pressure over the crest of the ilium in the loin.

Feeling that the condition had been left to nature long enough, I advised operation, and discovered a retrocecal appendix buried in adhesions, with a small abscess containing foul-smelling pus at its tip, and a very livid area on its free surface. The appendix was removed, drainage instituted, and an uneventful recovery ensued. On laying open the appendix its internal surface opposite the livid spot above mentioned showed distinct ulcerative changes.

Here, again, had attention only been directed to the pulse (60) and temperature (98.6°) at the time of operation, and had the tenderness and slight pain been covered up by the administration of morphia, the probable end would not have been far to seek.

In conclusion, I would like to make a strong protest against the description of opium as "the abiding resource of the great mass of conscientious physicians, etc," and also against the charge that those who believe in the operative treatment are more thoughtful of enhancing their skill in abdominal surgery than of their patients' welfare.

It is said that the ostrich, when danger is near, buries its head in the sand to prevent its seeing the danger, but assuredly this course of action by no means prevents the danger itself. Similarly if morphia be used it will undoubtedly do all that is said for it—relieve pain and tenderness, remove rigidity, decrease pulse-rate, and lower temperature—in other words, cover up all the symptoms of value in diagnosing the exact condition present. But it will not prevent the perforation of a gangrenous appendix, nor will it absorb the stinking and infective pus from a periappendicular abscess.

[1] A Textbook of Materia Medica, Therapeutics, and Pharmacology, by G. F. Butler, Ph.G., M.D. W. B. Saunders, 1896.

SPECIAL ARTICLES

THE DUTIES OF THE SCHOOL TEACHER IN THE COMBAT OF TUBERCULOSIS AS A DISEASE OF THE MASSES.[1]

BY

S. A. KNOPF, M.D.,

of New York City.

Hon. Vice-President of the British Congress on Tuberculosis; Vice-President of the Pennsylvania Society for the Prevention of Tuberculosis; Honorary Director of the New Haven Antituberculosis Association; Corresponding Member of the International Central Bureau for the Prevention of Consumption (Berlin); Member of the New York Charity Organization's Tuberculosis Committee; Consulting Physician of St. Gabriels Sanatorium, Gabriels, N. Y., etc.

There exists a modern German play called "Flachsmann als Erzieher," that is to say, Flachsmann as Educator, which has been recently presented by Mr. Conried at the Irving Place Theater. One of the principal characters in the play is a teacher in a public school who distinguishes himself by his brilliant attainments and scholarship. On one occasion he was asked why he had chosen such a humble calling as that of a public school teacher, and had not become a college professor or professor of pedagogics in some great university? He answered that in his opinion there was no higher calling than that of an educator of boys and girls, the men and women of the future; that there was no nobler, no greater, and no more responsible position in the world than the one he had chosen, and that he was perfectly satisfied and profoundly happy and grateful to be just a plain ordinary public school teacher.

My audience today is composed of men and women who must have the same exalted opinion as our friend in the German play, and I feel like congratulating you on the choice of your

[1] Lecture delivered before the Teachers' College of the Columbia University of the city of New York, February 25, 1903. Revised and enlarged for publication in *American Medicine*.

profession. The modern teacher of our children has indeed a glorious calling, but his responsibilities are also great. The requirements for proficiency become more severe from year to year; you must master branches of knowledge which were not thought of in public schools 25 years ago.

In addition to your many duties as students at this great university, I come today to ask you to listen to me on a subject which is not pleasant and perhaps not even interesting; yet in your labors as teachers as well as in ours as physicians, we must often deal with subjects which are neither pleasant nor interesting, and it is only the sense of duty which helps us to accomplish unpleasant tasks.

I am to speak to you today of "The Duties of the School Teacher in the Combat of Tuberculosis as a Disease of the Masses." I have chosen this theme for the purpose of asking your help in the work which the Committee on the Prevention of Tuberculosis, of the Charity Organization Society of the City of New York, has outlined for itself. Before I attempt to describe in detail the duties which devolve upon you as public teachers and the ways and means whereby you can be helpful, let me first briefly summarize our present knowledge of the disease called pulmonary tuberculosis, consumption or phthisis pulmonalis.

This disease was well known to many of the ancient physicians, and it may be a surprise to some of you to learn that Hippocrates, the most celebrated physician of antiquity, who lived from 460 to 377 B. C., and who may be truly called the father of scientific medicine, described consumption as the disease which is "the most difficult to treat, and which proves fatal to the greatest number of people." Isocrates, also a Greek physician, who lived about the fifth century before Christ, was the first to write of tuberculosis as a disease transmissible through contagion. In the middle ages (1550) the celebrated physician Montano declared consumption to be one of the most dangerously contagious and most easily contracted of diseases. An equally strong advocate of the theory of contagion was the celebrated anatomist, Morgagni (1682–1771), who never performed an autopsy on an individual who had died from tuberculosis. In Naples a royal decree, dated September 20, 1782, ordered the isolation of consumptives and the disinfection of their apartments, personal effects, furniture, books, etc., by means of vinegar, brandy, or lemon juice, sea water, or fumigation. Any violation of this law was punished, if the individual was an ordinary mortal, by three years in the galleys, and if he happened to be a nobleman he was sent for the same length of time to the fortress, and had to pay a fine of 300 ducats. The physician who failed to notify the authorities of the existence of a tuberculous patient was fined 300 ducats for the first offence, and a repetition of the neglect would banish him from the country for 10 years.

In the first half of the nineteenth century little attention was paid to the theory of infectiousness of tuberculosis even by medical men. The contagiousness or communicability of the disease could not be scientifically demonstrated, and although there were physicians here and there who believed in the infectiousness of the disease, nothing positive was taught in regard to it at the centers of medical learning. At last, in 1865, the French physician Villamin demonstrated beyond a doubt that tuberculosis could be transmitted from one individual to another. He inoculated animals with tuberculous substances and reproduced tuberculosis not only in the lungs but also in other portions of the body.

After this discovery there seemed to be no longer a doubt that tuberculosis was an infectious disease and that for its production a specific germ was essential. The discovery of this specific organism (*Bacillus tuberculosis*) was reserved to the great German scientist Robert Koch (1882).

As to the prevalence of tuberculosis, particularly in its pulmonary form, I cannot say anything which is not known to every intelligent man and woman. In fact, we have accustomed ourselves to the high deathrate from pulmonary tuberculosis, considering it as something inevitable. The recent great disaster at Martinique, in which 30,000 people died almost in an instant, caused the deepest sympathy and a just commotion throughout the civilized world, yet the annual tribute of the United States to pulmonary tuberculosis is over 100,000. Each year the world yields up 1,095,000, each day 3,000, each minute two of its people, as a sacrifice to this plague. Of the 80,000,000 individuals now peopling the United States more than 10,000,000 must inevitably die of this disease if the present ratio is kept up. According to some statisticians every sixth, and according to others, every seventh death is due to tuberculosis.

Now let us see what this disease is which causes such ravages among all civilized nations. On account of its fearful mortality Oliver Wendell Holmes has called tuberculosis "The great white plague." It is particularly prevalent among the masses—the poor—and appears most often in people between the ages of 15 and 35. The Germans have named consumption "Volkskrankheit," *i. e.*, disease of the masses.

Pulmonary tuberculosis, or consumption, is a chronic, infectious and communicable disease, caused by the presence of the tubercle bacillus, or germ of consumption in the lungs. It is locally characterized by countless tubercles, that is to say, small rounded bodies, visible to the naked eye. The bacillus of tuberculosis is a minute organism in the shape of a cylindric rod, visible with a high power microscope only after certain staining reagents have been applied to it. This microorganism, belonging to the order of schizomycetes or fission fungi, in the lowest scale of vegetable life is the specific microbe of tuberculosis; without its presence there is no tuberculous disease. This

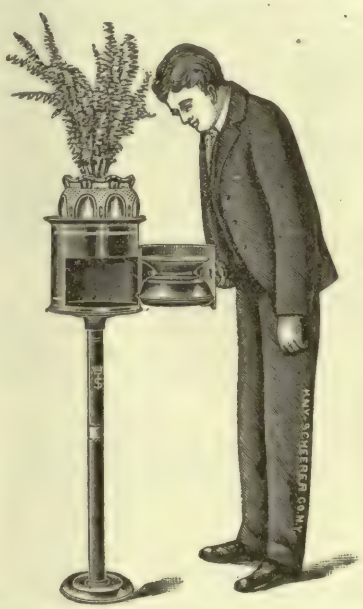


Fig. 1.—Elevated spittoon, entirely of metal—when in use.



Fig. 2.—The same, closed.

parasite not only gradually destroys the lung substance through ulcerative processes, but at the same time gives off certain poisonous substances called toxins, which give rise to various, and often serious symptoms.

The important symptoms of pulmonary tuberculosis are cough, expectoration, fever—especially in the evening hours—difficulty in breathing, pains in the chest, night-sweats, loss of appetite, hemorrhages, and emaciation. In the matter expectorated it is often possible to find the tubercle bacillus.

How may this germ of tuberculosis enter the human system?

There are really three methods whereby this germ may enter, namely, by inhalation, that is, being breathed into the lungs; by ingestion, that is, being eaten with tuberculous food; and by inoculation, that is, the penetration of tuberculous substance through a wound in the skin. Let us treat first the most frequent method of the propagation of tuberculosis, namely, that arising from the indiscriminate deposit of tuberculous sputum. A consumptive individual, even at a period when he is not confined to his bed, may expectorate enormous quantities of bacilli. By careful observers it has been estimated to amount in some individuals to about 7,000,000,000 per day. Now, if the expectoration, or spittle, is carelessly deposited here and there, so that it has an opportunity to dry and become

pulverized, the least draught or motion in the air may cause it to mingle with the dust, and the individual inhaling this dust-laden atmosphere is certainly exposed to the danger of becoming tuberculous if his system offers a favorable soil for the growth of the bacilli. By "favorable soil for the growth of the bacilli" must be understood, any condition in which the body is temporarily or permanently enfeebled. Such a condition may be inherited from parents, or acquired through alcoholism or drunkenness, or other intemperate habits, through privation or disease.

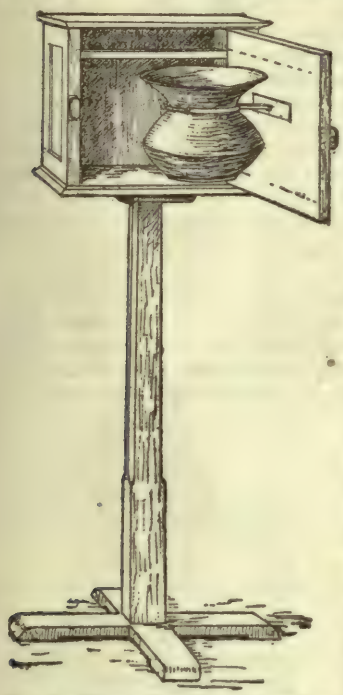


Fig. 3.—Elevated spittoon, stand of wood, open.

Beside the danger arising from carelessly deposited sputum or spittle the inhalation or ingestion of the small particles of saliva which may be expelled by the consumptive during his socalled dry cough, when speaking quickly or loudly, or when sneezing, must also be considered as dangerous for those who come in close contact with the invalid. These almost invisible drops of saliva may contain tubercle bacilli. Recent experiments in this direction have shown the possibility of infection by this means.

The next most frequent method of the propagation of tuberculosis is through the ingestion of the bacillus, that is to say, when the germ of tuberculosis is taken with the food.

The third and much less frequent cause of tuberculosis is inoculation or penetration of the tuberculous substance through the skin.

What should we do to stop the first and most frequent source of the dissemination of the bacillus?

A patient suffering from pulmonary tuberculosis should know that no matter in what stage of the disease he may be his expectoration or spittle may spread the germ of the disease if the matter expectorated is not rendered innocuous before it has a chance to dry and become pulverized. The patient should, therefore, always spit in some receptacle intended for the purpose. It is best to have this vessel made of metal so it will not break. It should be half filled with water or some disinfecting fluid, the main thing being to make it impossible for the expectoration to dry.



Fig. 4.—Proedohl's enameled iron spittoon, to be suspended at convenient height.

In schools, factories, stores, railroad cars, waiting-rooms, court-rooms, restaurants, saloons, meeting places, theaters, menageries—in short, wherever many people congregate—there should be a sufficient number of cuspidors well kept and regularly cleaned. They should be made of unbreakable material and have wide openings. It would be preferable to have them elevated so that they would be easier to reach. (See Figs. 1, 2, 3, 4.) If such measures are carried out there will be no excuse for any one to expectorate on the floor and thus endanger the lives of his fellowmen.

When outdoors the patient should use a pocket flask of metal, strong glass, or pasteboard. There are numerous kinds of flasks in the market and I show you here a few of them. (Figs. 5, 6, 7, 8, 9.)

A handkerchief should never be used as a receptacle for sputum. Patients who are too sick to make use of light porcelain or aluminum cups (Fig. 10) should have a number of moist rags within easy reach. Care should be taken that the rags always remain moist and that the used ones are burned before they have a chance to dry. The paper spit-cups with their contents should, of course, also be destroyed by fire.

There will always be some consumptives who cannot be persuaded to use the pocket flask, for the reason that they do not wish to draw attention to their malady. The only thing for such people to do is to use squares of soft muslin, cheese cloth, cheap handkerchiefs, or Japanese paper handkerchiefs, specially manufactured for that purpose, which can be burned after use. They should place in their pockets a removable lining of rubber or other impermeable substance, which can be thoroughly cleaned. This additional pocket could be fastened to the inside of the ordinary pocket by clamps and would thus be of no inconvenience to the patient. A pouch of rubber or an Oriental tobacco pouch may be used in place of the extra pocket of impermeable material.

The danger of dissemination of the bacilli through the socalled dry cough is relatively small; we should, nevertheless, insist that the patient hold a handkerchief before his mouth or nose when he coughs or sneezes. The consumptive should be advised to carry two handkerchiefs with him, one to hold before his mouth and to wipe it with after having expectorated; the other to use only to wipe his nose. By being careful with the use of his handkerchiefs the danger of infecting his nose and bronchial tubes will be materially lessened.

All soiled linen (sheets, pillow-cases, underwear, napkins, handkerchiefs, etc.) used by the consumptive, should not be handled more than necessary, but should be placed in water as soon as possible after removal from bed or body. It is better to wash these articles separately, and only after having been thoroughly boiled should they be put with the common laundry. Whenever it is not possible to carry out these precautionary measures in their entirety, one should strive to follow them so far as it is in one's power.

Concerning the danger from infection through tuberculous food we will say that whenever one is not reasonably certain that the meat he eats has been carefully inspected and is free from disease germs, it should be very thoroughly cooked. By this means one is certain to kill all the dangerous microorganisms. Against the sale of tuberculous milk there are very excellent laws in some States of the Union which are rigorously enforced. In some the laws are less good, and in some there are no laws at the present time.

In justice to farmers and dairymen, it must, however, be said that there are many who do their very best to protect themselves and their fellowmen from the danger of tuberculosis. They have their cows tested regularly, destroy the animals which are found to be tuberculous and keep their stables and utensils for milk as clean as possible.

Unless one can be reasonably sure that the cows from which the milk is derived are healthy, the milk should be boiled or sterilized before use, especially when it is intended as food for children. Milk obtained from stores and from milk peddlers should invariably be submitted to boiling or sterilization. When milk is kept slowly boiling for five minutes, all the bacilli are killed, and the same result is obtained by the sterilizing process, which is to keep the milk heated for at least half an hour at a temperature of about 70° C. or 160° F. There are now in the market a number of cheap and practical apparatuses for sterilizing milk, which can be obtained in almost any drug store.

Raw fruit bought from the pushcart man, or for that matter, derived from any other source, should be washed, peeled, or cooked before being eaten. You teachers should impress these precautions upon the little ones and the big ones in your charge. If simple warning does not suffice, tell the children how some of the enterprising pushcart men treat an apple for example to make it shine and seem appetizing.

There is another way whereby the germs of tuberculosis may possibly enter our stomach or intestines, namely through kissing the consumptive, or using utensils which have been soiled by the saliva of the patient. Therefore, the consumptive should never kiss, no matter whom, on the mouth, and children should be taught to allow none to kiss them except on the cheek.

Tuberculous patients should have their own drinking glasses, spoons, forks, etc., or at least, all table utensils which have served for them should be placed in boiling water after use.

It is, of course, also possible for the consumptive to contract intestinal tuberculosis when, out of false modesty, he swallows his expectoration. May I be permitted to insert here a little medical advice? Unless the patient feels that he must expectorate, he should not cough. Dry coughing is scratching the throat because it tickles. This is not only unpleasant but it also injures the throat. With the exercise of a little will power and discipline one can suppress this dry and unnecessary cough. The consumptive patient should remember never to touch food before having washed his hands very thoroughly. Even with the greatest care it is possible that he may have soiled his hands with tuberculous expectoration.

Inoculation, or the penetration of tuberculous substance through the skin happens perhaps most frequently through injuries received while cleaning nicked or chipped glass or porcelain cuspidors which have been used by consumptives. It is also possible for the bacilli to enter the circulation if the person cleaning the spittoons happens to have a wound or open sore on his hands. Persons entrusted with the care of the spittoons in a private sick-room or an institution for consumptives should wear rubber gloves while cleaning these vessels.



Fig. 5.—Dettweiler's pocket flask.



Fig. 6.—Blue glass sputum flask. Manageable with one hand.

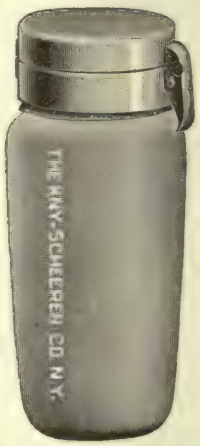


Fig. 7.—Round-shaped, nickel-plated pocket flask. Manageable with one hand.



Fig. 8.—Cheap metal flask with bayonet closure.



Fig. 9.—Pasteboard purse.

At times the patient may inoculate himself by placing an accidentally injured finger in his mouth, or by carelessly soiling an open wound with his expectoration.

Physicians, students of medicine or of veterinary science, also butchers, etc., are exposed to the danger of wounding themselves with instruments which may have come in contact with tuberculous matter. Extreme care is the only remedy for all persons thus exposed.

If one has been unfortunate enough to receive an injury and tuberculous inoculation is feared the best thing to do is to let the wound bleed freely, wash it thoroughly with water that has been boiled, with a 5% solution of carbolic acid, or with pure alcohol; dress the wound with a clean rag dipped in any of these liquids, and seek as soon as possible the advice of the physician. This is a good thing to remember when the little ones under your charge come to you with injured fingers from no matter what source. By such precautionary measures you are almost certain to avoid serious wound infection.

I have thus far spoken only of the tuberculosis which manifests itself in the pulmonary form, that is to say, consumption of the lungs, of intestinal tuberculosis, or consumption of the bowels, and tuberculosis of the skin, or lupus. But you must know that every organ in the body, such as the throat, the bones, and the coverings of the brain and spinal column may become invaded by the tubercle bacillus. In the last mentioned form the disease is technically called tuberculous meningitis.

After all that you have heard so far of the contagiousness, or rather the communicability of tuberculosis, and consumption in particular, I do not wish you to think that a breath accidentally taken in an atmosphere laden with bacilli would certainly render a healthy individual consumptive, or that by a swallow of tuberculous milk or a little injury from a broken cuspidor one must necessarily become tuberculous. The secretions of our nasal cavities, doubtlessly also the blood, and the secretions of the stomach of the healthy individual, have bactericidal properties, that is to say, they kill the dangerous germs before they have a chance to do harm. Therefore, healthy men and women should not have an exaggerated fear of tuberculosis, but should, nevertheless, not recklessly expose themselves to the danger of infection.

But who are the individuals who must be particularly careful so as not to be attacked by the almost ever present tubercle bacillus?

There are four clases of these persons: 1. Those who have a hereditary predisposition to consumption. 2. Those who have weakened their system and thus predisposed themselves to the disease by the intemperate use of alcoholic beverages, by a dissipated life, by excesses of all kinds, etc. 3. Those whose constitution has been weakened by disease (pneumonia, typhoid fever, smallpox, measles, whoopingcough, syphilis, influenza, etc.) 4. Those whose occupations, trades, or professions, such as printing, hatmaking, tailoring, weaving, and all occupations wherein the worker is much exposed to the inahalation of various kinds of dust, render them particularly liable to consumption.

Before I proceed to give you a few of the essential points how to overcome such a predisposition to consumption, let me answer the question which I believe I read in the minds of many of you, namely, "What about those who have a socalled hereditary consumption?" Permit me to say that the popular notion concerning hereditary consumption is, in my humble opinion, absolutely erroneous. Consumption has perhaps never been inherited either from the father or the mother, but the child has usually been infected by its well-meaning but ignorant consumptive parents after birth. The mother has kissed the child, taken it into her bed, allowed it to use the same spoon or other utensils which she has used herself, and thus unconsciously has conveyed the disease to her infant. Through kissing and caressing a consumptive father the child



Fig. 10.—Metal spit-cup for bedside.

may also be infected; or again, either the one or the other parent may have been careless with their expectoration, or may have spat on the floor where the child plays. It must be obvious to any thinking individual that if such uncleanly habits of the father or mother prevail the child born healthy is not liable to remain healthy long.

I have said that consumption is not hereditary, and children born of consumptive but intelligent and conscientious parents need not necessarily contract the disease. I myself have a number of times seen children of a consumptive parent grow up to be strong men and women; but their parents were not only careful, clean and conscientious, they were also aware that while they did not transmit consumption to their children,they had transmitted to them a tendency or predisposition to this disease. This hereditary predisposition is, however, a condition which can be overcome by judicious training, proper food, plenty of outdoor exercise, and the avoidance of all excesses. All predisposed individuals should dress sensibly and according to the season. They should never wear garments which restrict circulation or hinder the free physiologic function of the chest or abdomen. Tight clothing, tightly laced corsets, tight neckwear, tight shoes, are all pernicious and particularly dangerous to the individual predisposed to tuberculosis.

A predisposition, whether inherited or acquired, may be explained as a peculiar weakened state of the system which offers a favorable soil for the growth and multiplication of the germs of consumption. I have already hinted at what should be the duty of the parents if they are themselves consumptive and fear to have transmitted to their offspring a predisposition to the disease. Concerning alcoholism and other intemperate habits, which are so often the forerunners of consumption, I desire to speak plainly. I do not wish to appear to you as a temperance lecturer, condemning all and everything which does not subscribe to the doctrines of the temperance party. I consider alcohol a medicine, at times indispensable in the treatment of certain diseases; but liquor as a beverage is never useful and nearly always harmful. Alcoholism must be considered the greatest enemy of the welfare of a nation, the most frequent destroyer of family happiness, too often the cause of the ruin of mind and body, and certainly the most active cooperator of the deadly tubercle bacillus.

To combat alcoholism (drunkenness or intemperance) education is required above all. Extreme prosecution and fanatical laws will do little good. From early childhood the dangers of intemperance and its fearful consequences should be taught. In schools and at home the drunkard should be pictured as the most unhappy of mortals. While the very moderate use of feeble alcoholic drinks, such as light beers, may be considered as harmless to adults when taken with their meals, alcohol should never be given to children, even in the smallest quantities.

In families in which there is a fear of hereditary transmission of the desire for strong drink, even the mildest alcoholic drinks should be absolutely avoided. It would also be best if all people so predisposed, or who may have acquired only the occasional desire for drink, should never smoke, for experience has taught that attacks of dipsomania (periodic sprees) are often caused by an excessive use of tobacco. The young man starting out in life should take with him the moral training which will enable him to be a gentleman, and be considered a polite gentleman, though he absolutely refuses ever to enter a liquor saloon in order to treat or be treated to drink. It is this treating habit—alas! so prevalent in our American society—which has ruined many a young man and made him a moral and physical wreck. Think of it, young ladies and gentlemen, you the future teachers of our boys and girls, what a glorious mission you have in thus combating two diseases of the masses—alcoholism and tuberculosis—at the same time. But you will not only be teachers but citizens as well, and as such encourage the creation of tea and coffee houses where warm, nonalcoholic drinks, including bouillon, are sold in winter and cold ones in summer. It would be of additional advantage if some of these houses could also offer healthful amusements for old and young. Temperance societies, which through tactful and intelligent propaganda help to combat the fearful evil of alcoholism should receive encouragement from everybody.

There is another point I wish to emphasize in regard to alcohol and tuberculosis, and that is the idea that alcohol is a specific, or even a remedy for consumption. There has never been a greater mistake made. Alcohol has never cured and never will cure tuberculosis. It will either prevent or retard recovery. It is like a two-edged weapon; on one side it poisons the system and on the other side it ruins the stomach and thus prevents this organ from properly digesting the necessary food. Truly pathetic are the results of this erroneous doctrine in the families of the poor, where instead of procuring good nourishment for the invalid, liquor has been bought in far too large quantities, so that often there was not enough money left for food for the sufferers nor for the other members of the family.

The individual enfeebled by disease, such as typhoid fever, grip, etc., should lead a particularly careful life and avoid crowded meeting places and all localities where the air is vitiated and where he is in danger of coming in contact with careless or ignorant individuals who expectorate everywhere. The man who has a trade, such as the printer, tailor, bookkeeper, or other workers whose occupations are more or less predisposing to tuberculosis, can counteract this tendency by leading a sober life, and when not at work, spending as much time as possible in the open air, by breathing deeply and keeping the body in a thoroughly good condition through regular bathing and judicious exercise.

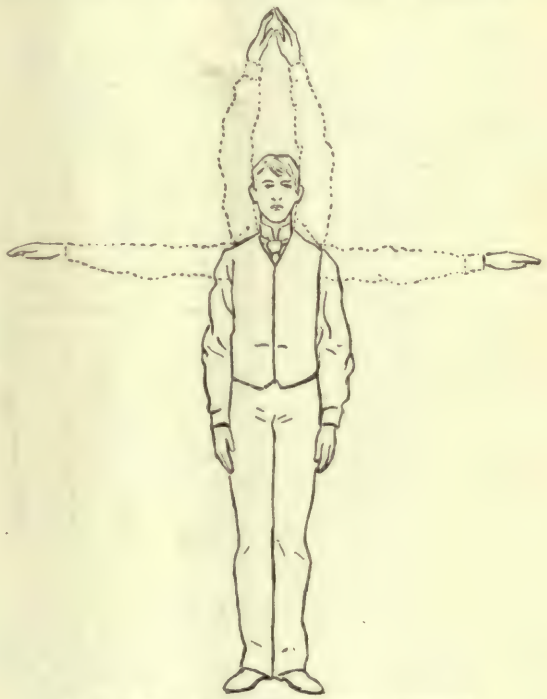


Fig. 11.—First and second breathing exercises.

What I have said so far of the causes and prevention of tuberculosis is knowledge which seems to me should be possessed by every person, but you future teachers should be particularly posted on the minute details, so that you may not only practise them for your own self-protection but also preach them, not only as teachers but also as friends of all the unfortunate.

Thus, if you are perchance in the presence of a consumptive who is not yet under medical care, teach him what you know of the prevention of the disease and advise him to seek the counsel of a competent physician. If he is too poor to pay for a consultation, and too proud to ask it for nothing, tell him to apply to the Health Department which will send him one of its physicians without cost. No tuberculous invalid, no matter in what stage of the disease, whether living in a palace or in the poorest tenement house, should be without a medical adviser. If you meet a consumptive who is ignorant of the precautions he should take, do not shun him like a leper, but treat him with kindness and convince him that whatever he does to prevent the spread of the disease among others will also improve his

own condition and increase the chances of his recovery. Let me tell you that a clean conscientious consumptive is as safe a person to associate with as anybody.

Now let me come to some of the particular duties devolving upon you as teachers in the combat of tuberculosis as a disease of the masses. You should teach and practise love for fresh air. Your pupils should learn to love fresh air as much as you do and take this love for fresh air home with them. Let me incidentally mention a place where tubercle bacilli abound but where you find at certain hours more children than even at school. I refer to our menageries. To visit the ape-house in the Zoological Gardens and to remain there as long as possible is the delight of children, and yet, perhaps next to cattle there are no animals so subject to tuberculosis as apes. Add to this the commotion, dust and impure air in the average ape-house at the usual time of the children's visits, and one cannot help thinking of an absolute danger. There seems no reason why an ape-house, containing numerous consumptive animals, should not be as much a source of infection as a tenement house where ignorant and careless tuberculous individuals have expectorated indiscriminately.

There should always be ample ventilation in your classrooms. The vitiated atmosphere in the classroom is as per-



Fig. 12.—Third breathing exercise.



Fig. 13.—Breathing exercise with rolling of shoulders.

nicious to you as it is to the children under your charge. Some of you, nay, let me hope, all of you, except those who give up their career for vital reasons, will be superintendents of schools, or become so influential that to arrange the curriculum will be one of your tasks and privileges. I beg you, when once in command, not to forget that physical exercise, outdoor life, and when indoors, as much fresh air as possible are most essential to the normal development of the child. There is too great a tendency in the present age to develop the intellect of our children to the detriment of their physicial welfare. While all the organs of the body should be developed, the lungs particularly should be given opportunity to develop to a greater advantage. I would suggest that breathing exercises should not only be given now and then but that they should form an important item in the curriculum of all the schools. I do not believe that there is any better, greater, and more efficacious barrier to becoming consumptive than a good pair of lungs, and it would seem to me that it should not only be a great duty but also a great privilege and pleasure to make out of a weak-lunged child, who may be predisposed to tuberculosis, a strong and vigorous man or woman.

I do not know what system of breathing exercises you have been taught, but if you will permit me I will demonstrate to you those which I have found most valuable in my work among families where I had some apprehension as to the children becoming consumptive. In fact, I teach these exercises wherever and whenever I can, for I think they do good even to a well person, and with some modification I teach them also to my consumptive patients.

In front of the open window, or out of doors, assume the position of the military "attention," heels together, body erect, and hands on the sides. With the mouth closed take a deep inspiration (that is, breathe in all the air possible), and while doing so raise the arms to a horizontal position; remain thus holding the air inhaled for about three to five seconds, and while exhaling bring the arms down to the original position. This act of exhalation, or expiration, should be a little more rapid than the act of inspiration. When this first exercise is thoroughly mastered and has been practised for several days, one may begin with the second exercise, which is like the first, except that the upward movement of the arms is continued until the hands meet over the head.

The accompanying illustration (Fig. 11) shows the positions which are to be taken during these two exercises. The third breathing or respiratory exercise, which requires more strength and endurance, should not be undertaken until the first two have been practised regularly several times a day for a few weeks, and until an evident improvement in breathing and general well-being has been observed. We will endeavor to make this third exercise, which might be called a dry swim, more comprehensible by the illustration (Fig. 12). Take the same military position of "attention," and then stretch the arms out as in the act of swimming, the backs of the hands touching each other. During the inspiration move the arms outward until they finally meet behind the back. Remain in this position a few seconds, retain the air, and during exhalation bring the arms forward again. This somewhat difficult exercise can be facilitated and be made more effective by rising on the toes during the act of inhalation, and descending during the act of exhalation.

Of course, when out of doors one cannot always take these exercises with the movement of the arms without attracting attention; under such conditions raise the shoulders, making a rotary backward movement during the act of inhaling; remain in this position, holding the breath for a few seconds, and then exhale while moving the shoulders forward and downward, assuming again the normal position (Fig. 13). This exercise can easily be taken while walking, sitting, or riding in the open air.

Young girls and boys, and especially those who are predisposed to consumption, often acquire a habit of stooping. To overcome this the following exercises can be recommended. The child makes his best effort to stand straight, places his hands on his hips with the thumbs in front, and then bends slowly backward as far as he can during the act of inhaling. He remains in this position for a few seconds, while holding the breath, and then rises again somewhat more rapidly, during the act of exhalation (Fig. 14).

Few people have a just estimation of the value of these exercises. From your studies in physiology you will remember that the amount of tidal air—that is to say, the volume which is inspired and expired in quiet respiration—is only 500 cc., the complemental air, the volume which can be inspired after an ordinary respiration, 1,500 cc., and the supplemental air or reserve air, the amount which can be forcibly expelled after an ordinary respiration, amounts from 1,240 cc. to 1,800 cc. Thus one can readily appreciate the effect of these exercises on the physiologic action of the lungs by increasing the supply of oxygen (O), and more effectually removing the carbonic acid (CO_2). You will remember that these interchanges of gases in the lungs result in the conversion of venous into arterial blood. The scientific name for this process is hematosis.

The following general rule concerning breathing exercises should always be remembered: Commence with the easier exercises and do not begin with the more difficult ones until the former are completely mastered. For healthy schoolchildren I would suggest to take from six to nine deep respiratory exercises, either of one kind or the other, every hour.

A second general rule is never to take these exercises when tired, and never to continue them so long as to become tired. It is, of course, self-understood that these exercises should always be taken in an atmosphere as pure, fresh, and free from dust as possible, and that no restricting garments around the waist or neck should be worn. You as teachers should know that constricting the chest or abdomen will often leave lasting injuries to the vital organs incased in the thoracic and abdominal cavities.

Mouth-breathing in children, and sometimes in adults, is often caused by certain growths in the throat (adenoid vegetation), by enlarged tonsils, or by growths in the nose (polypi, etc.). The removal of these obstructions by surgical aid is perhaps the only rational method to assure natural breathing. Incidentally, we may be permitted to say that these operations are not at all dangerous; but by the presence of these vegetations in the throat (retropharynx) the hearing and the intellectual and bodily development of the child may become seriously impaired. The early removal of such growths should be earnestly recommended. If you observe among your pupils a chronic mouth-breather call the attention of the school physician or the parents to the child's condition, and explain to the parents the danger of neglect in this matter. The respiratory exercises just described are particularly useful for such children after operation, otherwise they often retain the habit of imperfect breathing which they had acquired.

In teaching the children under your charge how to breathe, sit, stand, and walk properly, you teachers do perhaps more toward the prevention of tuberculosis than all we physicians together. I would love to see singing and outdoor recitations at proper seasons incorporated in the curriculum of every school in city or country, and city schools should have commodious roof-gardens for the purpose. Wherever there is a playground it should be kept clean, as free from dust as possible, and be daily strewn with clean sand or gravel. Children should be warned not to expectorate on the playground, and adults should be severely punished by law for so doing.

The breathing exercises at school should, of course, be supervised by teachers. Modern school hygiene, particularly in the United States, is far superior to what it has been in the past, yet there is still room for improvement. So far as the prevention of tuberculosis is concerned, permit me to suggest to you the advisability of giving the children leaflets of instruction. I know this practice to be in vogue in some schools in this and other States, but those I have seen seemed rather incomplete. Let me give you here a tentative leaflet which I have written with the particular view of preventing consumption.

Every child and adult can help to fight consumption. School children can be helpful by complying with the following rules:

Do not spit, except in a spittoon or a piece of cloth or a handkerchief used for that purpose alone. On your return home have the cloth burned by your mother, or the handkerchief put in water until ready for the wash.

Never spit on a slate, floor, sidewalk, or playground.

Do not put your fingers into your mouth.

Do not pick your nose or wipe it on your hand or sleeve.

Do not wet your finger in your mouth when turning the leaves of books.

Do not put pencils into your mouth or wet them with your lips.

Do not hold money in your mouth.

Do not put pins in your mouth.

Do not put anything into your mouth except food and drink.

Do not swap apple cores, candy, chewing gum, half-eaten food, whistles, bean blowers or anything that is put in the mouth.

Peel or wash your fruit before eating it.

Never cough nor sneeze in a person's face. Turn your face to one side and hold a handkerchief before your mouth.

Keep your face and hands and finger-nails clean; wash your hands with soap and water before each meal.

When you don't feel well, have cut yourself, or have been hurt by others, do not be afraid to report to the teacher.

So far we have spoken of the duties in the actual prevention of the disease. What can we do for its cure?

You should be able to detect an early tuberculous or scrofulous disease in any child under your care. Let me first state to you that scrofulosis is only a milder form of tuberculosis. I have already mentioned the earlier symptoms of pulmonary tuberculosis. The general symptoms of laryngeal tuberculosis do not differ much from those of pulmonary tuberculosis. The additional symptoms of laryngeal tuberculosis are a pronounced hoarseness and sometimes intense pain on swallowing.

The early symptoms of tuberculosis of the bones and joints manifest themselves in lameness and easy tiring of the arm or leg affected. A slight pressure in the region of the joints causes a sudden severe pain. If the spinal column is affected, the symptoms will depend upon the location of the vertebra which is attacked by the disease. For example, if this should be in the region of the neck, there will be difficulty in swallowing, in breathing, or a frequent dry cough. If any one of the vertebras in the region of the chest is affected, a feeling of constriction like a tight band around the chest will be observed, accompanied often by digestive troubles. If the seat of the disease is the lower portion of the spinal column, there will be irritation of the bladder and lower bowels, an inclination to much urinating, and radiating pains toward the hips.

It is, of course, self-understood that when any of these symptoms are discovered the physician should be called in, for only through the most careful treatment can a patient be saved from a lasting deformity.

The bone-and-joint tuberculosis is most frequent during child hood. The same may be said of scrofula, which might be considered almost exclusively a disease of children. The scrofulous child is usually pale with flabby skin and muscles. The glands around the neck are swollen, and skin disease, sore eyes, and running ears are frequent symptoms. The little patient usually manifests a phlegmatic condition, but we may also find some that are nervous and irritable. The latter often have a particularly white, delicate skin, which makes the veins visible. Fever may be observed in some children. In view of the happily very curable nature of scrofulous affections, the importance of the early recognition and of the timely and judicious treatment is, of course, self-evident.



Fig. 14.—Exercise for children in the habit of stooping.

Should you observe a child with symptoms of this kind it would be your duty to call the attention of the school physician and the parents to the pupil's condition. Thus you will be instrumental not only in preventing a further development of the disease, but also in curing the existing conditions.

What else can you teachers do in the prevention and cure of this disease of the masses? Besides imparting knowledge in this respect to the children according to their ages and intelligence, and to the parents when the condition of the child indicates the necessity of giving information, or at mothers' meetings if you can arrange such, you should spread the truth that tuberculosis is not only a communicable disease, a preventable disease, but also a curable disease. It is cured in our modern times not by quacks, by patent medicines, nostrums, or other secret remedies, but solely and exclusively by scientific and judicious use of fresh air, sunshine, water, abundant and good food (especially milk, eggs, meat, vegetables, fresh fruits), and the help of certain medicinal substances when the just-mentioned hygenic and dietetic means do not suffice to combat the disease.

The thorough and constant supervision of the pulmonary invalid, the immediate intervention when new symptoms manifest themselves, or old ones become aggravated or do not disappear rapidly enough, the prescribing of proper food and drink, can only be done by the thoroughly trained physician.

Therefore, right here let us sound a note of warning; namely, that not the most beautiful climate nor the most delightful resort can cure the consumptive patient if he is not wisely guided in his treatment.

For those who are not so situated that the hygienic and dietetic features of the treatment can be carried out under constant medical supervision at home, the sanatorium[1], that is to say, an institution specially constructed for that purpose, is the place where the patient has the greatest chance for recovery.

In conclusion let me return once more to that milder form of tuberculosis—scrofulosis and bone tuberculosis, the types of which are usually met among children, and most frequently among the children of the poor. I know some of you may become teachers of the children of the poor. With the knowledge you may have possessed already or which I may have been fortunate enough to impart to you, you will recognize with relative ease among your charges many a scrofulous child or one predisposed to tuberculosis. You will be eager to teach that child how to develop its lungs and after a time you may be gratified to see that it breathes better. But the pallor of its little face continues and the emaciation progresses, and the cause of this is simply because the child is underfed, for I beg you to remember that malnutrition—that is, underfeeding—lack of fresh air and uncleanliness are prime factors in the causes of tuberculosis and scrofulosis. Your interest in the pale little pupil may prompt you to teach the mother the necessity for more air in the rooms and a more liberal use of water for cleansing and tonic purposes for the little one.

But what can you do to prevent underfeeding? A cracker and an apple is not enough for lunch for a growing boy or girl, and altogether too little to make the cheeks red. There is a field for practical philanthropy, and you, my dear friends, can be instrumental by bringing these facts before the public, and particularly before generously inclined and wealthy fellow citizens. It may thus become possible to provide these half-starved little ones with a luncheon of a few meat sandwiches and one or two glasses of good milk, and I am convinced that fewer will develop tuberculosis and scrofulosis, and they will do better work at school and at home.

To avoid a pauperizing tendency, a few pennies may be charged for these lunches. This practice is in vogue in the city of Boston, Mass., and works most satisfactorily. After a few weeks of such persistent administration of good luncheons the previously underfed children improve in appearance and often gain from two to three pounds in weight.

For children suffering from the more advanced cases of tuberculosis, scrofulosis, and particularly bone tuberculosis, our philanthropic friends should be induced to provide seaside sanatoriums which have proved in other countries so efficacious in the cure of these little ones. The results in French, German and Dutch seaside sanatoriums vary from 50% to 75% of complete cures. All provide for the intellectual development of the children at the same time. It is regretted that in our own country we have as yet virtually no permanent seaside homes or sanatoriums for these unfortunate little ones, and I beg if anyone of you has influence over rich philanthropically inclined persons to impress upon them the necessity for such school sanatoria. They will bring blessing, health and happiness to many a humble home by curing its child from a disease which is curable, but for which there is as yet no place to cure it.

There are strong indications that the world has at last come to the realization that our school teachers are not only the most important factors in the intellectual and moral, but also in the physical welfare of a nation. Need I therefore tell you that it was with profound gratitude and a feeling of true rejoicing that I read the other day of the munificent gift which Mrs. Frederick Ferris Thompson has bestowed upon your College for the erection and equipment of a building for the study of physical education and school hygiene? Let me congratulate you all that you are the chosen ones who will benefit by Mrs. Thompson's munificence, and let us hope that her noble example may have many followers throughout our beloved country.

It remains only for me to thank the authorities of your school, and particularly your distinguished teacher, Professor Wood, for the great privilege of addressing you, and lastly to thank you for the patience with which you have listened to me, and to wish you Godspeed throughout your beautiful and noble career.

[1] I use the word sanatorium in preference to the word "sanitarium" for the following reasons: Brehmer, the founder of the first institution of that kind, called it "Heilanstalt," which means a healing institution; and the word "sanatorium," from the Latin *sanare*, to heal, gives certainly a better equivalent to the German word than the word "sanitarium." This latter word is derived from the Latin *sanitas*, health, and is usually employed in this country to designate a place considered as especially healthful, a favorite resort for convalescent patients, or an institution for the treatment of mental or nervous diseases.

THE WORLD'S LATEST LITERATURE

Journal of the American Medical Association.

July 4, 1903. [Vol. XLI, No. 1.]

1. The Boy's Venereal Peril. FERD. C. VALENTINE.
2. Fat Necrosis of the Kidney. JAMES R. GUTHRIE.
3. Surgical Treatment of Nephritis. ALEXANDER HUGH FERGUSON.
4. Evolution of the Mammalian Straight Gut, with Special Reference to Peritoneal Changes Incident to Rotation. W. T. ECKLEY.
5. Pityriasis Rosea: An Erythematous Eruption of Internal Organs. LUDWIG WEISS.
6. Influenza in Children. WM. CARVER WILLIAMS.
7. The Treatment of Scarlet Fever, Its Complications and Sequels. H. M. MCCLANAHAN.
8. Tetanus Prophylaxis and Suspected Wounds. JOSEPH MCFARLAND.

1.—See *American Medicine*, Vol. V, No. 20, p. 770.

2, 3.—See *American Medicine*, Vol. V, No. 20, p. 773.

4.—See *American Medicine*, Vol. V, No. 21, p. 820.

5.—See *American Medicine*, Vol. V, No. 23, p. 904.

6.—See *American Medicine*, Vol. V, No. 22, p. 861.

7.—See *American Medicine*, Vol. V, No. 23, p. 903.

8.—Tetanus Prophylaxis.—J. McFarland reports the results of observations on over 800 horses in an antitoxin factory, the stables being badly infected with tetanus, the deathrate from this reaching 10%. The first year that systematic immunization with antitetanic serum was practised, mortality sank to 1%, and in the second year to less than 1%. The practical conclusion is that in all suspicious wounds antitoxin should be given as a prophylactic. The objections are that it is expensive, does not keep indefinitely, and injections are painful. These objections are obviated by dusting dry serum on the wound surfaces. The dry serum preserves its activity indefinitely; it can be conveniently sprinkled from the bottle in which it is dispensed, requiring no instrument; it does not irritate, and has the double advantage of neutralizing the toxin as it is elaborated in the wound, and of being absorbed into the patient's blood, where it remains to neutralize any toxin subsequently formed and absorbed. The writer has demonstrated its value by a series of laboratory experiments. [H.M.]

Boston Medical and Surgical Journal.

July 2, 1903. [Vol. CXLIX, No. 1.]

1. Surgical Tuberculosis. HERBERT L. BURRELL.
2. The Clinical Associations and Significance of the Cardiopulmonary Murmur. JAMES J. PUTNAM.
3. Nasal Polypi: A Study of 147 Cases. J. PAYSON CLARK.

1.—Surgical Tuberculosis.—H. L. Burrell, after a thorough discussion of the subject, in which special attention is directed to (1) the defects in modern hospital construction; and (2) the benefits of open-air treatment to cases of surgical tuberculosis, as evidenced in reported orthopedic and genitourinary cases so treated, concludes as follows: The prime essentials for the treatment of tuberculosis are physiologic rest, outdoor treatment and ample nutrition to the patient. Whether the tuberculous area is in the lung, in a joint, in a lymph node or in the intestines is a detail. Where it is possible, the tuberculous area should be excised, especially if it threatens to invade vital structures; combined with the removal of the tuberculous foci, patients should be treated by physiologic rest, fresh air and sunlight. The excision of a small area from the hip-joint, while it may give a brilliant immediate surgical result as to first intention and a cure, mutilates the patient. On the other hand, by the recognition of physiologic rest and outdoor treatment, such patients may be efficiently treated, and life and

limb saved. In the modern construction of hospitals we do not sufficiently recognize the necessity for a maximum of sunlight and air; provision is not made to allow patients in their beds to be moved out on to verandas, that they may be in the air and properly protected. [A.B.C.]

2.—The Cardiopulmonary Murmur.—J. J. Putnam has been impressed with the relative frequency of this murmur in young and middle-aged male neuropathics and asthenics, who were often spare in build, longchested, and usually with rather weak muscular systems, and elastic chest walls. Most functional murmurs are due to defective coordination, defective action, impaired nutrition and relaxation of the cardiac and arterial muscles. Cardiopulmonary murmurs are due to muscular relaxation from disturbed innervation. They are accentuated sometimes by excitement attending examination of the heart and may disappear before the examination is over. The cardiopulmonary may be distinguished from other functional murmurs by disappearing at the end of forced expiration and by its relationship to cog-wheel respiration, inspiration being rhythmically broken by the heart-beats in consequence of displacement of air attending the propulsion of blood through and out of the chest. It is rare in women. It may be classed as one of the neuropathic stigmas, while neither always present nor always implying a neuropathic constitution. [H.M.]

3.—Nasal Polyps.—J. P. Clark has studied 147 cases, and bases his paper upon such studies. The etiology of polyps is obscure. As to the pathology, he quotes Wright, who says: "While the amount of fibrous tissue varies between *nil* and a condition which might well be given the name of fibroma, the vast majority of polyps consist simply of the normal amount of areolar tissue infiltrated and stretched with serous exudate." Symptoms, sequels, prognosis, and treatment are discussed. The latter, of course, is removal, the cold wire snare being the instrument of choice. The points to which special attention is directed are: (1) The question of a previous injury to the nose is to be considered in the etiology of polyps; (2) probably only a small proportion of cases are caused by sinus disease (usually ethmoiditis); (3) a local vasomotor disturbance, which may be of constitutional origin, stands in a causative relation to polyps in a certain proportion of cases; (4) the removal of the whole middle turbinate will be found necessary in many cases where the growths are diffuse; (5) many patients with nasal polyps can be cured if they will return for treatment as instructed. [A.B.C.]

Medical Record.

July 4, 1903. [Vol. 64, No. 1.]

1. Arterial Sclerosis as a Cause of Nervous Disease. M. ALLEN STARR.
2. The Anatomy of Portal Anastomosis. ROLFE FLOYD.
3. Synopsis of Experiments on the Transformation of Circulating Uric Acid in the Organism of Man and Animals. ALFRED C. CROFTAN.
4. How May We Cure Posterior Displacement of the Uterus? AUGUSTIN H. GOELET.
5. Tent Life for Consumptives. J. EDWARD STUBBERT.

1.—Arterial Sclerosis as a Cause of Nervous Disease.—M. A. Starr calls attention to the relation of hemiplegia in childhood and infancy to vascular disease. Obliterating endarteritis may be due to inherited syphilis. A study of 200 cases of apoplexy shows a previous history of symptoms usually designated as neurasthenic, such as dulness and hebetude, difficulty in clear thinking and remembering, irritability, and lack of emotional control, temporary numbness, irregular darting pains through the head, tinnitus, sudden dimness of vision, and vertigo. These are due to malnutrition of the neurones consequent upon arterial disease. The majority of diseases of the spinal cord are equally traceable to disease in the vessel wall. Anterior poliomyelitis, bulbar paralysis and ophthalmoplegia may be either of infectious origin or due to rupture or thrombosis of a spinal vessel. Myelitis, spastic paralysis, senile paraplegia, and combined sclerosis are due to vascular changes. Diseases of peripheral nerves are also occasionally due to endarteritis in accompanying vessels, causing rupture and hemorrhage. Spinal neurasthenia may be due to the same cause, also various forms of neuralgia. Treatment must aim at establishing an equable circulation. Pulse tension may vary from high to low. High tension may be due to temporary arrest of thyroid secretion, and be relieved by the extract. Its administration may abort migraine, and in chronic high tension it is preferable to nitroglycerin. The nurse or the patient should be instructed in detecting variations in tension so as to know when the remedy is needed. [H.M.]

2.—Anatomy of the Portal Anastomosis.—R. Floyd describes briefly: (1) The liver circulation in the fetus at term; (2) changes in the hepatic circulation at birth; (3) the sites of anastomosis between the portal and systemic veins in the adult. The article deals purely with the anatomy and the physiologic changes which occur at birth. It is accompanied by several illustrations which aid materially in comprehending the subject matter. [A.B.C.]

3.—The Transformation of Circulating Uric Acid.—A. C. Croftan discusses normal destruction of uric acid in the body. Experiments with desanguinated and powdered tissues show that in carnivora the uric-acid destroying power of the liver is very great and that of the kidneys small, and in herbivora the reverse is the case. In omnivora both liver and kidneys destroy much; in human subjects the kidneys possess greater power than the liver. In all species the muscles destroy considerable uric acid. The destruction seems to be a process of oxidation. The laboratory agent used consists of three substances, a nucleoproteid with the power to dissociate peroxid of hydrogen, an albumose, and certain salts to hold the nucleoproteid in solution. The specific agent is apparently the albumose. This probably loosens the affinities of the uric acid molecule, the nucleoproteid acting as the oxygen carrier. The products outside the body are urea and oxalic acid, with allantoin as an intermediary product. On account of the small quantities of urea and oxalic acid found in human tissues we must assume that uric acid is converted into still other bodies. The function is carried on by unorganized soluble ferments that the organs secrete. That the kidneys destroy uric acid proves there is more circulating than is indicated by the urinary uric acid excretion. These experiments favor the renal theory of gout. Including relative bulk muscles destroy more uric acid than any other tissue. This explains why exercise relieves uratic symptoms. Salicylates and alkalies accelerate the liberation of oxygen from nucleoproteids. [H.M.]

4.—Posterior Displacements of the Uterus.—A. H. Goelet thinks that the most frequent errors in the treatment of posterior displacements of the uterus arise from a misconception of the causes of the displacements. The chief uterine supports are the broad, the round, and the uterosacral ligaments; also the integrity of the pelvic floor and of the vaginal walls is very essential to a correct position of the uterus. Both in the nonsurgical and the surgical treatment of these displacements, the importance of the uterosacral ligaments is constantly lost sight of. For instance, when the ordinary retroversion pessary is introduced into the vagina to rectify a retroversion of the uterus, if it corrects the displacement it stretches and still further lengthens these ligaments, and therefore tends to retard rather than facilitate a cure. Also when the round ligaments are shortened with the intention of curing a retroversion, it fails because the loss of support of the uterosacral ligaments is not taken into account and is not remedied, and the uterus sags down in the pelvis though its fundus may be held forward by the shortened round ligaments. Retroflexions of not too long standing and not adherent may sometimes be cured by instituting, as an initial step, dilation of the canal with curetage of the uterus, and then introducing a drainage stem to straighten and change the condition of the uterine walls, which maintain the posterior inclination of the fundus, followed by proper use of tampons and pessary. But when the retroflexed uterus is also retroverted, the best plan after overcoming the flexion is to shorten the uterosacral ligaments, or in extreme cases ventral suspension may be required. Shortening the round ligaments is appropriate only in uncomplicated retroflexion, but the abdomen should not be opened for this operation. If the retroverted uterus is also prolapsed and there is a cystocele, a cure is most certainly obtained by ventral suspension, not ventral fixation, a procedure which should be condemned. In Goelet's experience this operation has not proved a barrier to pregnancy or labor. When properly done the result is not a uterus fixed immovably to the abdominal wall, but it swings in an easy, anterior position, and occupies very much the same

position as when the round ligaments have been shortened He has had several cases complete labor at term within a year after operation without complication. [W.K.]

5.—See *American Medicine*, Vol. V, No. 25, p. 982.

New York Medical Journal.

June 27, 1903. [Vol. LXXVII, No. 26.]

1. Gonorrhea Insontium, Especially in Relation to Marriage. PRINCE A. MORROW.
2. State Care of the Feeble-minded. MARTIN W. BARR.
3. Interstitial or Tubouterine Gestation Complicating Uterine Pregnancy: Abortion of Both Fetuses Three Weeks Apart. J. B. MORRISON.
4. The Ignition of Ether Vapor in Presence of a Closed Electric Light. DWIGHT H. MURRAY.
5. Pertussis with Unusual Cerebral Symptoms. EDWIN E. GRAHAM.
6. The Application of Hospital Methods for the Prevention and Treatment of Puerperal Sepsis to Private Practice. WILLIAM S. STONE.
7. Prophylactic Injections of Tetanus Antitoxin in Cases of Wounds from Toy Pistols. FIELDING LEWIS TAYLOR.

2.—State Care of the Feeble-minded.—M. W. Barr shows the necessity of care and protection from the State of the insane, the defective and the criminal. An earnest plea is made for more adequate provision for members of the second class especially. Typical training schools should be established with a variety of school material, room and ample space. A pernicious element will thus be drawn from society and its increase prevented; deadened senses will be awakened and an aim given to aimless lives. [C.A.O.]

3.—Tubouterine Gestation.—J. B. Morrison reports a case of interstitial gestation complicating a normal pregnancy. The patient, a woman of 33, had a miscarriage. The specimen appeared to have reached a development of eight weeks. Examination at this time revealed a mass on the right side of the uterus and directly continuous with it which was then thought to be a fibroid or an old inflammatory trouble. Fifteen days later the patient began to have chills, fever, and a scant foul discharge. Curetment was done, and following this were successive chills, remissions of fever, coated tongue, dry skin, rigid abdominal walls, abdominal and vaginal tenderness, and the patient's condition finally bordering on delirium, all pointed to a rapidly extending septic peritonitis. Ice was applied to the abdomen. On the fourth day the patient had a profuse uterine hemorrhage, and an examination showed that the mass had diminished in size and a second fetus had been expelled into the vagina. The uterus was again thoroughly cleansed, and a digital examination showed that the walls of the uterine cavity were smooth but on the right side the finger passed readily into a cavity a little larger than an egg, about the edges of which pieces of tissue appeared to be adherent. On the floor of the cavity the placenta could be felt. Morrison believes that the thin wall which separated the cavity of the uterus from the fetation was either perforated or considerably weakened during curetment, and that internal pressure, as development progressed, and the contraction of the uterus had caused the rupture. [C.A.O.]

4.—Ether Vapor and Electric Lights.—D. H. Murray states that while he was operating the ether vapor had ignited from the spark in the electric light burner. The blaze resulted coincidently with the turning on of the light. No serious damage resulted. [C.A.O.]

5.—Pertussis with Unusual Cerebral Symptoms.—The chart showing the peculiar range of temperature in Graham's case of pertussis, reported in the issue for June 20, is shown in this issue. [C.A.O.]

6.—The application of hospital methods for the prevention and treatment of puerperal sepsis to private practice is discussed by W. S. Stone. Statistics are reported to show that for the last two years the mortality of New York City in general from puerperal infection was about .27%. The report of the outdoor service of the Lying-in Hospital, published in 1897, shows that the mortality from puerperal infection was about .14%. The author maintains that the essential methods of procedure in obstetric technic are as completely applicable at the patient's home as in the best equipped hospital. No antepartum douches are given, except there is present, for example, a purulent discharge, in order to protect the baby's eyes from gonorrheal infection; not, however, as curative, because the seat of the infection is in the cervical mucosa. The attendant's hands and the patient's external genitals must be very carefully sterilized. No postpartum douches are given unless there is some special indication. The writer believes that by the general use of gloves the morbidity from puerperal infection can be reduced at least one-half. [C.A.O.]

7.—The Prophylaxis of Tetanus.—F. L. Taylor advocates the injection of 10 cc. of tetanus antitoxin as a prophylactic measure in cases of suspicious wounds, that is, contused irregular wounds, soiled with earth or foreign matter. In addition he has caused such wounds to be freely and deeply incised and cureted and then to be swabbed out with pure carbolic, its action being limited with alcohol when deemed advisable. [C.A.O.]

8.—Surgery of the Prostate.—Granville MacGowan discusses the surgery of the prostate from the standpoint of personal experience. He has operated on 49 individuals, ranging in ages from 49 to 80 years, for enlarged prostate with retention and catheter life, by what is known as total prostatectomy. Of these 28 were perineal operations. Twenty-one were suprapubic. Of those operated on through the perineum there were 4 who died. Two of these, the youngest, were aged 47 and 49 years, respectively, and had carcinoma of the prostate. One of these had also an impassable stricture, requiring perineal section without a guide. Of the suprapubic cases 5 deaths are reported. The author says that in the majority of the 49 prostatectomies and 29 Bottini operations which have been performed by him the results have been ultimately good. In a few they were almost perfect. None were positive failures. In all, the general conditions of the patients were improved. All of the operations were done on persons who had been leading a catheter life at the time of the operation. Of the operation of prostatotomy by the Bottini method the author says that he believes it possesses a very real surgical value. There are certain cases of prostatic obstruction in which it is to be preferred and will give better results than any cutting operation. The patient should be given the benefit of the Bottini operation in cases in which he will not submit to a prostatectomy. [C.A.O.]

Medical News.

July 4, 1903. [Vol. 83, No. 1.]

1. The Struggle of the Body Against Tuberculosis and its Immunization. PROF. EDOARDO MARAGLIANO.
2. Tuberculosis in the Tenements; a New Use for Fire Escapes. ALFRED MEYER.
3. Societies for the Prevention of the Spread of Tuberculosis. The Necessity of Such Organizations and the Work to be Accomplished by Them. F. M. POTTENGER.
4. The Sanatorium Treatment of Tuberculosis. HERBERT MAXON KING.
5. Tuberculosis of the Middle Ear, with the Report of a Case. Z. L. LEONARD.
6. The Present Status of Some of the Problems of Tuberculosis. JOHN L. HEFFRON.

1.—Tuberculosis and Immunization.—E. Maragliano deals with natural and artificial means of creating immunity. There is no absolute immunity against large quantities of virulent culture. Having perfected a toxin containing 100 toxic units to the cc., that is, which would kill a guineapig weighing 100 grams, he experimented with various serums, finding that the human serum stands highest in antitoxic power. Several of these serums prevent the development of bacilli in cultures. The most powerful are those of man, the pig, and the calf. The tubercle bacilli may be cultivated with ease in the serum of the guineapig. The former serums agglutinate cultures. This also is the expression of an immunizing process. The introduction of bacteria stimulates the development of these bactericidal agencies. The agglutinating power is stronger in serum of animals inoculated with tuberculous poisons than in those treated with the bodies of bacilli. The serum of individuals weakened by illness, fatigue, or insufficient food is not up to the standard. Ten bacilli can produce generalized tuberculosis in some subjects, while 500 in others are without effect. Alcohol augments the defensive power. Hygienic environment is necessary to stem the tide of infection. He reports cures lasting for 10 years, reinfection being prevented by repeated serum injections at intervals. Defensive material may be absorbed from the stomach. Vaccination against tuberculosis must be

sought after. Healed tuberculous foci are usually accompanied by immunization. Maragliano claims to have produced a noninfectious material which will cause a tuberculous phlegmon when inoculated under the skin. [H.M.]

2.—Tuberculosis and Fire Escapes.—A. Meyer calls attention to the possibility of open-air treatment in tenement houses by this means, fire escapes being preferable to the roof, because sheltered from the wind, and easily protected from the rain, and free from gas and smoke from the chimneys. The statute forbidding the placing of an encumbrance on them is more honored in the breach than the observance, since they are in this way being used as a life-saving contrivance. [H.M.]

3.—Societies for the Prevention of Tuberculosis.—F. M. Pottenger reviews organized efforts against tuberculosis in foreign countries and in parts of the United States. The problem in southern California is largely due to those who come from without. The work of a society lies in educating the public, promoting sanitary legislation, and caring for the afflicted poor. [H.M.]

4.—Sanatorium Treatment of Tuberculosis.—H. M. King emphasizes the importance of selecting the cases for sanatorium treatment, some patients being better off in their homes. Sanatoriums should be located at an elevation between 1,000 and 5,000 feet. Sunshine is important, but it is remarkable that sanatorium patients make their greatest gains in months in which there are the most cloudy days. Rest, as a rule, is preferable to exercise, and a generous diet is better than forced feeding. There should be an additional physician for every 30 patients, and the nurses should be selected with regard to special fitness. Willing cooperation of the patient is a most important factor in the result. [H.M.]

5.—Tuberculosis of the Middle Ear.—Z. L. Leonard notes that this may be either primary or secondary. On account of its insidious approach it is often overlooked. Diagnosis is by exclusion. Grayish spots in the membrana tympani before rupture, multiple perforations, the rapidity with which the bone yields to disintegration and the absence of pain are indications. The aspect of the perforation is diagnostic. As a rule, there are two which soon run together. The edges are everted and bluish white. The treatment is antiseptic, stimulating and astringent. [H.M.]

CLINICAL MEDICINE

DAVID RIESMAN A. O. J. KELLY

REVIEW OF LITERATURE

Demonstrated Spontaneous Healing of Tuberculous Peritonitis.—O. Borchgrevink[1] reports the case of a girl of 16, who had passed through an attack of pericarditis, from which she recovered very slowly. Shortly after this she developed an abdominal effusion; she was tapped, 11 liters of a yellowish-green fluid being drained off. The effusion reaccumulated rapidly, but later disappeared completely without any special treatment. The tuberculous character of the fluid was demonstrated by inoculation of two guineapigs, both of which died of general tuberculosis. Several years after the patient died suddenly after a short illness. The autopsy revealed a tuberculous pleurisy and pericarditis; both of these were probably secondary to a tuberculous lymphatic gland in the neighborhood; there was a typical chronic peritonitis, but at no place in the abdominal cavity could any tubercles be found either by macroscopic or microscopic examination. The only signs of a previous tuberculosis of the peritoneal cavity were the thickened peritoneum and the dense adhesions. A few tubercles were found in the tubes and the uterus. This case teaches us that tubercles developing on serous membrane may disappear completely, and that tuberculous peritonitis may heal spontaneously at times, and without laparotomy or other operative interference. [E.L.]

Artificial Impregnation.—T. T. Iwanoff,[2] in a preliminary communication, publishes an interesting account of his experiments on artificial impregnation in animals. Various mammals served as subjects of his investigations (guineapigs, rabbits, dogs, horses, cows). The semen was either employed in its natural medium—that is, mixed with the secretions of the different sexual glands, or in an artificial medium (physiologic saline solution, etc.). Highly encouraging results were obtained. The young animals born after artificial impregnation showed no deviation from the normal; many of them bore an unmistakable resemblance to their "father." Reserving many details for a future publication, the author gives expression to most sanguine expectations from his methods in the art of breeding animals. [L.J.]

Urotropin as a Preventive of Typhoid Bacilluria.—E. Fuchs[1] has found typhoid bacilli in 16% of typhoid fever cases not treated by urotropin. Of 40 cases to whom this drug was administered, only one showed bacilluria, and in this case the administration of urotropin was probably started too late. The drug must be given early in the disease, before the typhoid bacilli gain access to the urinary organs. Otherwise the organisms will remain latent in the bladder or kidneys during administration of the drug, and will resume their activity after it is withdrawn. [B.K.]

The Pathology and Treatment of Asthmas.—M. Sihle,[2] after considering the nature and pathology of asthma at some length, concludes that it is a neurosis in the organs of respiration and circulation. There are four important series of symptoms: 1. Hypertonia of the involuntary muscles of the bronchial system. 2. Hypotonia of the bloodvessels and heart. 3. Increased bronchial secretion due to nervous influences. 4. Hyperemia of the entire respiratory mucous membrane. These four series of symptoms may be produced by irritants acting on the peripheral nervous system, the circulatory system, and the brain cortex. Asthma may, therefore, be subdivided into the periphergenic, the hematogenic and the psychogenic types. The attacks are best subdued by the use of the following drugs: Morphin and its derivatives, digitalis, potassium iodid, atropin, arsenic. He uses a combination of digitalis, heroin, and potassium iodid, and in most cases with marked success. Between the attacks he attempts to remove all irritants, gives tonics, advises a system of hardening and pulmonary gymnastics. He considers suggestive treatment as of considerable value in some cases, and finishes his paper with the report of a typical case cured entirely by suggestion. [E.L.]

The Prevention of Syphilis.—M. T. Pokrowskaja[3] advises the following measures in the struggle with syphilis. 1. It is necessary to dissociate syphilis from prostitution and institute a war with the disease among all classes of the population. Prostitution is only one phase of the evil. 2. Medical control of prostitutes does not accomplish its original purpose, and should be abandoned as harboring numerous abuses. 3. Open and secret trading of women requires energetic suppression. 4. The existence of professional secrecy in regard to syphilis must be considered anachronistic, since the disease is now well known to be often communicated extragenitally. 5. Compulsory hospital treatment of diseased prostitutes, soldiers, workmen, etc., is advisable. 6. Physicians should be compelled to furnish the same statistical information in regard to syphilis as is required in other contagious diseases. 7. The adoption of thoroughly sanitary procedures will go further toward extinguishing syphilis than all former police regulations. [L.J.]

Sprengel's Deformity, with Partial Absence of the Trapezius and Floating Kidney in a Boy of 12.—C. Hödlmoser[4] reports the case of a boy of 12, whose left scapula was higher than his right, on account of partial absence of the trapezius and spastic contraction of the remainder of the neck muscles of the same side. This condition was not the result of disease, but rather of faulty development, being noted shortly after birth. A floating kidney on his right side is likely congenital. It is different, however, with a spastic paralysis of both lower extremities. This could not be traced back further than an attack of measles which he had two years before. The tendency to this, however, most likely already existed at birth. [E.L.]

[1] Deutsche medicinische Wochenschrift, January 15, 1903.
[2] Russki Vratch, March 22, 1903.

[1] Deut. Arch. für klin. Med., Bd 76, p. 24.
[2] Wiener klinische Wochenschrift, January 22, 1903.
[3] Russki Vratch, March 8 and 22, 1903.
[4] Wiener klinische Wochenschrift, December 25, 1902.

GENERAL SURGERY

MARTIN B. TINKER
A. B. CRAIG C. A. ORR

EDITORIAL COMMENT

Modern Herniotomy.—That a single surgeon is able to report more than 1,000 operations for hernia, done within the space of eleven years, is remarkable. In a paper in which he reports 1,003 herniotomies William B. Coley[1] states that the mortality from operation for the radical cure of inguinal hernia was, prior to 1890, about 6%. Counting recent cases not computed in his tables his total number is 1,075, among which there were but two deaths, or a mortality of less than ⅛ of 1%. Among the last 500 patients operated upon there was no death. Goldner[2] reports that in the Vienna clinic there were but three deaths in 804 herniotomies; at the Johns Hopkins Hospital there was but one death from 459 such operations; and in Carle's clinic, in Rome, there were two deaths in over 1,400 radical cures. So much for the comparative safety of the procedure in competent hands. About 700 of Coley's cases were among persons under 20 years of age, the greater number being among children. He states that contrary to general belief operation for inguinal hernia in the child is more difficult than in the adult, but when properly performed and with intelligent after-care the results are equally as good as in patients of mature years. Prior to 1890 his operations by the Czerny and Socin methods, performed on children with inguinal hernia, showed a recurrence of 50% during the first year. In 917 operations by the Bassini method, which for inguinal hernia is now employed almost exclusively, there were 10 relapses. Bassini's method for femoral hernia was employed in 16 cases of that variety, with one recurrence; and the pursestring method was employed in 50 cases without a relapse. Including operations for both inguinal and femoral it was found in a large series of relapses that about 80% occur during the first year and 65% during the first six months. The relapses in 705 cases of both inguinal and femoral whose histories could be followed amounted to 2.4%. In the entire series of 1,003 cases there were 937 inguinal (14 being direct), of which 756 occurred in males and 181 in females, and 66 femoral. Coley believes most of the cases of wound infection formerly thought to be due to improperly sterilized suture material are, in fact, due to the septic hands of the operator or his assistant. This has been proved by the use of rubber gloves. Prior to their employment in his service the suppurative cases amounted to 4.2%; since their introduction the number has fallen to 1¼%. A synopsis of the technic in a series so large and favorable cannot but be of interest. The slight modifications in Bassini's method consist in the substitution of absorbable kangaroo tendon for deep sutures in lieu of silk; and the placing of a suture above the emergence of the cord, *i. e.*, the cord near the internal ring emerges between two interrupted sutures, which unite the internal oblique to Poupart's ligament. Both of these points Coley esteems of importance. The aponeurosis of the external oblique muscle is closed with continuous kangaroo suture and the skin with catgut. A plaster spica is used in children under 14 years of age. The wound is dressed on the seventh day and the patient is kept in bed for two weeks. A spica bandage is applied for a month, after which time no support is worn. Children under 4 years are usually not operated upon unless the hernia is strangulated, because about two-thirds of such cases can be cured by the judicious use of a truss. The paper in question is a valuable contribution to one of the most important subjects in surgery. The lessons which it teaches are that, given a proper technic and careful after-treatment, herniotomy presents a mortality which is almost *nil;* that recurrence in both children and adults should be very rare; and that suppuration following operation can, with properly sterilized suture material, be almost entirely avoided by the use of rubber gloves.

[1] Annals of Surgery, June, 1903.
[2] Archiv für klin. Chir. Band lxviii, Heft 1, 1902.

REVIEW OF LITERATURE

Excision of the Tongue for Cancer.—W. Whitehead[1] has excised the tongue in 116 cases with but 3 deaths, these results tending to show that the tongue may be completely removed without any external incision, preliminary ligature of the lingual arteries, or a previous tracheotomy. He considers seriatim the four chief deviations suggested by surgical authorities in the removal of the tongue division of the jaw, use of the ecraseur, preliminary tracheotomy, and preliminary ligation of the lingual arteries. The first he believes unjustifiable and the ecraseur should be abolished from the list of recognized surgical instruments. The air passages can be guarded against the entrance of blood and septic matter which makes useless a preliminary tracheotomy. In addition there is a greater mortality following ordinary tracheotomy than need result from excision of the tongue. Preliminary ligation of the linguals is unnecessary, and for the the average surgeon it is much easier to secure the vessels in the mouth. To secure the best advantages no operating-table can be compared with an ordinary high-backed rocking chair. In this the patient, when properly secured, can be placed in any position desired at a moment's notice. A number of cuts are given to illustrate this point. The technic of the operation is detailed. Whitehead's confidence in the success of lingual surgery in cases of cancer distinctly increases with extended experience. [A.G.E.]

Cholelithiasis and Pancreatic Diseases.—Diseases of the biliary tract and pancreas are frequently interdependent, due to the fact that Vater's diverticulum is also the outlet of the duct of Wirsung. Its diameter at the point where it terminates in the duodenum is but 1 mm., so that gallstones of 3 mm. diameter will cause its obstruction and set up pathologic processes in the two organs. Fuchs[2] reports a case in which a pancreatic abscess followed such an obstruction; this in its turn completely compressed the common duct, producing jaundice, edema, epigastric tenderness, vomiting, etc. After removal of the stone and drainage of the abscess, the patient recovered. After discussing the symptoms and differential diagnosis of this case, he reviews the etiology of other pancreatic affections. He has collected 23 cases of acute hemorrhagic pancreatitis, in which the beginning of the disease was traced to gallstones obstructing the duct of Wirsung, and refers to Opie's experiments, who produced hemorrhagic pancreatitis by injecting bile into the pancreatic duct of dogs. Cholelithiasis is also the most frequent cause of suppurative and necrotic pancreatitis. Chronic interstitial pancreatitis has as its cause, in addition to extension of inflammation from the biliary passages, alcohol, syphilis, arteriosclerosis, etc. He has been able to find 16 cases in which cholelithiasis was combined with pancreatic stones. Fuchs is of the opinion that the pancreatic stones were secondary to the gallstones, and that cholelithiasis plays a very important role in the disease of the pancreas. Most likely many of the lighter socalled gastroduodenal catarrhs are in reality pancreatic congestions and inflammations, the result of gallstone obstruction. [E.L.]

[1] The Practitioner, May, 1903.
[2] Deutsche medicinische Wochenschrift, November 13, 1902.

GYNECOLOGY AND OBSTETRICS

WILMER KRUSEN FRANK C. HAMMOND

REVIEW OF LITERATURE

Adenomyoma of the Uterus.—H. Futh[3] reports a case of adenomyoma of the posterior wall of the uterus successfully removed, the patient leaving the hospital 45 days after the operation again able to return to her work. In spite of the extensive infiltrations the histologic forms were not malignant, yet the clinical symptoms and course of the operation led him to

[3] Zentralblatt für Gynäkologie, May 30, 1903.

consider it malignant. This peculiarity of malignancy is often observed in adenomyomas. When the patient left the hospital there were perceptible hard infiltrations in the vaginal and pelvic walls, yet she was able to work and suffered no pain. [W.K.]

Autointoxication as Cause of Hyperemesis of Pregnancy.—Eduard Dirmoser[1] reports a case in which the intestinal contents contained a poison so toxic that animals died three hours after its administration. Experiments made with the fresh placenta did not reveal the presence of any poison. [J.H.W.R.]

The Question of Real and Illusory Extrauterine Pregnancy.—Karl Kober[2] gives statistics from the clinics of Breslau and Geissen, showing that of 75 cases diagnosticated as extrauterine pregnancy, in only 2 was it necessary to change the diagnosis, the examination of tube and hematocele showing no products of conception. Schambacher gives a series of 14 cases of retrouterine hematocele, in 4 of which ectopic gestation must be excluded. In general, however, Kober considers the existence of a hematocele warrants the diagnosis of ectopic gestation. The histologic examination is naturally important in the absence of any macroscopic evidence of pregnancy, but this evidence is often very difficult to find because of the impossibility of examining all the tissues under consideration; and it is fortunate when some striking proof of pregnancy is present. [W.K.]

TREATMENT

SOLOMON SOLIS COHEN
H. C. WOOD, JR. L. F. APPLEMAN

EDITORIAL COMMENT

Theocin, a New Synthetic Diuretic.—Reference has from time to time been made in these columns to the new synthetic alkaloid theocin, socalled to distinguish it from the natural theophyllin, with which its composition seems to be identical. It is beyond question one of the most useful of diuretic drugs, producing its effect rapidly and without notable renal irritation, even in cases of subacute nephritis of infectious origin; and seeming to be specially useful in cases of anasarca from chronic nephritis with secondary cardiac weakness. In one case of the latter class, 10 grains daily were given for two days, and 204 ounces of urine passed in that time; the previous excretion having been about 25 ounces daily. In one case (convalescence from typhoid fever) the drug seemed to cause headache, and in another (chronic mixed nephritis) gastric irritability was attributed to it both by the patient and by the resident physician who was observing its action. The diuresis produced by theocin, though prompt and profuse, is not long continued. Either tolerance is quickly established or the power of the secreting structures is in a measure exhausted. Its use, therefore, from present indications would appear to be as a measure of emergency, to be substituted as soon as the desired result is obtained by spartein or infusion of digitalis in cardiac cases, or by strontium lactate or Basham's mixture in kidney cases. The dosage also needs to be regulated carefully; 4 grains (0.25 gram) should be the tentative dose for an adult, to be given but twice on the first day of administration, future doses to be guided by the results in the special case.

REVIEW OF LITERATURE

Carbolic Acid Poisoning from its External Use.—Raubenheimer[3] reports a case of carbolic acid poisoning brought about by wrapping the legs of a child (preparatory to operating for genu valgum) in towels soaked in a 1 to 40 solution. The symptoms were sleep, deepening to coma, dilated pupils, cyanosis and feeble pulse carbolluria. The patient recovered under stimulants. [H.C.W.]

[1] Wiener klinische Wochenschrift, 1903, page 405.
[2] Zentralblatt für Gynäkologie, May 30, 1903.
[3] British Medical Journal, May 16, 1903, p. 1145.

Value of Epicarin in Tinea Tonsurans and Tinea Circinata.—A. Van Harlingen and H. K. Dillard[1] tabulate 31 cases in which epicarin was employed. Their conclusions are: (1) In epicarin we have an important addition to the means of combating ringworm of the scalp. Used, preferably, in the form of a tincture of 10% to 20% strength and after epilation it appears to act more rapidly than any of the remedies heretofore employed in restoring the hair to a normal condition; (2) in ringworm of the body the tincture seems to be irritating and slow in action. The ointment acts better, but it is not equal to the ammoniated mercury ointment, nor to most of the remedies ordinarily employed; (3) in (a single case of) favus the result of the use of epicarin was such as to encourage trial; (4) in scabies, epicarin in the form of the tincture and simple ointment is apt to prove very irritating, and is by no means equal to the sulfur and naphtol nor to the other ointments ordinarily employed. [A.G.E.]

The Action of Cotoin and Fortoin on the Intestinal Canal.—Cotoin is obtained from the plant, Cortex coto, and fortoin is a formaldehyd combination of cotoin. R. Karb[2] has experimented with these drugs, both on animals and clinically. He comes to the conclusion that cotoin checks some diarrheas by a bactericidal action, but that the drug does not affect all organisms. Fortoin was found to have no effect whatever. Cotoin gave most favorable results in typhoid fever and acute enteritis, but seemed to have no effect in tuberculous diarrhea. The dose is 1 to 3 grains daily, and no unfavorable results have followed even its protracted use. [B.K.]

ORTHOPEDIC SURGERY

H. AUGUSTUS WILSON

EDITORIAL COMMENT

Priority in Tendon Splicing.—Independent discoveries of surgical procedures are often made which are subsequently shown to have been antedated which does not take away from the element of originality of those who worked out the problems, but credit should be given to the one who first reached the goal. In no field does this apply more than in tendon splicing, and an effort is now made to establish chronologically the time when the principal plan was first used and when first published.

1888.—Dr. J. Neely Rhoads, of Philadelphia, suggested to several surgeons "the plan of lengthening contracted tendons by cutting transversely half through the tendon, then longitudinally to any desired extent, and finally finishing the division by cutting through the remaining half of the tendon on the side opposite that on which the original transverse incision was made, and at a point longitudinally removed from it. The desired lengthening of the tendon could thus be accurately determined and limited by allowing the severed longitudinal halves to slip on each other so far as wished, and these could then by sutures be fixed in position until healing took place." When only a slight amount of lengthening is desired, the following modification was also suggested by Dr. Rhoads: "Transverse incisions are made half through and on opposite sides of the tendon, but not exactly opposite each other, leaving without complete division certain longitudinal fibers in the center to slip on each other, and thus gaining a slight addition to the entire length of the tendon." The death from typhoid fever of the patient upon whom Dr. Rhoads proposed to perform the operation of tendon lengthening prevented him also from then publishing the method, but the credit of originality appears to be due him.—(*Medical News*, November 28, 1891.)

[1] American Journal of the Medical Sciences, June, 1903.
[2] Deut. Arch. für klin. Med., Bd. 76, p. 30.

1889, October 18.—William Anderson, of London, performed his first operation of tendon splicing.

1890, November 29.—Dr. W. W. Keen, of Philadelphia, performed his first operation of tendon splicing.

1891, March 4.—Dr. W. W. Keen read before the College of Physicians of Philadelphia a paper entitled "A New Method of Tenotomy, by Which the Tendons are Lengthened to a Definite Extent, Instead of the Present Haphazard Method." In the opening paragraph of this paper Dr. Keen very gracefully attributes the suggestion of the method as follows: "I owe the suggestion, which I believe I carried out for the first time anywhere, to the fertile mind of my friend, Dr. S. Weir Mitchell, who has adorned every department of medicine which he has touched."

1891, June 10.—William Anderson's paper read before the College of Physicians, London, "Contractions of the Fingers and Toes: Their Varieties, Pathology, and Treatment."

1891, July 18.—William Anderson's paper was published in the *Lancet*.

1891, November 21.—The *Lancet* published the following letters:

LENGTHENING TENDONS IN DEFORMITIES OF THE HAND.

To the Editors of the Lancet.

SIRS: In my second Hunterian lecture at the Royal College of Surgeons, delivered on June 10 last, and published in the *Lancet* of July 18, I described a new method of lengthening tendons, and recorded a case of contraction of the fingers, in which it had been successfully employed by me at St. Thomas' Hospital, in October, 1889. A few weeks ago Professor Keen, of Philadelphia, with whom I had the pleasure of a correspondence on the subject of hand deformities, favored me with a reprint of a paper read on March 4 last before the Philadelphia College of Physicians, relating to an identical operation undertaken by himself in November, 1890, at the suggestion of Dr. Weir Mitchell. The paper was entitled "A New Method of Tenotomy, by Which the Tendons are Lengthened to a Definite Extent, Instead of by the Present Haphazard Method." Professor Keen, of course, had then no reason to believe that his case was not the first of the kind; but after receiving a letter from me pointing out the date of my operation, he has with the greatest promptitude and courtesy sent me the following reply, which I beg you will do me the kindness to insert in order to dispose of any question that might arise hereafter.

I am, sirs, yours obediently,
WILLIAM ANDERSON.

Harley street, W., November 14, 1891.

COPY OF LETTER.

1729 CHESTNUT STREET, PHILADELPHIA, October 13, 1891.

MY DEAR MR. ANDERSON: I am greatly pleased to receive your letter of September 30. I feel that I deserve very little credit myself, because the idea was purely original with my friend, Dr. Mitchell, who suggested it to me, as I stated in my paper. Any credit, therefore, really belongs to him. At the same time I will freely admit that priority both as to idea and performance belongs to you. I had overlooked the fact that your operation was done in 1889. If you will kindly write a little note to the *Lancet* calling attention to the fact, it will entirely meet with my approval.

Very truly yours,
W. W. KEEN.

Since the accurate method of tendon splicing first suggested by Rhoads, first performed by Anderson and first described by Keen, a large number of varying methods have been described, some of them identical and unquestionably independently original.

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Ein Vorschlag statt der üblichen Achillotomie in geeigneten Fallen die Achilloraphie vorzunehmen. Dr. Carl Bayer, Sonderabdruck aus dem Präger medicinische Wochenschrift, 1891, No. 35.

Eine Vereinfachung der plastischen Achillotomie. Dr. Carl Bayer, Sonderabdruck aus dem Zentralblatt für Chirurgie, 1901, No. 2.

Zur Operation von Sehnen und Muskelkrontrakturen. Professor Carl Bayer, Zentralblatt für Chirurgie, 1898. No. 10.

Die plastische Tenotomie der Achillessehne bei paralytischen Spitzfuss. Professor Carl Bayer, Präger medicinische Wochenschrift, xxii, Nos. 45, 46, 1897.

Subcutaneous Tendon Splicing. A Modification of Anderson's Method, Adapted Especially to the Tendo-Achillis. J. Torrance Rugh, *American Medicine*, Vol. iv, No. 18, November 1, 1902.

REVIEW OF LITERATURE

A very timely and thoughtful sentence closes a long and comprehensive editorial in the *Lancet* for February 7, 1903, on the "**Treatment of Congenital Dislocation of the Hip**:" "A judicious hesitancy should characterize the surgical mind until we have more certain data on which to found an opinion."

H. A. Reeves in a letter to the *Lancet*, February 7, 1903, p. 395, says that "miracles must not be expected." He states that the head and neck are almost invariably deformed, the acetabulum very incomplete, the ligaments overstretched, and some of the muscles are shortened and others lengthened. The odds are against any method, and closes by saying: "Should Professor Lorenz ultimately succeed in demonstrating anything approaching a complete cure he will be a great benefactor to humanity, and I shall try to be the first to congratulate him."

A Note on Some Radiographs Illustrating Congenital Dislocation of the Hip.—Two pages of illustrations. David Morgan[1] uses 16 radiographs to illustrate his statements that radiography should assist the operator in the selection of suitable cases, in confirming his clinical impressions as to reduction, and in the necessarily prolonged after-treatment, give him a knowledge of the positions of the head more accurately than can be noted by hand. False impressions of radiograms is explained as wholly due to the position in which the limbs are held. By permission of Robert Jones several of his patients were radiographed before, during and after reduction by the Lorenz method, and are a satisfactory demonstration of cases in process of treatment.

Congenital Dislocation of the Hip.—Noble Smith[2] in reviewing the general treatment of the affection, in a paper read at the Fourteenth International Congress, 1903, adopted the concise method of giving a short preamble and following it with 14 questions which are fully answered. The preamble states that in all cases and at all stages some good may be effected by treatment. He then states and endorses Lorenz's dictum. A very important statement is made that will throw much light upon the varying results of the Lorenz method. "As to the permanent results of reduction, the exact degree of success depends upon the condition of the joint." "The reduction by means of opening the joint with, or without efforts to cut a new joint or otherwise interfere with the joint structures with the knife is at present time not satisfactory, whereas the operation by manual reduction assisted by division of contracted muscles as perfected by Lorenz has been highly successful and is therefore recommended by me." The views expressed by Noble Smith will do much to remove misunderstanding as to the kind of cases suitable for the Lorenz method, as well as to emphasize the manner of using the method and results to be accomplished by it. The questions and answers should be carefully read to be fully appreciated, for great judgment has been used in answering the 14 questions which were most frequently asked at the time of and subsequent to the visit of Lorenz to London.

Morbid Anatomy and Treatment of Congenital Dislocation of the Hip.—Mr. T. H. Openshaw[3] presented to the Clinical Society of London the subject, based upon 70 cases which he had observed, and upon nine of which he had operated. He showed a recent specimen from a girl aged 5 years who had died from bronchial pneumonia. The head of the bone was normal in shape with the exception of a small area of flattening at the lower end and back part. The neck presented no abnormality. These appearances entirely accorded with what Mr. Openshaw had found by operation. In his experience, in

[1] Brit. Med. Jour., April 11, 1903.
[2] Lancet, May 2, 1903, p. 1225.
[3] Lancet, January 17, 1903, p. 172.

every case an acetabulum existed, but it was small, shallow and triangular, and the cartilage forming its floor was thicker than normal. In his opinion the head of the femur up to the age of 3 years remained normal. Mr. Openshaw advocated one of two methods of treatment: (1) Reduction of the shortening by tenotomy and extension and then reposition, socalled, of the head of the bone by manipulation as practised by Lorenz, or (2) the remaking of an acetabulum by the open method after it had become possible to replace the bone by tenotomy and manipulation. As a result of his experience in about 20 cases treated by the first method during the past six years, he considered first, that reposition within the joint was an impossibility, and secondly, that redislocation was exceedingly common. In the discussion, Mr. J. Jackson Clarke said that he had operated upon about 20 cases by the Lorenz method, and in only one instance had he failed to obtain a good result. In the one case the child was suffering from spastic paralysis which had not been recognized, so that the failure was explained. Mr. Noble Smith said that he advocated the manipulative method, dividing the operation into two stages, by which means he believed the amount of force required to effect replacement was much reduced. He preferred an apparatus to plaster-of-paris for after fixation.

An Apparatus for the After-treatment of Congenital Luxation of the Hip.—L. Heusner[1] demonstrates a new apparatus which he has found valuable in maintaining the legs and feet in proper position after the reduction of congenital hip dislocation by Lorenz's method. It consists of a leather corset for the trunk and pelvis, a short leather piece for thigh connected to body-piece with springs, which prevent immoderate flexion and keep the thighs spread out. Spinal springs extend downward over knee to foot; they tend to keep the feet and legs inverted. It is especially valuable in bilateral cases. [E.L.]

Anatomic Changes in Congenital Hip Dislocation Reduced by the "Bloodless" Method.—E. Müller[2] describes the preparations of two hips which he had replaced two years and six weeks before, respectively, by means of the bloodless method. The former could not be differentiated in any respect from a normal hip-joint; in the second patient, a case of bilateral luxation, the return to normal was not at all well marked, but a shrinkage of the posterior part of the capsule, which is of great importance in retaining the head within the acetabulum, had already begun. The anterior portion of the capsule was very tense. Of 40 cases of unilateral luxation thus treated by him, 28 have turned out complete cures; of 21 bilateral cases but 5. He attributes his favorable results in the former to the plaster dressing which is put on in extreme abduction, external rotation, and extension from hip to ankle. His failures in the bilateral cases he considered due to the simultaneous reduction of both hips, especially when dealing with children above 5. Since performing the operation in two stages he has much better success. [E.L.]

Lorenz's Method of Treating Congenital Dislocation of the Hip.—J. J. Clarke[3] contributes an exceedingly lucid illustrated description of Lorenz's method, and records several cases. He states that the dangers of the operation are entirely due to treatment being neglected until the patient has neared the age-limit for the operation. In children up to the age of 5 or 6 years there is practically no danger. Regarding the proper attitude of the profession toward this method of treatment, Clarke believes that results have proved it worthy of acceptance. He concludes as follows: Lorenz's method of treating congenital dislocation of the hip is based on correct anatomic and physiologic grounds; it is the outcome of an exceptional experience both of open and subcutaneous operating; in a considerable proportion of cases it gives a perfect anatomic and physiologic result (*i. e.*, it cures a condition hitherto deemed incurable); in a still greater number of cases it affords a permanent functional improvement that relieves the patient of the grievous disabilities which the deformity usually entails if left untreated. In the remaining cases in which the method fails to give a firm articulation placed anteriorly, the manipulative operation of Lorenz is a necessary preliminary to any subsequent treatment by open operation that may be undertaken. [A.G.E.]

Final Result of a Lorenz Operation.—Emmet Rixford[1] details the history of a case operated on three years ago, the patient being a girl of 17 months with dislocation of the left femur. The child was very fat and active and soon reluxated the hip, a spica of the pelvis and thigh having been applied. A second reduction was followed in a month by a second reluxation. After two more trials of a single spica a double spica was applied with both thighs abducted and in slight posterior flexion. This was kept on for five months. The abduction was then gradually decreased, the plaster being finally removed seventeen months after operation. The child now walks without limp and does not toe outward. Flexion, extension, abduction, and adduction are normal and rotation nearly so. A skiagraph which accompanies the article shows that the head of the femur is in the acetabulum. [A.G.E.]

On Some of My Principles in Orthopedic Surgery.—Adolf Lorenz.[2] See abstract *American Medicine*, January 3, 1903, p. 27.

The Lorenz Operation, with Report of a Case.—J. K. Young.[3]

The Lorenz Hip Redresseur and Lorenz Spica.—Charles H. Jaeger.[4] See abstract *American Medicine*, January 17, 1903, p. 110.

Congenital Dislocation of the Hip: Report of a Bloodless Reposition Followed by Death, with an Analysis of Twenty-three Cases in Process of Treatment.—H. Augustus Wilson, J. Torrance Rugh, and W. M. L. Coplin.[5]

Present Status of Congenital Dislocation of the Hip and the Bloodless Reduction.—Virgil P. Gibney.[6]

The Forcible Reposition of Congenital Luxation of the Hip.—Gwilym G. Davis.[7]

Address of Welcome to Professor Lorenz at the Jefferson Medical College.—H. Augustus Wilson, and a sketch by M. R. Dinkelspiel.[8]

Report of the Demonstration by Dr. Adolf Lorenz at the Children's Hospital, Boston.—Daniel H. Craig.[9]

A New Method of Correcting Flexion Deformity at the Knee-joint.—Royal Whitman[10] describes this method, which consists of manual manipulation in preference to the use of mechanic appliances. The patient is placed prone upon a flat table, the operator then holds with one hand the head of the tibia firmly against the table, and with the ulnar border of the other begins forcible massage upon the contracted hamstrings, after the method employed (by Lorenz) in overcoming the resistance of the adductors in the operation of reduction of congenital dislocation of the hip. It is suitable to those cases where osteotomy is deemed unnecessary or inexpedient.

Flat-foot.—W. B. Clark[11] thinks there is no cause so likely to produce flat-foot as rheumatism. So much is this the case that he puts patients on salicylates almost as routine treatment, He includes gonorrheal rheumatism, which produces some of the most intractable cases. Cases attributed to weakness generally have either badly fitting shoes or shoes that let in water. Traumatic causes are those that prevent raising oneself on tiptoe at each step, the patient walking with foot stiff and turned out. The only unequivocal symptom is pain in or about the center of the arch, often running down into the great toe or heel. There is no tendency, except in children, to spontaneous cure. Treatment applicable to one stage is inapplicable at another. When pain begins salicylates must be given, and the muscles trained after the pain has disappeared. If the joints are ankylosed the exercises will be of no avail until the ankylosis is broken down. The arch being restored, must be kept in position for five or six weeks or longer by putting it in plaster. Afterward the patient should raise himself on tiptoe four or five times night and morning and roll the feet from the out-

[1] Deutsche medicinische Wochenschrift, February 19, 1903.
[2] Zeitschrift für Orthopaedische Chirurgie, 1903, xi, p. 342.
[3] The Practitioner, March, 1903.

[1] California State Journal of Medicine, March, 1903.
[2] Med. Record, December 27, 1902.
[3] *American Medicine*, January 17, 1903.
[4] N. Y. Med. Journal, January 3, 1903.
[5] *American Medicine*, May 16 and 23, 1903.
[6] *American Medicine*, May 23, 1903.
[7] *American Medicine*, May 23, 1903.
[8] Interstate Med. Jour., No. 2, 1903.
[9] Annals of Gynecology and Pediatry, February, 1903.
[10] Amer. Jour. Med. Sci., May, 1903, p. 770.
[11] Medical Press and Circular, November 12, 1902.

side edge to the inner backward and forward, as people do when skating. Instruments should be used as rarely as possible. Definite surgical operation is rarely called for, but in some cases it is absolutely essential. [H.M.]

Pronation of the Foot.—E. J. Huhner[1] deals with the pathologic condition of pronation of the foot based upon the examination of the feet of 132 white persons and 69 negroes, and finds that it is more common in females than in males. The explanation is to found in the feminine footwear, shoes with high heels, narrow toes, and curved so as to constantly abduct the foot.

Small Rubber Rings to Relieve Pressure Over Painful Points in the Foot.—Bettman[2] recommends in cases of tender points on the foot rubber rings fastened over these points with adhesive strips. The pain is usually due to some organic changes in the construction of the affected joint, and by relieving pressure this can usually be much improved and even cured. [E.L.]

The Mechanics of Flat-foot.—Edward M. Thompson.[3] See abstract *American Medicine*, January 31, 1903, p. 189.

Treatment of Tuberculous Arthritis, Especially of the Knee and Hip.—Mencière[4] writes an exhaustive article on the treatment of tuberculous arthritis in its various stages. He divides the affection into three periods and gives the treatment of each: (1) Period of incipiency: interstitial injections of iodoform combined with "phenopuncture" (method of the author); (2) advanced period: resection atypic followed by lavage with pure phenic acid and with alcohol (method of Phelps, of New York); (3) period of cure and ankylosis: establishment of partial motion and function by the methodic employment of mechanotherapy. The iodoform should be injected intraarticular as well as interstitially. "Phenopuncture" is a term given by the author to his method of depositing pure phenic acid in the center of the epiphyses at the diseased joint. It may be performed by the subcutaneous or the open method, the latter being preferred. The method is described in detail and illustrations of the lancets, pipettes, etc., are given. The acid is allowed to remain in contact with the bone for one or one and one-half minutes, being removed by tampons and lavage with alcohol. For the more advanced cases the method of Phelps is highly praised, although at first the writer was skeptical as to the advisability of applying pure phenic acid to the articulous tissues. Its free use has given most satisfactory results. A rise of temperature after its use, sometimes for several days, has been noticed by Mencière, who thinks Phelps has not sufficiently emphasized that point. Mechanotherapy will do much in reestablishing motion. If vicious deformities result they may be greatly relieved by osteotomies or resections. [A.G.E.]

The More Frequent Diseases of the Joints and Their Treatment.—Joseph H. Stolper.[5] See abstract *American Medicine*, January 17, 1903, p. 111.

Infective Arthritis.—Marsh.[6] See abstract *American Medicine*, January 31, 1903, p. 194.

Gonorrheal Arthritis.—Baquez.[7] See abstract *American Medicine*, January 31, 1903, p. 194.

The Packing of Bone Cavities.—A. von Mosetig-Moorhof.[8] See abstract *American Medicine*, February 28, 1903, p. 354.

Osteoma of the Knee-joint.—Dr. R. Tunstall Taylor[9] reports a case of a girl 19, from whose knee was removed a large osteoma 1 by 1½ inches from the knee-joint, resulting from trauma two years previously. The keynote of this paper is the statement: "I do not consider that there is any more danger in opening the knee-joint for exploration than in opening any serous or synovial cavity elsewhere, but the most scrupulous technic in asepsis in necessary to ensure success, of course."

Compensation of Bone Deformities.—Port[10] reports the case of a child now 7½ years old, which at three had markedly crooked rachitic legs, and which with no other treatment excepting braces to permit it to walk now presents itself with legs almost straight. Such spontaneous cures usually occur when a child grows rapidly; if the bodily growth remains below par, the deformity does not completely correct itself. The Röntgen picture shows the cure was produced by extensive growth of bone on the concave inner side of the tibia. This agrees with Wolff's law, which says that every change in the static condition of the bone causes a change in its form and structure, but he thinks Wolff goes too far in saying this occurs also in adults. No one has ever seen an adult's bone become straight when left to nature. After an injury, or as the result of inflammation static conditions can act in the adult, but not in the normal bone. After the sixth year, he therefore advises operations to correct deformities. [E.L.]

Arthritis as a Complication of Measles.—Robert Craik[1] reported a case of a boy aged 7 years who began complaining of pain in his knee. There was no traumatism. No scratch or bruise or swelling, but the lad limped a little. The day following pain was less and he went to school as usual, but returned at noon and did not return because of the pain in his knee. For two days he sat about the house, and on the fifth day he was covered with the rash of measles, an epidemic of which prevailed. The knee became more painful, and he was only comfortable with the leg flexed and resting on his left side. There was no swelling or redness, but there was some synovial effusion. Thirty days later the effusion was very great and was freely evacuated, and a large quantity of synovial fluid escaped and a little pus. Very little stiffness ultimately resulted.

Rheumatic Arthritis and Other Allied Joint Affections.—J. Dreschfeld,[2] at the meeting of the Manchester Medical Society, said that most pathologists and clinicians were now agreed that rheumatic arthritis was an infectious disease, but the question whether it was due to a pathogenic microorganism or whether more than one microorganism might give rise to the same symptom-complex, or whether it was due to a nonspecific microorganism which only under certain hereditary or predisposing conditions became active, was still a disputed point. G. A. Wright spoke of the need for an entire revision of the nomenclature of joint diseases and the desirability of abolishing all names with rheumatism in them. J. Dixon Mann fully admitted the microorganismal causation of acute rheumatism, but could not accept the view that streptococci which were capable of producing ordinary septicemia were the microorganisms in question.

Articular Rheumatism and Some Allied Conditions.—Alfred Stengel[3] presented records of six cases, illustrating various types of joint disease having a more or less superficial resemblance and requiring careful study to determine the pathology and diagnosis. Three of the cases were typical mild acute articular rheumatism, with varying conditions. One case was that of chronic rheumatism. Two cases known variously as rheumatoid arthritis, rheumatic gout, gouty rheumatism, deforming arthritis, arthritis deformans, osteoarthritis, Charcot's disease. The paper enters carefully into the pathology, and especially considers the clinical features, and is full of sound reasoning from the aspect of the general medical practitioner, and will be read with benefit by all who have occasion to see joints affected with the conditions described.

The General Treatment of Tuberculous Bone and Joint Disease.—Joel E. Goldthwait.[4] See abstract *American Medicine*, January 17, 1903, p. 109.

Sepsis Following Osteomyelitis from a Trivial Injury.—Samuel Kohn.[5] See abstract *American Medicine*, January 24, 1903, p. 150.

Acute Osteomyelitis During Childhood.—Gonser.[6] See abstract *American Medicine*, January 24, 1903, p. 157.

[1] Amer. Jour. Med. Sci., May, 1903, p. 775.
[2] Münchener medicinische Wochenschrift, November 25, 1902
[3] N. Y. Med. Jour., January 17, 1903
[4] Gazette Médicale de Paris, February 7 and 14, 1903.
[5] Med. News, January 10, 1903.
[6] British Med. Jour., December 13, 1902.
[7] La Semaine Médicale, 1902, Vol. xxii, p. 393.
[8] La Semaine Médicale, December 17, 1902.
[9] Annals of Surgery, January, p. 84.
[10] Münchener medicinische Wochenschrift, December 2, 1902.

[1] Lancet, January 24, 1903, p. 237.
[2] Lancet, January 10, 1903, p. 102.
[3] Amer. Jour. Med. Sciences, March, 1903, p. 412.
[4] Boston Med. and Sur. Journal, January 8, 1903.
[5] Med. Record, January 17, 1903.
[6] Jahrbuch für Kinder., 1902, Vol. vi, p. 49.

Osteitis Deformans: An Early Case.—J. C. Wilson.[1] See abstract *American Medicine*, January 31, 1903, p. 190.

Pelvic Abscess Consequent to Osteomyelitis of the Pelvic Bones.—W. H. Morley.[2]

A Fatal Case of Polyarthritis, Choreiform Symptoms and Vegetative Endocarditis.—Augustus A. Eshner.[3] See abstract *American Medicine*, February 14, 1903, p. 272.

Surgical Treatment of Acute Osteomyelitis.—Cumston.[4] See abstract *American Medicine*, February 28, 1903, p. 355.

Joint Disease and Hemophilia.—Editorial.[5]

Lateral Curvature of the Spine.—Young's[6] article is an elaborate presentation of the salient features of this common deformity from the standpoint of etiology, pathology, symptomatology, diagnosis, and treatment. As a preface there are considered rotation of the bodies of the vertebras and the natural equilibrium of the body. Of all the methods of treatment the Swedish system of gymnastics appears to be the best. The treatment employed by Young is an original adaptation and consists of four parts: (1) Development of the weak muscles by exercise adapted to them individually or collectively; (2) slight overdevelopment of the weak muscles; (3) uniform development of all the muscles; (4) the use of special movements to prevent relapse. The body is placed in such a position that all the muscles which have been useless are put into action. This is known as the keynote position. A series of exercises by which the weaker muscles are slightly overdeveloped is then given. The keynote position will from time to time need to be changed as development progresses. Free Swedish movements will fully correct milder forms of curvature. For those of medium degree, or where there is rotation, Swedish apparatus will be needed. In severe forms forcible correction by machines of the Beely or Schede pattern is indicated. Personal supervision in the treatment of these cases is absolutely necessary to accomplish the most satisfactory results. [A.G.E.]

Pathogenesis of the Scoliosis of Childhood.—Mechanical theories may explain some of the cases of scoliosis, but no one theory can explain all of them. The fundamental condition must be sought for in a disease of the vertebral column. C. Deutschländer[7] points to v. Recklingshausen's description of infantile osteomalacia. It is not a rachitic process, but one of softening and melting away, due to congestion of the blood-vessels. Anomalous bloodvessel walls and mechanical irritation due to increasing pressure are the predisposing factors; the process once begun will continue itself, due to the decreasing ability of the spinal column to support the weight of the body. Coexisting deformities, as flatfoot, genu valgum, etc., are a further expression of the disease. [E.L.]

Difference in the Scolioses of Male and Female Individuals.—A. Sutter[8] finds that the relation of scoliotic male patients in sanatoriums to female patients is as $1:\frac{1}{10}$; in school statistics, however, it is as 1:1; scoliosis, therefore, is as frequent in one sex as in the other. They occur somewhat earlier in the life of females than of males. The greater number of the vertebral distortions is convex toward the left, but a larger proportion of the male distortions is toward the left than of the female. In boys it is usually the upper portions of the spine which are deformed; in girls the lower are deformed almost as often as the upper. The deformities are more marked in boys than in girls. [E.L.]

Congenital Scoliosis.—H. Maass[9] reports such a case in an infant 3 months old. The scoliosis was convex toward the left side; its point of greatest prominence was at the height of the ninth thoracic vertebra; the deviation amounted to 3 cm.; the costal deformity to 2 cm. The remainder of the skeleton seemed perfectly normal. He sees the cause in an anomalous intrauterine position. The treatment which produced an excellent result consisted of a plaster dressing and pressure massage of the deformity. [E.L.]

[1] Phila. Med. Jour., January 24, 1903.
[2] *American Medicine*, February 14, 1903.
[3] Medical News, February 7, 1903.
[4] Pediatrics, January, 1903.
[5] *American Medicine*, March 21, 1903, p. 474.
[6] Medicine, February, 1903.
[7] Zeitschrift für Orthopaedische Chirurgie, 1903, xi, p. 383.
[8] Zeitschrift für Orthopaedische Chirurgie, 1903, xi, p. 298.
[9] Zeitschrift für Orthopaedische Chirurgie, 1903, xi, p. 411.

Scoliosis and Its Treatment.—F. C. Marinel[1] discusses very thoroughly the treatment of this condition, which he divides into three classes: (1) Scoliosis of the first degree, or the muscular form; (2) scoliosis of the second degree or the moderate form; (3) scoliosis of the third degree or the grave form. In the first class he places those cases in which the deformity disappears momentarily by voluntary muscular contractions of the patient. In the second class are those cases of vicious attitude which can be ameliorated for a time by voluntary muscular effort, but can not be made to disappear. In the third class are those with deformities which can not be modified by voluntary muscular effort of the patient. He concludes that scoliosis of the first degree is completely curable; scoliosis of the second degree is frequently curable, and always can be helped; scoliosis of the third degree is never curable, but it can almost always be ameliorated. The orthopedic corset is harmful in the first degree; rarely useful, and almost always harmful in the second degree, but is indicated in all cases of the third degree. Treatment of the third degree should extend over years regularly and should consist of forcible straightening and maintaining the position of the body by bandages, gymnastics, and massages, assisted by movable corsets. [J.H.W.R.]

Treatment of Infantile Spastic Paralysis.—R. Jones[2] believes a large proportion of children suffering from severe forms of this affection may be transformed into useful members of the community and enabled to walk with little deformity, many requiring only the aid to be derived from one or two sticks. Active treatment may be needed for nearly two years. Hemiplegia usually affects the arm much more than the leg and the treatment is less promising than in diplegic cases. If the patient can do more with the hand than at some previous time success of treatment is assured. When any voluntary relaxation of spasm exists apart from associated movement on the opposite side treatment is emphatically indicated. Since the dominant deformity is pronation and carpal flexion the elbow must be fixed supine and the wrist and fingers fully extended. Prolonged fixation of spastic muscles in a position opposed to their contraction lessens the severity of the spasm. Extension may be discarded in 12 months. If success cannot be predicted at this stage tenotomy or tendon transplantation should be performed. After operation over-extension should be practised for a few weeks, and in order to prevent adhesions the wrist should be moved about. Movements from simple to complex should be taught. Division of the tendo-Achillis controls spasm not only in the calf-muscles, but influences spasm elsewhere. In spastic paraplegia the splint should keep the limb in marked abduction. If there are any obstacles to easy extension of the knees the hamstrings must be divided by open incisions on each side of the popliteal space. The patient should be kept on the abduction frame at least three months. Movements must then be sedulously practised, and finally the little patient can be taught to walk. Much depends on the nurse. The mental condition improves with the physical. Complete recovery in spastic paraplegia is of course impossible. [H.M.]

An Apparatus to Facilitate the Application of Plaster Jackets During Spinal Hyperextension.—Dr. E. D. Fenner[3] describes an apparatus devised by Dr. J. D. Bloom, the object of which is to obtain the advantages of fixation in desired positions and at the same time avoid the disadvantages of upright suspension. His convictions are stated: "After a rather extended experience in plaster work I confidently assert that nothing so practical or efficient as this apparatus has up to this time been called to my attention."

Adhesive Plaster Strapping for Sprains.—Finley R. Cook.[4] See abstract *American Medicine*, January 17, 1903, p. 109.

X-rays in Surgical Diagnosis.—Arthur T. McCormack.[5]

The Widener Memorial Industrial Training School for Crippled Children.—DeForest Willard.[6]

[1] Jour. Médical de Bruxelles, 1903, Nos. 1, 2, 3, and 4.
[2] Liverpool Medico-Chirurgical Journal, October, 1902.
[3] Annals of Surgery, January, p. 92.
[4] Med. Record, January 10, 1903.
[5] *American Medicine*, January 24, 1903.
[6] *American Medicine*, January 24, 1903, p. 148.

Removal of the Superior Row of Carpal Bones in Acute Septic Disease of the Wrist-joint.—Mac Lennan.[1] See abstract *American Medicine*, January 31, 1903, p. 195.

Therapy of Orthopedic Surgery.—N. M. Shaffer.[2] See abstract *American Medicine*, February 7, 1903, p. 229.

Treatment of Spina Bifida.—Frederick Griffith.[3] See abstract *American Medicine*, February 7, 1903, p. 230.

A Case of Habitual Dislocation of the Shoulder-joint.—J. Collins Warren.[4] See abstract *American Medicine*, March 21, 1903, p. 469.

Congenital Absence of the Clavicles with Photogram and Radiogram.—H. M. Sherman.[5]

Fractures Into and About the Elbow-joint.—J. H. Barbat.[6] See abstract *American Medicine*, April 11, 1903, p. 589.

Fractures in or Near the Joints.—A. G. Gillette.[7] See abstract *American Medicine*, April 11, 1903, p, 595.

Bloodless Operative Epiphyseolysis in the Treatment of Genu Valgum of Youth.—M. Reiner[8] advises the correction of genu valgum by means of forced epiphyseal separation, an operation introduced by Délore in 1874 and improved several times by others, but which has never been performed very much because of its crudeness and complications. That this operation does not interfere with the growth of the patient he proves by a study of the statistics of traumatic, experimental, and operative separations on record. A slight temporary retardation of growth in the injured extremity does occur, but no permanent shortening of any consequence has been noted. He has modified Délore's operation considerably. The proximal part of the limb is held tightly by means of a simple apparatus and the separation is performed with the hands in a direction contrary to the deformity. (He describes everything pertaining to the operation minutely.) His own experiments and observations have taught him that the periosteum is not torn away from the entire circumference of the bone; that the injury is usually extracapsular; that displacements of the fragments rarely, if ever, occur, and that the operation is usually easiest and best performed in deep narcosis. He recommends this operation in the cases of patients between the eighth and seventeenth years; in younger patients he prefers osteoclasis; in older individuals osteotomy as the more satisfactory operation, but in the above-mentioned age limit epiphyseolysis is certainly better than any of the others. [E.L.]

Radiograph and Chronic Dislocation of the Hip.—David Morgan[9] states that on examining a number of radiographs of congenital dislocation of the hip the point which strikes the surgeon most prominently is the great proportion which appear show either an absence of the neck of the femur or the presence of a very short and displaced one. These appearances are, however, generally fallacious and are due wholly to the position in which the limbs are at rest as regards inward or outward rotation at the time the radiograph is taken. For the purpose of showing the different appearances exhibited in the femoral head and neck dependent upon the rotation of the limbs the author's article is accompanied by a number of radiographs of several patients taken before, during and after reduction by the method of Lorenz. [A.B.C.]

Congenital Deformities.—H. Kompe[10] has seen in an otherwise healthy family three children with the following deformities: The third child had a simple harelip; in the fourth child, the intermaxillary bone and the central part of the upper lip were missing; the fifth child was afflicted with double harelip, double cleft palate, prominent intermaxillary bone, absence of middle toe on each foot, and middle finger on each hand. In another individual he observed a double terminal phalanx with complete finger nails on the right thumb. [E.L.]

Chronic Ankylosing Inflammation of the Spinal Column.—V. O. Sivén[1] claims that under the name of spondylitis deformans are included several heterogeneous diseases. There are two main forms; in one the intervertebral cartilages are affected, and in the other the vertebral arches are the primary seats of disease. Four cases are reported belonging to the latter class. In all of them the small joints of the spinal column, together with their ligaments, were attacked by an inflammatory affection, which finally led to complete ossification and ankylosis of the joints. The disease process differs from ordinary arthritis deformans in being inflammatory in nature, and in not being constitutional in character. [B.K.]

Spontaneous Fracture of the Femur Due to Osteomyelitis of Anaerobic Microbic Origin.—Lippmann and Foisy[2] report the case of a man of 39, suffering with bronchitis for 10 years. During the course of last year he became tuberculous. Blood was expectorated repeatedly, and the sputum became fetid. The left thigh showed signs of inflammation, and the patient developed a state of cachexia. A large quantity of fetid pus and gas were evacuated through an incision of this thigh; two days later, while changing the dressing, the femur broke spontaneously; amputation was performed below the small trochanter. Examination showed the presence of osteomyelitis, characterized by necrosis and very fetid gaseous pus; the medullary disease was found to be due entirely to anaerobic microbic origin, and no other nidus of infection can be found except the fetid bronchitis. [E.L.]

Multiple Congenital Contractures, with Muscular Defects.—F. Magnus[3] reports the case of a boy of 15, perfectly normal mentally, but very deficient physically. The bones of the extremities are small and thin, and their muscles either poorly or not at all developed. The motions of the joints of the upper extremity are in proportion to the development of the respective muscles. The fingers are in the position of the "claw-hand." There are contractures of all the joints of the lower extremities, and the range of all movements is very limited. Magnus straightened all the joints of the lower extremities either through elastic dressings or through operation, and now the patient is able to move about by means of crutches. [E.L.]

Bilateral Congenital, High Position of the Scapula.—H. Mohr[4] reports and describes in full a case of Sprengel's deformity in a girl of 22. Both scapulas were affected; he found but five other bilateral cases scattered through literature. The most noticeable features of the case were a slight lordosis, a right-sided scoliosis of the cervicodorsal region, the high position and somewhat changed shape of the scapula, the atrophy of the trapezius. The latter is probably the primary defect, all the others following it. [E.L.]

Orthopedic Surgical Treatment of Flaccid Paralyses of the Lower Extremities.—In cases of contractures of paralyzed limbs A. Moeller[5] advises the stretching of the parts under chloroform to a state of over-correction, and an application of a light but firm plaster-of-paris dressing, so that the patient may be able to walk about a few days after the operation. As soon as possible an apparatus should take the place of the plaster dressing, so as to strengthen the individual muscles. Should tendon transplantation or arthrodesis be desired the straightening and strengthening of the limb will enhance the value of the later operation. [E.L.]

Tarsal and Tarsometatarsal Disease and Its Treatment.—K. Hosebrock[6] takes issue with all observers who ascribe every pain and other symptom of the foot to incipient or existing flat-foot, even in cases where no flat-foot or even where a springy foot exists. He sees in them an illness *per se*, a disease of the joints of the tarsus, or tarsometatarsus, which is not in the slightest way connected with either chronic or inflammatory flat-foot. They are usually either of rheumatic or gouty origin, and are characterized chiefly by pain on pronation and supination of the foot, and by stiffness of the affected joints. In the case of the tarsometatarsal affection, the char-

[1] Glasgow Med. Jour., October, 1902.
[2] Jour. of the Amer. Med. Asso., January 31, 1903.
[3] Med. Record, January 31, 1903.
[4] Boston Med. and Surg. Jour., March 12, 1903.
[5] *American Medicine*, April 11, 1903, p. 569.
[6] Jour. Amer. Med. Assoc., April 4, 1903.
[7] St. Paul Med. Jour., March, 1903.
[8] Zeitschrift für Orthopaedische Chirurgie, 1903, xi, p. 241.
[9] British Medical Journal, April 11, 1903.
[10] Münchener medicinische Wochenschrift, January 27, 1903.

[1] Zeit. für klin. Med., Bd. xlix, p. 343.
[2] Bull. et Mem. d. l. Soc. Anatomique de Paris, 1902, Vol. iv, p. 729.
[3] Zeitschrift für Orthopaedische Chirurgie, 1903, xi, p. 424.
[4] Zeitschrift für Orthopaedische Chirurgie, 1903, xi, p. 331.
[5] Zeitschrift für Orthopaedische Chirurgie, 1903, xi, p. 277.
[6] Zeitschrift für Orthopaedische Chirurgie, 1903, xi, p. 362.

acteristic symptoms are rigidity and stiffness during plantar flexion, and simultaneous inversion of the anterior part of the foot, corresponding to slight pronation. There is tenderness over the joints, and over the ball of the great toe. The prognosis in the condition is good, the treatment consisting in massage, passive movements, and the wearing of suitable insoles. [E.L.]

"Congenital" Wryneck.—H. Maass[1] has studied 40 cases of wryneck in the newborn from the standpoint of their etiology; 23 of these were breech presentations, 5 were forceps deliveries. He considers the cause of this condition to lie in pathologic changes arising in the sternomastoid, as the result of birth trauma. A few of the cases may be due to infectious myositis in the course of an intrauterine injury, but this is relatively seldom. [E.L.]

Zuppinger's Scoliosis Theory.—H. Zuppinger's[2] theory is that pressure against the side of the thorax anteriorly will produce a scoliosis, and finally also a twisting of the vertebras. He bases his theory upon a large number of observations and measurements of normal and abnormal thoraces. He reports the case of a girl who a year before was not scoliotic but who has since then worked with her right hand extended, at the same time leaning against a horizontal iron bar. She now presents a distinct costal hump anteriorly on the left side, posteriorly on the right side; the sternum deviates toward the left; the dorsal spine is convex toward the right, the lumbar spine toward the left side. Treatment based upon his theory produced a marked change in 10 weeks. [E.L.]

Treatment of Infantile Spastic Paralysis.—Jones[3] maintains that "a large portion of children suffering from severe spastic paralysis may be transformed into useful members of the community, improved both in body and in mind by surgical methods, enabled to walk with comparatively little deformity, many requiring only the aid to be derived from one or two sticks." The cases beyond remedial aid are the idiot and the violent, irritable diplegic, subject to fits and active athetotic movement. Treatment is divided into operative and postoperative, and each is carefully described. Emphasis is placed upon the surgeon inspiring confidence and instilling enthusiasm during the long periods of practising movements. In most cities in England, neurology seems to make the physician a fatalist and one who clothes himself with gloom and pessimism. Jones closes by urging that the treatment of spastic paralysis should resolve itself into a system that involves operative, mechanical and educational stages. If the surgeon is not satisfied that the case is to be under his control for 12 months he will consult his reputation best by leaving it alone. Merely dividing tendons, to be followed by massage and electricity, is futile and dispiriting. [A.G.E.]

Tendon Grafting.—Daniel La Forte[4] states that there can be no doubt of the future great widening of the field wherein this operation is applicable. The worst cases are those paralytics in which there is a great deal of atrophy, blueness and coldness of the parts, indicating a low state of innervation. These cases should be prepared for operation by a course of massage and electricity. La Forte has not obtained so much good from electricity as reported by other writers, but is a firm believer in the efficacy of massage. He does not find it necessary to split the tendon of the paralyzed muscle and insert the graft, but places the two side by side and sews them for three-fourths inch with fine silk. The part is then fixed for three weeks when slight voluntary and passive movements can be begun. If the paralyzed tendon, because of its diminutive size, cannot be found the graft can be attached to the periosteum at the corresponding point. In one case of spastic contraction of certain muscles of the forearm with marked flexion and pronation, the condition was overcome by dividing the flexor tendons at the wrist and converting the pronator radii teres into a supinator. The result was eminently satisfactory. [A.G.E.]

Late Rachitis.—E. Roos[5] reports a case of a female child who learned to walk properly at the end of the first year, but had some difficulty in walking, together with gastrointestinal symptoms, in the second year, then fully recovered. In her eleventh year she began to show changes in her gait. In the course of another year there developed marked bowing of the forearms and legs, with a high degree of epiphyseal enlargement. The cranium and ribs were not affected. The case is doubtless one of true rachitis, either developing for the first time in the eleventh year or being the recrudescence of a short, doubtful attack occurring in the second year. Another doubtful case of late rickets is also described, and the literature on the subject carefully reviewed by the author. There are some differences between rachitis occurring in childhood and that developing in the second decade, the most marked being the nonparticipation of the cranial bones. This is accounted for by the slight growth which takes place in the bones during the latter period. The results of postmortem and of Röntgen ray investigations show the identity of the two conditions. On the surgical side numerous local bone changes have been observed in adolescence, such as genu valgum and varum, scolioses, etc., which show anatomic and pathologic similarity to those deformities as they occur in childhood. Rachitis has thus proved to be a disease which may develop at any time during the period of growth. [B.K.]

High Position of the Scapula.—In O. Bender's[1] case the abnormal position of the scapula was secondary to an ankylosis of the shoulder-joint. The lower angle of the scapula was 3½ cm. higher than normal, and the entire scapula twisted on its sagittal axis. This was noticed only when the arm was hanging by the side of the patient; upon abduction the scapula took its normal position, due to its attachment to the humerus. [E.L.]

Flat-foot Support Made of Celluloid and Steel Wire.—The pains of flat-feet can be found in various portions of the foot, and do not in the least correspond to the degree of pes planus. Sometimes the greatest pains are found in cases preserving a good arch. An important diagnostic sign is that the pain is complained of only during walking and standing, and ceases as soon as the patient rests. The cause of the pain lies in the small footbones pressing against each other, and in an excessive pulling of some of the ligaments. The diagnosis of flatfoot is, however, only proved by the results of rationally conducted treatment, which must consist of the production of an arch as high as possible. The insole must be made accurately from a plaster-of-paris cast, and even then fully 20% of the soles require additional correction. In cases of valgus positions of the foot the insole must form an oblique plane, and must have a lateral edge to prevent a gliding off of the foot. As best material he recommends a solution of celluloid and acetone over Längsgurte. Wires are introduced to strengthen the tension of the arch. F. Lange[1] reports very good results. Of 400 patients thus afflicted only 8 failed to improve, and a number were cured. For good results, however, it is necessary for the patient to be under daily supervision for eight days, for the physician to make the cast and model himself, sometimes also the insole, and for the patient to wear the insole for several years. [E.L.]

Disturbances in Growth and Joint Deformities Following Traumatic Separation of Epiphyses.—Lorenz's[2] first patient fell out of bed when 6 years old, and complained of severe pain in right wrist for some time. Now at 19 it is found that the growth of the distal portion of the radius has been retarded through a separation at the time of its epiphysis. The ulna has continued its growth undisturbed, has torn itself away from the connecting triangular fibrocartilage, and produced a deforming prominence at the lower part of the dorsum of the hand. Resection of the bone was advised in this case. In the second, patient of 34, a disturbance in growth of the external inferior portion of the humerus existed as the result of a separation of the epiphysis of the external condyle, when the patient was 10 years old. In time the elbow enlarged on outer side, the ulnar nerve became pressed upon, and trophic changes were set up in its domain. Excellent photographs and radiographs illustrate the deformities. [E.L.]

[1] Zeitschrift für Orthopaedische Chirurgie, 1903, xi, p. 416.
[2] Zeitschrift für Orthopaedische Chirurgie, 1903, xi, p. 280.
[3] Pediatrics, February, 1903.
[4] The Medical Age, February 25, 1903.
[5] Zeitschrift für klin. Med., Bd. xlviii, Heft 1 and 2.

[1] Münchener medicinische Wochenschrift, February 17, 1903.
[2] Wiener klinische Wochenschrift, December 18, 1902.

THE PUBLIC SERVICE

Health Reports.—The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended July 3, 1903:

SMALLPOX—UNITED STATES.

			Cases	Deaths
Alabama:	Mobile	June 20-27	5	
California:	San Francisco	June 14-21	2	
Illinois:	Belleville	June 22-29	5	
Indiana:	Indianapolis	June 20-27	1	
Louisiana:	New Orleans	June 20-27	4	1
Massachusetts:	Fall River	June 20-27	3	
	Taunton	June 20-27	1	
Michigan:	Detroit	June 20-27	7	
	Flint	June 20-27	1	
	Grand Rapids	June 20-27	3	
	Port Huron	June 20-27	10	
New Hampshire:	Manchester	June 20-27	2	
New Jersey:	Bordentown	June 6-27	24	5
	Trenton	June 20-27	1	
Ohio:	Cincinnati	June 19-26	3	2
	Cleveland	June 20-27	1	
	Toledo	June 13-20	2	
Pennsylvania:	Altoona	June 20-27	1	
	Johnstown	June 20-27	1	
	Philadelphia	June 20-27	26	4
South Carolina:	Charleston	June 20-27	2	
Wisconsin:	Milwaukee	June 20-27	2	

SMALLPOX—INSULAR.

Philippines:	Manila	May 2-9	9	

SMALLPOX—FOREIGN.

Austria-Hungary:	Prague	June 6-13	4	
Belgium:	Antwerp	June 6-13	4	1
	Brussels	June 6-13		8
Brazil:	Rio de Janeiro	May 24-31		1
China:	Hongkong	May 2-16	12	1
	Shanghai	May 9-16		2
Colombia:	Bocas del Toro	June 9-16		2
Great Britain:	Bristol	June 6-13	1	
	Cardiff	May 2	28	
	Dublin	June 6-13	15	1
	Dundee	June 6-13	2	
	Leeds	June 13-20	12	
	Manchester	June 6-13	9	1
	Newcastle-on-Tyne	June 6-13	1	
	Sheffield	May 30-June 6	9	
	Sunderland	June 6-13		1
India:	Bombay	May 25-June 2		44
	Calcutta	May 23-30		1
	Karachi	May 23-30	3	
	Madras	May 23-29	1	
Japan:	Kobe	May 23-June 6	5	
Mexico:	City of Mexico	June 7-14	18	12
Russia:	Moscow	May 30-June 6	2	2
	St. Petersburg	May 30-June 13	41	10
	Warsaw	May 16-24		2
Switzerland:	Zurich	June 6-13	1	

YELLOW FEVER.

Colombia:	Panama	June 15-22	3	1
Costa Rica:	Limon	June 11-18	2	
Ecuador:	Guayaquil	May 2-23		6
Mexico:	Merida	June 1-20		5

CHOLERA—INSULAR.

Philippines:	Manila	May 2-9	44	38
	Provinces	May 2-9	343	242

CHOLERA—FOREIGN.

India:	Calcutta	May 23-30		52
Straits Settlements:	Singapore	May 2-9		72

PLAGUE—INSULAR.

Philippines:	Manila	May 2-9	6	2

PLAGUE—FOREIGN.

Brazil:	Rio de Janeiro	May 24-31		1
China:	Amoy	May 16	Present.	
	Canton	May 16	Present.	
	Hongkong	May 2-16	215	184
Egypt:		May 23-30	4	4
Germany:	Berlin	June 5	1	1
		Contracted in laboratory work.		
	Berlin	June 5-18	1	
India:	Bombay	May 25-June 2		186
	Calcutta	May 23-30		52
	Karachi	May 24-31	105	100
Mauritius:		May 21-28		1

Changes in the Medical Corps of the U. S. Army for the week ended July 4, 1903:

WHITCOMB, First Lieutenant CLEMENT C., assistant surgeon, will proceed to Fort Preble and report to the commanding officer Artillery District of Portland, for assignment to a station in that district where his services may be needed.

SPILMAN, R S., contract surgeon, is granted leave for one month, from about June 25.

The following changes in stations and duties of medical officers are ordered: Major John M. Banister, surgeon, in addition to his present duties, will report to the commanding officer, Post of Manila, for duty as surgeon, Post of Manila. Contract Surgeon Willard D. Preston, now at Cabanatuan, Nueva Ecija, will turn over all records, property and funds in his possession to Contract Surgeon John M. Feeney, now at that station, and will proceed to Manila and report to the chief surgeon of the department of Luzon, for instructions.

WOODS, OSCAR W., contract surgeon, now under treatment at the U. S. general hospital, Presidio, is relieved from further duty in the division of the Philippines, and will proceed to Vancouver Barracks, and report to the commanding general, department of the Columbia, for assignment to duty.

RHOADS, First Lieutenant THOMAS L., assistant surgeon, will proceed to Hot Springs, Ark., and report in person to the commanding officer, Army and Navy general hospital, for treatment, and when in the opinion of the commanding officer of the hospital he has sufficiently recovered, he will return to his proper station at the U. S. general hospital, San Francisco, Cal.

WICKLINE, W. A., contract surgeon, leave granted May 27 is extended fifteen days.

KING, First Lieutenant DAVID M., will make not to exceed one visit to Fort Miley on business pertaining to the inspection of the armament at that post and the work of mechanics thereon

PATE, ROBERT E., orderly sergeant, now at the Army General Hospital, Washington Barracks, is relieved from further duty at Fort Williams and will proceed to Fort Marion, St. Augustine, Fla., for duty.

DESHON, Captain GEORGE D., assistant surgeon, will proceed from Boston, Mass., to Fort Preble and report to the commanding officer artillery district of Portland for temporary duty at Fort McKinley during the Army and Navy maneuvers of 1903. After closing up his official business in the district at the termination of the maneuvers Captain DeShon will return to his proper station.

CHAMBERLAIN, First Lieutenant W. P., assistant surgeon, is granted leave for one month with permission to apply for an extension of one month.

RICHARDSON, First Lieutenant GEORGE H., assistant surgeon, will proceed to Fort Bayard and report at the United States General Hospital for temporary duty during the absence of Captain George M. Wells, assistant surgeon, and upon the return of Captain Wells to duty will rejoin his proper station at Fort Logan.

VANKIRK, HARRY H., contract surgeon, will proceed to Morenci, Ariz., and report for duty with troops in the field, relieving First Lieutenant Harry S. Purnell, assistant surgeon. Lieutenant Purnell will return to Fort Wingate, his proper station

CARPENTER, ALDEN, contract dental surgeon, is granted leave for twenty days, from July 1.

LIPPINCOTT, Colonel HENRY, assistant surgeon, leave granted May 12 is extended two months and fifteen days.

TRUBY, First Lieutenant WILLARD F., assistant surgeon, now on temporary duty at Fort Ethan Allen, is assigned to permanent duty at that post.

TENNEY, E. R., contract surgeon, is granted leave for one month.

Changes in the Medical Corps of the U. S. Navy for the week ended July 4, 1903:

MILLER, J. T, acting assistant surgeon, detached from recruiting duty, and ordered home to wait orders—June 26.

CHAPMAN, R. B., acting assistant surgeon, detached from recruiting duty, and ordered home to wait orders—June 26.

BERTOLETTE, D. N., medical inspector, ordered to Washington, D. C., as member of the Naval Medical Examining Board—June 20.

MURPHY, J. A., assistant surgeon, detached from the Monadnock, and ordered to the Celtic—July 1.

MCCLANAHAN, R. K., assistant surgeon, detached from the Oregon, and ordered to the Villalobos—July 1.

Changes in the Public Health and Marine-Hospital Service for the week ended July 2, 1903:

BAILHACHE, PRESTON H., surgeon, leave of absence for seven days from July 1, 1903, under paragraph 189 of the regulations.

SAWTELLE, H. W., surgeon, granted leave of absence for two days from June 30—June 26, 1903.

GASSAWAY, J. M., surgeon, granted leave of absence for two days from June 28—June 26, 1903.

STONER, G. W., surgeon, leave of absence for two days from June 29, 1903, under paragraph 189 of the regulations.

WHITE, M. J., assistant surgeon, to report to chairman of Board of Examiners, San Francisco, Cal., July 10, 1903, for examination to determine his fitness for promotion to the grade of passed assistant surgeon—June 30, 1903.

FRICKS, L. D., assistant surgeon, to report to chairman of Board of Examiners, Immigration Depot, New York, N. Y., July 6, 1903, for examination to determine his fitness for promotion to the grade of passed assistant surgeon—June 30, 1903.

MCLAUGHLIN, A. J., assistant surgeon, relieved from duty at New York, N. Y., and directed to proceed to Washington, D. C., for duty in the Bureau—July 1, 1903.

SIMONSON, G. T., acting assistant surgeon, granted leave of absence for one day—July 2, 1903.

TUTTLE, JAY, acting assistant surgeon, granted leave of absence for thirty days from July 1—June 25, 1903.

RICHARDSON, S. W., pharmacist, relieved from duty at St. Louis, Mo., and directed to proceed to Portland, Me., and report to medical officer in command for duty and assignment to quarters, relieving Pharmacist M. Walerius—June 30, 1903.

WALERIUS, M., pharmacist, upon being relieved by Pharmacist S. W. Richardson, to proceed to St. Louis, Mo., and report to medical officer in command for duty and assignment to quarters—June 30, 1903.

American Medicine

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PUBLISHED WEEKLY AT 1321 WALNUT STREET PHILADELPHIA BY THE AMERICAN-MEDICINE PUBLISHING COMPANY

VOL. VI, No. 3. JULY 18, 1903. $5.00 YEARLY.

The expense of the inglorious Fourth has been partially epitomized, as best it can, by the Chicago *Tribune*. In about 200 cities of the United States 52 persons were killed and 3,665 injured. The loss of property by fire, moreover, amounted to $400,625. It appears that the celebration this year was of an exceptionally destructive character. The deadly toy pistol injured 559 persons, but gunpowder as it is used in home-made bombs and fireworks is a still greater source of danger, claiming 768 victims. Firearms, carelessly handled, injured 562 persons, probably as many as are hurt in hunting accidents during an entire year. Skyrockets caused 206 injuries, cannon 319, and runaways 81, while "fireworks," unclassified, brought disaster to no less than 1,170. In addition, at the present writing upward of 90 deaths from tetanus have been reported. We wish that the expense of money spent for firecrackers, fireworks, bombs toy pistols, etc., could be estimated, and that all the deaths subsequently from tetanus, etc., might be culled out of and related to the 3,665 injuries reported and the thousands of minor injuries treated at home and not available for statistical purposes. Will this cruel and morbid nonsense be allowed to go on forever?

The Christian Hospital Fraud.—We have received from Dr. Murphy accounts of the prosecution of the Wood-Probert-Christian-Hospital Company which made such outrageous use of Dr. Murphy's name. We have already given the facts as to this scamp's concern, the same men having attempted a similar game under the name of the St. Luke's Hospital, at Niles, Michigan. The beginning of the present scheme was the incorporation of "The Chicago Store," in 1893, changed to "The Christian Medical Dispensary and Humane Hospital," in 1901, and last year to the present name. There is no such man as N. News Wood, A.M., M.D., who signs himself president of the board of directors, but there are three men named Wood on the staff, as it is published. Eight of the eighteen men named on the staff are not licensed to practise in Illinois. The chief of the enterprise, Probert, was recently Convict 6,843 in Waupun Penitentiary, for embezzlement. On complaint of Dr. Murphy the "Hospital" ("an operating-room and three persons who pose as patients") has been enjoined from advertising his (Dr. Murphy's) name as chief of staff, and the principal directors have been arrested, and the federal grand jury will investigate the charges, evidence against them having been collected by the Chicago Medical Society. Dr. Murphy rightly says he has no sympathy for any members of the medical profession who were taken in. "Any professional man who would send a patient to an institution under such circumstances could get no treatment that he did not deserve."

School Gardens.—We have previously spoken of the unutilized opportunity for promoting health and happiness by means of the school garden. Miss Louise Klein Miller, director of the Lowthrope School of Horticulture and Landscape Gardening for Women, says that in Austria-Hungary alone there are 18,000 school gardens, and in France there are said to be 28,000, and in all Europe over 100,000. In France the teachers are required by law to be able to instruct their pupils in the elements of agriculture and horticulture, and normal schools have been established for the purpose of giving teachers such training. No plans for school buildings to which the State contributes are approved unless accompanied by plans for a school garden. In these gardens the pupils are shown practically the simpler details of horticulture, and are given charge of every stage of the cultivation, from the preparation of the soil to the gathering of the harvest. In this country the system has been successfully undertaken, and it is likely to extend rapidly. It can be combined with other instruction, as is well shown by the work at Hyannis, Mass. At the school gardens of the State Normal School there the "products of the gardens are sold, the money is taken to the bank and deposited, and the children learn the method of depositing money and drawing checks." The study of horticulture is compulsory in Belgium. In Germany and England school gardens are encouraged, but not regulated by law.

A difficult problem, says Miss Miller, for the economist and sociologist to solve, is the herding together of a large population in a crowded city. Strenuous efforts are being made to turn the tide countryward and induce persons to seek homes where life will be freer and more wholesome. If the elements of agriculture and horticulture were taught in country, town and, so far as possible, in city schools, in an intelligent, scientific and attractive manner, life in the country would be the joy that the opportunity affords.

Those interested in the subject may consult "How to Make School Gardens," by H. D. Hemmenway; Doubleday Page & Co., 1903.

The National Educational Conference, at Boston, which has just adjourned, was a most noteworthy meeting. How many more teachers are there in the country than physicians? The teachers turned out 20,000 interested attendants. It is record-breaking when the doctors gather 2,000 at their national meetings. As to college training President Eliot is content with the elective system and a three-years' course, and depends upon the preparatory schools to deliver sub-freshmen at a tender age; President Butler believes that no man who is to study in a professional school should be compelled to spend more than two years in college; others may spend three or four. Other educators were distrustful of the elective system, and pointed out that were President Butler's advice taken we should have to speak of the "unlearned" professions. The problem of the relation of the college course to that of the profession is evidently still unsolved. There was, however, a remarkable unanimity as to the general neglect of the moral side in our educational institutions. The intellect has been cultivated to the exclusion of the ideal which undoubtedly actuated the founders. The motto of Harvard was worthily carried by President Eliot. Richard Watson Gilder emphasized the uplifting influence of the kindergartens on the home and district. Physics, art, chemistry, charity, drawing, painting, language, what you will, were fully discussed, but where was physiology, hygiene, preventive medicine? Sadly unheard, and apparently not represented. In another part of the newspapers containing the reports were accounts of the resolution of Columbia to abolish professionalism in her college athletics, as Harvard has long done. Will Yale and Cornell and the others do the same?

Poisoning by Aconite.—A popular French actress, Madame Calvé, recently had a narrow escape from fatal poisoning with aconite. It is well, in the public interest, that attention has in this connection been forcibly called to the very dangerous practice of using powerful medical remedies otherwise than as directed by a skilled professional adviser. It also calls the attention of the medical world to the specific properties of one of the most powerful of all known poisons. Madame Calvé had suddenly developed some laryngeal hoarseness, which is, necessarily, a serious accident to a member of her profession, even when occurring in the mildest form or from the most trivial cause. She had great fear of an onset of influenza, and procured a supply of a liquid preparation of aconite from her medical adviser. He explained to her the potency of this remedy in checking the onset of acute inflammatory attacks. Pressed by her professional vocations day by day she had special reasons for desiring a rapid cure; and accordingly, following out the notion of the average member of even the educated public—that a large dose must be productive of a proportionately effective and rapid result—she swallowed a teaspoonful instead of a few drops, although she had been specially forewarned of the danger of an overdose! The inevitable result of course followed. The numbing influence on the sensory nerves, and the alarming weakness of the heart's action, which are special characteristics of aconite poisoning, quickly developed. As symptoms progressed, the heart almost ceased to beat; and a deathlike coldness of the cutaneous surface proceeded from the extremities toward the trunk. Fortunately the best medical advice was within easy reach, and the formidable symptoms subsided under treatment. The conduct of such a case requires, of course, the most extreme caution; as, on account of the characteristic depression of cardiac action, any sudden exertion, such as an attempt at sitting up in bed, is inevitably followed by fatal syncope—if the amount taken has been sufficiently large.

The Potent Principle of Aconite.—Poisoning by aconite presents many features of the greatest interest, as well to the general public, any member of which may be, at some period of life, exposed to its action, as to the scientific physician, to whom it offers some of the most interesting clinical symptoms, and may at any time afford special opportunities for the use of his best judgment and skill; to the chemist, for the study of the physical properties of its deadly active principle, the alkaloid aconitin; to the physiologist, for the investigation of its specific influence on the nervous and circulatory systems respectively; and to the botanist, for the remarkable life-history, and the very peculiar floral conformation of the plant itself. To the latter, the *Aconitum napellus* is also known as *monkshood*, from the characteristic arrangement of its flowering leaves; and *wolf's bane*, from the historic fact that, in bygone ages, it was looked on as peculiarly fatal to wolves and dogs. Also from the fact that its root, which contains the largest proportion of the deadly constituent, has been mistaken for that of *horse-radish;* and, accordingly, served up to unsuspecting gourmands with the very worst results. An historic case of this kind occurred, some three centuries ago, at a large banquet in Antwerp; an occasion on which most of the guests present were fatally poisoned through the mistake referred to. The advance of scientific chemistry during the past century included among its results the isolation of the poisonous "active principle" of the aconite plant—a crystalline compound, possessing the special type of molecular structure known to chemists as "alkaloid." To the chemic experimentalist, this alkaloid, to the subtle and potent powers of which the deadly properties of monkshood are due, offers the special attraction of possessing the unique peculiarity of being the most difficult of all the deadly poisons known to science to trace in the body of its victim after death. We have recently referred in these pages to a very interesting experience of the great British toxicologist, Sir Robert Christison, in connection with this fact. However, the various departments of medical science have progressed very rapidly since Christison's time; and very conspicuous in the general advance has been that of experimental physiology. A melancholy item of proof of this fact is that Dr. Lamson, who was a pupil of Professor Christison when the latter used to teach at his lectures the hopelessness of the search for aconitin in the body after death, was himself executed for the poisoning of his own nephew by aconitin—the employment of which he had been taught to believe was

"safe," as well as being so very peculiarly effective. The aconitin in this case was identified by its physiologic effects, which had become thoroughly familiar to experimentalists during the years that had elapsed since the unhappy Lamson had completed his curriculum.

Aconite in Ancient Times.—The appearance of the remarkable "*helmet* flowers," united with the destructive properties of the whole plant to give "monkshood" a conspicuously prominent position in the temple of ill-fame at an early date in the progress of human knowledge. Accordingly, the imaginative ingenuity of classic times displayed a liberal expenditure of its powers in its account of the original production, the physical peculiarities, and the antidotal—or antipathetic—history of aconite. In Philemon Holland's quaint version of the grand old pagan "Encyclopedia of Natural History," we are told how "the poets haue feined a tale that this herb should be ingendered first of the fome that the dog *Cerberus* let fall vpon the ground, frothing so as he did at the mouth for anger when *Hercules* plukt him out of hell; and therefore it is forsooth, that about Heraclea in Pontus (wher is to be seen that hole which leadeth into hell) there groweth Aconit in great plenty." The same uniquely interesting authority tells all readers whom it may concern that "we know there is no poison in the world so quicke in operation as it, insomuch as if the shap or nature of any living creature of female sex be but touched therewith it will not liue after it one day to an end. This was that poison wherewith *Calphurnius Bestia* killed two of his wiues lying asleep by his side, as appeareth by that challenge and declaration which *M. Cæcilius* his accuser framed against him. And hereupon it was, that in the end of his accusatory inuectiue he concluded with this bitter speech, 'that his wiues died upon his finger.'"

The Origin of the Name Aconite.—This latter peculiar manifestation of its malignant powers gave aconite the additional sobriquet of *Theliphonon* ("female bane"), by which it was sometimes known. The root was supposed by some of the botanists to be "like vnto a sea crabfish; and therefore some haue named it Cammaron." And we are further told, "for that the root doth turn and crook inwards in manner of a scorpion's taile, there be that giue it the name Scorpion. There wanted not others who choose rather to call it Myoctonon, because with the very scent it is able to kill mice and rats a great way off." Regarding the appellation by which it is known to modern botanists, we are told that "It groweth naturally upon bare and naked rocks, which the Greeks call Aconas; which is the reason (as some haue said) why it was named Aconitum. Yet there be other who assigne another cause of that denomination, to wit, for that it is as forcible and as speedy in working the death of those whom it toucheth as the hard-stone or rag in turning or wearing the edge of any yron toole, for no sooner commeth it neere vnto the body and is applied vnto it, but the quicke operation is sensibly found." However, in further illustration of the irreconcilability of doctorial opinions in all departments of the vast domain of human knowledge—we find Theophrastus, the other great authority on matters vegetable in pagan times, deriving the name of his Aconite "from Anconae, a certain town, neer to which it groweth abundantly."

Aconite Lore of Ancient Pharmacists and Botanists.—As will readily be anticipated, the appallingly destructive powers of the aconite plant furnished the riotously productive imaginations of ancient botanists and pharmacists with the proper material for the creation of a vast series of still more weird capabilities for subversion of the laws of vital force, and successful antagonism to the usual phenomena of animal existence. Accordingly, the reader whose mental prominences have been rendered callous by varied experience in the bypaths of scientific lore, will feel no surprise when asked the plain question "who knoweth not, that scorpions if they be but touched with Aconite, presently become pale, benummed, astonied, and bound, confessing (as it were) themselves to be vanquished and prisoners; contrariwise, let them but touch the white Ellebore, they are unbound and at liberty again; they recover (I say) their former vigor and vertue; whereby we may see that the Aconite also giveth the bucklers to enemies twaine, pernicious poisons both, the one to itselfe the other to all the world."

The "Antipathies" and "Antidotes" of Aconite.—There is little doubt that the origin of the idea of the "antipathy" between the scorpion and the aconite was derived from the fancied resemblance above referred to of the curves of the tail of the former to those of the roots of the latter. It was a conspicuous item of the vegetable lore of classic antiquity which waxed in strength in the mystic faith of the Middle Ages till it assumed the gigantic proportions of the doctrine of "signatures," according to which the allotted properties and functions of every plant was indicated by its external physiognomy. Hence we are informed that "being given in hot wine it is a counterpoison against the sting of scorpions; for of this nature it is, that if it meet not with some poison or other in men's bodies for to kill, it presently sets upon them and soon brings them to their end, but if it encounter any such it wrestleth with it alone, as having found within a fit mark to deal with, neither entreth it into this fight unlesse it find this enemy possessed already of some noble and principall part of the body and then beginneth the combat; a wonderful thing to observe, that two poisons, both of them deadly of themselves and their own nature, should die one upon another within the body, and the man by that means only, escape with life." Those of our readers who happily combine long memory with experience will probably recall in this connection the unprecedented and unhoped-for doorway of deliverance which the dexterous hand of Providence opened for the late Baron Munchausen in that desperate moment of his existence when he lay down on his face with an open-mouthed crocodile on one hand and a springing lion on the other! And a still further item of ambidextrous antipathy is offered by our monkshood, according to the same oracle of ancient lore: "The people about Heraclea to kil the

panthers which breed in these parts used to rub with aconite certain gobbets of flesh, which they do lay about the mountains as a bait and bane for them; and unless by this means they did destroy them, no doubt they would fill the whole countrie, which is the cause that some did call it Pardalianches i. libard-bane; but they again on the other side, presently haue recourse to the excrements of a man, as I haue before declared, the only counterpoison whereby they save themselves."

The Ancient Botanical Antidotes to Aconite.—But our redoubtable "helmet-flowered" plant displayed bilateral antipathetic symmetry toward some of its vegetable as well as of its animal contemporaries. The *Anthora* possessed an established reputation as the "Counterpoison Monkes hood" and of it we are told by one of the grand old herbal authorities, that "it is said by all authors that it groweth with or hard by the Napellus or Thora; although Gerard saith the contrary, and adviseth that it be not planted near the Napellus or Helmet flower for fear of drawing the venemos [*sic*] qualitie thereof with it."

Among the antidotes which the fertile imagination of classic antiquity provided against the deadly powers of aconite, we find that Garlic occupied an honored place. When we find the authority of the elder Pliny pledged to the statement that not only "it is of power to dull and kill the force of the venomous herb Aconitum," but that "it conquereth the sopariferous and deadly quality of 'Henbane;' the bitings also of a mad dog it healeth if it be applied upon the hurt. . . . As for the sting of serpents verily, Garlick is exceedingly effectual 'if it be taken in drink: but withal you must not forget to make a liniment of it;' and even that 'the very sent thereof chaseth Serpents and Scorpions away,'" we can hardly be surprised that the Italian peasantry were such devoted "Garlick-eaters" as they were in the days of *Coriolanus*. Another is the eryngion, or "sea-holly," which also shared with garlic a fair proportion of the power against snake-venom. Indeed "Heraclides the Physitian" was of opinion that its root "boiled in the broth of a goose is of more efficacie than all other"—against aconite, and some other potent herbal poisons. Curiously enough, *Apollodorus* recommended its preparation for the same purpose by having "a frog sodden withal;" this remedy savors somewhat of the methods of the experimenting vivisectionist of the latter days; while the fact that "Mere wine (*merum*) not delaied is a remedy against" this and many other poisons—both animal and vegetable—goes to show that the ancients had some crude knowledge of the use of alcoholic stimulants in the extreme cardiac depression produced by certain toxic agents. "The Balsame oile, called Balm, is of all others most pretious. . . . It danteth and mortifieth the poison of Aconitum if it be taken with milk." Another remedy of high reputation was mulberry juice, which we are told "is a singular counterpoison for them who have drunke either the juice of Aconite, or swallowed a Venomous Spider." The house-leek also possessed "this peculiar vertue, to resist the deadly poison of the herb Aconitum."

Ancient Animal Therapy for Aconite Poisoning.—Passing over to the domain of "Animal therapeutics," which was highly cultivated by the ancients, and which has just recently become again the region of critical investigation, we find that so simple and grateful a remedy as *cow's milk* was highly recommended as an antidote against aconite. So was the *broth made of tripes*. Even the "*broth of an old Cocke*," we are confidently told, "is most effectuall against the poison of the herbe Aconitum, but then it must be given with a little salt among." The *Castoreum*, of whose origin such curious tales were told by ancient natural historians and pharmacists, was included in this rank, for we find that "Soveraigne it is for the poison of the herb Aconitum or Libardbane, in milk or faire water." Other "antipathies" of aconite were, as might be expected, prominently placed in the records of medieval scientific lore, and were naturally recommended as available antidotal agents. Avicenna, whose "*Canon*" was for five centuries a sort of medical Bible in orthodox medical practice, informs his readers that there is a mouse which feeds upon the root of aconite, and that "that mouse is the Treakle thereof and being taken in the whole substance, resisteth the venome of the *Napellus*, and freeth them from all danger." These statements are corroborated by *Matthiolus*, the famous commentator of *Dioscorides*, who tells us that he had often found that mouse. The redoubtable *Petrus Aponensis* also adds his testimony to theirs. He confidently informs the reader that "the Mouse which feedeth upon the roots of *Napellus* is the *Bezoar* against *Napellus*, if it be dryed and two drams of the pouder given in drinke." But, unfortunately for the harmony of medical testimony, we have yet other three names of authoritative respectability ranged on the opposite side. *Antonius Guaianerius*, *Petrus Pena* and *Matthiolus de Lobel* are all three of the opinion that it was not really a *mouse* but a *midge;* that it was either by a scribe's slip or a reader's blunder that μῦς took the place of μῦια; that the root in question is as deadly to mice as to men and wolves; while on the other hand they bear ocular testimony to "great store of certaine great Flies, with blewish greene heads and wings, like unto Cantharides feeding upon the flowers, when as they could not finde any other creature to touch or eat it; of which Flies as they say and not of any Mouse, is made an antidote most prevalent against the poison of the most venomous spider called *Tarantula*, as also against all other Epidemicall, generall, or contagious diseases." And the antidote of *Guaianerius* against the poison of aconite "is to be made with *Terra lemnia*, *Bayberries* and Mithridate—of each two ounces; xxiv of the Flies that have fed upon Napellus; of honey and oyle a sufficient quantitie to make it up into an Electuary."

Smallpox in Pennsylvania.—There are 408 cases of smallpox in the State of Pennsylvania, or nearly one-fourth of the number of cases in the whole United States, the grand total in the country being 1,702. These figures cover a period running back to May 1 and come down to June 27. Indiana has 601 cases and Colorado 529. No other State comes anywhere near these figures. New York has 49; Minnesota, 53; Michigan, 30, and Massachusetts, 26 cases. Most of the States report but one or two. The total number of cases of smallpox in Pennsylvania from May 1 to June 27 last year was 21.

AMERICAN NEWS AND NOTES.

GENERAL.

Bubonic Plague.—Isolated cases of bubonic plague have occurred at Valparaiso and other towns in Chili. The authorities are taking the strictest precautions.

Mosquitos of Dengue Fever in Honolulu.—Late information from Honolulu states that dengue fever continues to prevail in Honolulu, and in other districts of the islands. In Hilo, court was adjourned for a week owing to the amount of illness among jurors and others. The mosquito is held responsible for the transmission of the disease, which is similar to the grip.

Serum Treatment for Tuberculosis.—Professor Maragliano claims to have produced after more than 30 years of study and experiment, both in the laboratory and the clinic, a serum which, introduced beneath the skin of the arm, as vaccine lymph is in vaccination, produces a small circumscribed tuberculous sore, attended with slight fever for two or three days, after which the system of the subject is immune to tuberculosis or consumption, as the properly vaccinated individual is to smallpox.

Food Regulations.—A meeting of the Association of Manufacturers and Distributors of Food Products was recently held in New York for the purpose of considering the method of obtaining additional pure food legislation by Congress. An active campaign was waged before the last Congress toward this end, but the divergent views could not be reconciled. The manufacturers contend that at present they have great difficulty in labeling and branding their products to conform to the various State laws. They state that they have no objection whatever to labeling their goods "compound," "adulterated," or in any other manner to suit the taste of Congress, but they are very anxious to have a law which will permit the use of one label in all of these States.

Information from Ottawa states that as soon as the bill which the Minister of Justice introduced has become law it will be a criminal offense to sell cigarets to minors. The amendment which he proposes to the Criminal Code says that "Every one is guilty of an offense and liable on summary conviction to a penalty not exceeding $50 and not less than $10, to imprisonment with or without hard labor for 30 days, or to both, who, either directly or indirectly, sells or gives or furnishes to a minor under the age of 18 years cigarets, cigars or tobacco in any form; provided, however, that this section shall not apply to the sale to a minor for his parent or guardian under a written request or order of such parent or guardian. A person who appears to the magistrate to be under the age of 18 years shall be presumed to be under that age, unless it is shown by evidence that he is over that age."

To Return Impure Imports.—The Assistant Secretary of the Treasury has issued an order carrying into effect July 1 the Pure Food Act which was approved by Congress March 3. Under this act the Secretary of the Treasury has authority, upon request from the Secretary of Agriculture, to direct drawing by officers of the customs of samples at any custom house from packages of imported food products, drugs, and liquors, and to refuse to deliver to the consignees any commodities found to be dangerous to health, or which are forbidden to be sold in countries in which they are made, or which shall be falsely labeled. The cost of the samples will be reimbursed to the importer. Commodities which are declared adulterated will be exported under customs supervision, under bond, conditioned for landing abroad, and in default of exportation, destruction under customs supervision must follow.

Human Heart.—A newspaper contains the following: The human heart is practically a force pump about six inches in length and four inches in diameter. It beats 70 times a minute, 4,200 times an hour, 100,800 times a day 36,792,000 times a year, and 2,575,440,000 times in 70 years, which is man's appointed threescore and ten. At each of these beats it forces 2½ ounces of blood through the system, 175 ounces a minute, 656¼ pounds an hour or 703 tons a day. All the blood in the body, which is about 30 pounds, passes through the heart every 3 minutes. This little organ pumps every day what is equal to lifting 122 tons one foot high or one ton 122 feet high—that is, one ton to the top of a 40 yard mill chimney, or 16 persons seven score each to the same height. During the 70 years of a man's life this marvelous little pump, without a single moment's rest night or day, discharges the enormous quantity of 178,850 tons of blood.

Yellow Fever in Vera Cruz.—Assistant Surgeon Goldberger reports, June 29, as follows: During week ended June 27, 1903, a total of 47 deaths was recorded (76 per 1,000), of which 8 were due to yellow fever, 2 to pernicious fever, and 7 to tuberculosis. The State of Vera Cruz, through its governor, has requested the national authorities to take charge of the sanitation of the city of Vera Cruz, with a view to the elimination of yellow fever within its boundaries. It is believed that, with this end in view, the superior Board of Health is about to initiate a vigorous sanitary campaign not only in this city but also in Tampico, Progreso, and Merida. Should this work be begun simultaneously in all the coast cities, and should the national authorities receive the hearty cooperation that they deserve, it may confidently be predicted that Vera Cruz, so long the home of this yellow scourge, will take its place beside Havana as one of the most salubrious of tropical cities.

Will Study Tobacco Effects on System.—Dr. Wiley, chief of the Bureau of Chemistry of the Department of Agriculture, will soon proceed to the study of the effects of tobacco upon the system. He will proceed as he has done in the case of the foods; that is, he will take pure tobacco in various forms, smoking and chewing, and see what effect its use has upon the consumer when taken in varying quantities. He will then take up the adulterated tobacco, or the flavored tobacco, and ascertain by experiments what effect it has upon the system. It is the intention to take men who are regular smokers and learn their physical condition as to their heart action, respiration, digestion, etc., while continuing the use of tobacco under normal conditions, and then to have these men suddenly cease the use of tobacco entirely. After the effects of the prolonged use of tobacco have been eradicated from the system it is proposed that the subjects shall recommence the use of the weed.

To Combat Cholera in the Philippines.—The following circular has been issued by Brigadier-General Wint, under the department of the Visayas in the Philippines: "Asiatic cholera having been reported as appearing again in various parts of the division, the attention of all concerned in this command is directed to the necessity of taking every possible precaution to protect the troops from infection. At every station in this department in or near localities where cholera is reported as occurring, soldiers will be prohibited from entering saloons, native restaurants or shacks, and from using any fresh native fruits or vegetables or any native drinks. Copies of this circular are kept posted at all times as required by law; and station commanders will issue such additional instructions as local condition may require, and as may be necessary to prevent possible exposure to infection by members of their commands due to natural tendency to carelessness as a result of the continued presence of the disease in the archipelago."

EASTERN STATES.

Mortality rate in Boston for the week ended July 11, 1903, is as follows: The number of deaths reported to the Board of Health for the week is 202 as against 190 the corresponding week last year, showing an increase of 12 deaths, and making the deathrate for the week 17.46.

Eddyism and the Deathrate.—The *Springfield Republican* calls attention to the fallacy of the claim made by the eddyites relative to the mortality rate within their denomination. As compared with the published mortality rate in Boston it says in substance: The members of the eddyite church are almost entirely adults, and what children may be on its rolls have doubtless passed the period of infancy. There is substantially no such factor as infant mortality in the low deathrate of the mother church of Boston, because infants are not members. Now everyone should know that infant mortality in any great city is a very important factor in the municipal death rate. The 18.73 per 1,000 for Boston, against which the eddyites flourish their 2.24 per 1,000, includes all that enormous sacrifice of child life which is due to feeble vitality, disease and the city slums. The eddyites naturally have a low annual deathrate for the simple reason that their membership is composed for the most part of mature persons whose very success in passing through infancy and adolescence to manhood and womanhood shows that, like all other adults, they are the results, to a considerable degree, of Nature's selective processes. Moreover, the eddyite church as yet contains a comparatively small number of aged members, because it is of recent growth and the great body of its recruits have been persons in young manhood and womanhood or still in middle life.

NEW YORK.

Vital statistics for the first half of the current year have been made public. The condensed report is as follows: For the first six months of 1903, 34,855 deaths were reported, indicating a deathrate of 18.67 per 1,000 inhabitants. The number of deaths reported in the first six months of 1902 was 35,491, indicating a deathrate of 19.54 per 1,000. The decrease of nearly 1 to 1,000 marks a saving of 3,733 lives. The births reported numbered 46,408, against 40,392 for the first half of 1902. This marked increase was due in part to the increase of population, but more probably to the more careful reporting of births which has been required of physicians and midwives. The number of births for the year will probably be between 97,000 and 100,000.

Women's Organizations to Aid in Sanitary Matters.—Three important women's organizations have all offered their services to the Board of Health to aid in making the city clean and sanitary. In accepting their offer Dr. Lederle takes occasion to remark that their own sex is a persistent offender against the laws of health and cleanliness. For instance, he says, flat occupants persist in beating rugs out of upper story windows, in utter disregard of the comforts of the tenants below them. He tells them that "if a woman would only run the carpet sweeper over the rug several times, then take it out in the yard, and with a broom, over which had been tied a cloth dipped into water and ammonia, brush it thoroughly, the result would not only be cleansing, but the rug would look like new."

PHILADELPHIA, PENNSYLVANIA, ETC.

How to Dispose of Sewage.—Dr. Martin, Chief of the Health Department of Philadelphia, is quoted as saying: "One of the great needs of the city is a system for the hygienic disposal of sewage. The need for a modern system increases with the population, and legislation should be enacted to compel the change. Instead of allowing the sewage as at present to contaminate our streams and keep our deathrate high we should introduce a system to evaporate it. The sewage could be transferred to its destination by atmospheric pressure. The destination might comprise two or three receiving stations, where it could be converted into fertilizer. When this process is properly done it results in producing a fertilizer the sale of which would more than pay the expense of the operation."

Map Showing Districts where Tuberculosis is Most Active.—Dr. Lawrence Flick, manager of the Phipps Institute for the Prevention and Cure of Tuberculosis, has arrranged a map, showing the localities in the city where pulmonary tuberculosis is most active. Taking Broad and Market streets as the dividing lines a glance at the map shows that that part of the city lying south of Market street and east of Broad has more cases of pulmonary tuberculosis than all the rest of the city. The poorer class of Jews, who congregate in the district showing the greatest number of cases, live on the most meager fare. They are crowded together so that cleanliness and pure air are absolutely unobtainable. And it is in that section that it is hoped to accomplish the most in the way of preventing the spread of the disease.

SOUTHERN STATES.

Hospital for Epileptic Patients.—The contract to erect the new buildings for the epileptic patients of the State Hospital for the Insane at Springfield has been awarded. The new building will be two stories high, of brick and terra cotta and of a style in harmony with the other buildings. It will be 200 feet long, with a central part 50 feet wide, while each wing will have a width of 25 feet.

Medical Inspector Dies of Yellow Fever.—Dr. R. B. Parker, the inspector of the steamship Mount Vernon, who was taken ill on the voyage up from Port Limon and was sent with the vessel to the government quarantine station, at Ship Island, Miss., died there July 6 from yellow fever. Dr. Parker came from Cincinnati three weeks before to fill the post, and this was his first trip back from Costa Rica.

WESTERN STATES.

Endowed Medical Journal.—From Chicago comes the news that the *Journal of Infectious Diseases*, said to be the only endowed publication of the kind in the world, will be issued in the fall, and will be edited by Professor Hektoen and Professor Jordon of the University of Chicago. The expenses which, it is estimated will amount to $5,000 annually, will be met by Mr. and Mrs. Harold McCormick. This agreement is made for an indefinite term and amounts practically to a $125,000 endowment. Since the death a few years ago of their son, Jack Rockefeller McCormick, Mr. and Mrs. McCormick have founded the institute for the study of infectious diseases, connected with Rush Medical College. The journal will give to the scientific world the results of work done there and in other laboratories.

Chicago's Population.—The Bulletin of the Chicago Health Department says: Following the plan of estimating intercensal population adopted by the United States Census Office, Chicago's 1903 midyear population would be 1,988,870—1,698,575 midyear 1900, compounded at 5.4%, average annual rate of increase 1890–1900, or 48,870 more than the directory figures and 103,870 more than the department's estimate. Computed on the figures of population obtained by the English method Chicago's deathrate for last month would be 15.83 per 1,000 of population; on the directory figures it would be 16.23, while on the department's figures it was made 16.69, or more than 5% greater than might be technically claimed on the highest recognized statistical authority. If the English method should be generally adopted in this country Chicago would undoubtedly fall in line, in which event its midyear population of 1904 would be, officially, 2,096,268, and the "Two Million Club" might set its stake still higher.

Smallpox in Minnesota.—An exchange states that it seems to be a general impression that this disease is becoming more virulent throughout the State of Minnesota, and there is good reason for such a belief. It is no more than should be expected; in fact those who are familiar with the course of smallpox epidemics are surprised that it has continued so long in its mild form. There were 20 deaths recorded at the State Board of Health's office during the month of May. Undoubtedly there are enough unreported cases to bring the total up to 25. This taken with the fact that the number of cases for May, 1903, are much below those for the same period in 1902 is significant. The actual comparison is as follows:

Cases.	Deaths.	Death Rate.
1902—April 28 to June 2, 755	6	.8%
1903—April 27 to June 1, 515	20	4.0%

In certain localities the virulence has been quite marked, as in Hibbing, where there were 6 deaths out of 21 cases occurring between April 15 and June 1, 1903.

Deaths in Chicago.—The Bulletin of the Health Department of Chicago, for the week ended July 4, contains an important letter from Dr. Arthur R. Reynolds, the Commissioner of the Bureau of Health, in defense of the administration of his department against editorial attacks from one or two sources in that city. The conservative and interesting letter contains the following important comparisons: During the six years, 1891–1896, immediately preceding the present administration of the department, a total of 152,424 deaths were reported in Chicago; during the six years, 1897–1902, of the present administration, the total deaths reported were 145,907, or 6,517 fewer deaths in upward of 360,000 more population. The reduction is even greater among infants and young children—the acknowledged test of the efficiency of a sanitary administration. During the first period there were 68,008 deaths under five years of age; during the second period there were only 49,360 such deaths. This is a reduction of 18,648 deaths of the under five in the increased population above shown. From the same source it is interesting and encouraging to notice a number of editorial excerpts entirely favorable to the administration of the health department, and asserting that it is the most efficient department under the municipal government.

FOREIGN NEWS AND NOTES

GENERAL.

Drastic Measures in Japan Check Plague.—No more cases of plague are reported either at Tokio or in Yokohama. Drastic preventive measures are being strenuously carried out. The total number of deaths from plague this season is three.

CONTINENTAL EUROPE.

Infant Mortality the Cause of Reduced Recruits in the Army.—Information from Madrid states that for some time the Minister of War has been examining into the causes of the falling off in the number of recruits, and found that the enormous mortality among babies is to blame. Last year Spain lost 230,000 children below the age of five. During a period when Paris lost 4,068 children below the age of one year by death there died in Madrid 22,195. The cigaret smoking habit carrying with it tuberculosis, is to blame, but still more murderous is the unsanitary state of the milk. Of 100 specimens of milk investigated 89 were found to be unfit for consumption and a direct danger to life and health.

Bovine Tuberculosis.—The Berlin Medical Society recently heard a report from Professor Kossel, of the Tuberculosis Commission. This commission has carried on an extensive investigation relative to the probability of bovine tuberculosis carrying infection to the human subject. The commission's investigations cover three forms of introducing tubercle bacilli in calves, first, subcutaneous injection; second, in food; and, third, by inhalation. The preliminary report covers only the first form, but the experiments with the other forms continue. The commission decided to attempt the inoculation of calves not with matter taken directly from human victims, but with cultures made therefrom. The experimentation covered 39 separate cultures, 23 from adults and 16 from children. The results were that 19 calves subcutaneously treated did not show the slightest effect, 9 showed after 4 months the slightest changes of condition, and 7 showed more marked symptoms, but the propagation of tuberculosis in the body did not occur. On the other hand, 4 inoculations from tuberculous children infected calves with a disease which resembled a weak type of animal tuberculosis, and 2 of this number died from tuberculosis. The commission summarizes as follows: "The series of experiments strengthens Professor Koch's view that animal tuberculosis as the cause of human tuberculosis does not play the role generally attributed to it, but definite judgment requires further experimentation."

OBITUARIES.

Samuel J. Radcliffe, of Washington, D. C., July 9, aged 75. He was graduated from the Medical Department of the Georgetown University, in 1852. He was a member of the American and British Medical Association, the Medical Society and Medical Association of the District of Columbia, Washington Academy of Sciences and of the Washington Microscopical Society. He wrote largely for the medical press.

William Goehrig, of Williamsport, Pa., July 12, aged 71. He was graduated from the Philadelphia University of Medicine and Surgery, in 1861. He served throughout the Civil war as an assistant surgeon in the Ninety-eighth Pennsylvania Volunteer Infantry and had also served one term as Surgeon-General of the National Encampment, Union Veteran Legion.

Carl Schwalbe, in Los Angeles, Cal., June 14, aged 65. He was graduated from the University of Bonn, Germany, in 1862. He was a member of the American Medical Association and a surgeon in the German service during the Franco-Prussian war.

E. L. Thompson, of Dallas, Tex,, died at Mineral Wells, Tex., June 17, aged 62. He was graduated from the New Orleans (La.) School of Medicine, in 1861. He was a surgeon in the Confederate Army during the Civil war.

Thomas M. Rochester, of Brooklyn, N. Y., died in Rochester, N. Y., July 12. He was graduated from the Buffalo Medical College in 1878, and was prominent in the various medical organizations in Kings county.

De Laskie Miller, at Chicago, Ill., July 8, aged 86. He was graduated from the Geneva (N. Y.) Medical College in 1842, and at the time of his death was president of the board of trustees of the Rush Medical College.

Edwin A. Sailor, in Iowa City, Ia., June 22, aged 30. He was graduated from the University of Iowa, in 1901, and was formerly resident physician at the Clarinda State Hospital for the Insane.

Charles T. V. S. Butler, of Shepherdstown, W.Va., at Winchester, Va., July 8, aged 53. He was graduated from the medical department of the University of Maryland, Baltimore, in 1874.

Thomas W. Hewitt, in San Antonio, Tex., June 21, aged 64. He was graduated from the Louisville Medical College in 1861, and was a surgeon of the United States Army.

C. E. Nash, at Little Rock, Ark., July 8, aged 79. He was graduated from the Missouri Medical College, St. Louis, in 1849. He was a prominent writer on Civil war subjects.

W. L. Towndrow, of Snohomish, Wash., died in Everett, Wash., June 11, aged 80. He was graduated from the College of Physicians and Surgeons, Keokuk, Iowa, in 1856.

J. D. Vinton, of Kimberton, Pa., died at West Chester, Pa., June 14, aged 74. He was graduated from the Philadelphia University of Medicine and Surgery, in 1854.

Walter F. Blunt, at Lockhart, Tex., June 24. He was graduated from the Galveston (Tex.) Medical College, in 1874, and served for 25 years as State Health Officer.

Camill S. Fahenerstock, of Chicago, Ill., died at La Porte, Ind., July 5, aged 56. He was a member of the faculty of the Hahnemann Medical College of Chicago.

Sumner Pixley, in Peninsula, Ohio, June 12, aged 87. He was a graduate of the Philadelphia Medical School and served as surgeon during the Civil war.

A. V. Roberts, of Mansfield, La., July 8, aged 79. He was graduated from the medical department of the University of Pennsylvania in 1848

John H. Vincent, of Red Ridge, Mich., June 18. He was graduated from the Michigan College of Medicine and Surgery, Detroit, in 1902.

Hubbard A. Foster, in Buffalo, N. Y., June 16, aged 53. He was graduated from the Harvard University Medical School, Boston, in 1871.

George Howard Kennard, at Silver Lake, Ohio, June 28. He was a graduate of the Baltimore College of Physicians and Surgeons.

Alonzo Shaffer, in Essex, Conn., June 26, aged 32. He was graduated from the University of Pennsylvania, Philadelphia, in 1895.

Louis R. Ford, in Waynesboro, Ga., June 26. He was graduated from the Medical College of Georgia, Augusta, in 1870.

F. A. Davis, at Shepard, Ohio, June 24, aged 66. He was graduated from the Medical School of Alabama, Mobile, in 1861.

J. D. Mundy, in Denver, N. C., June 25. He was graduated from the Kentucky School of Medicine, Louisville, in 1878.

Henry K. Middleton, in Kirksville, Ky., June 25, aged 59. He was graduated from the University of Louisville, in 1871.

W. S. Wolfe, of Fleetwood, Pa., June 12. He was graduated from the Jefferson Medical College, Philadelphia, in 1897.

H. H. Littlefield, in Beardstown, Ill., June 26, aged 79. He was a member of the American Medical Association.

D. H. Herrell, in Hanna City, Ill., June 22, aged about 60.

Charles Legg, of Stringtown, Ill., June 14, aged 78.

R. B. Parker, at Ship Island, Miss., July 6,

S. A. Taylor, of East Point, Ga., June 20.

CLINICAL NOTES AND CORRESPONDENCE

[Communications are invited for this Department. The Editor is not responsible for the views advanced by any contributor.]

NOTES FROM THE PATHOLOGIC LABORATORY OF THE JEFFERSON MEDICAL COLLEGE.

BY

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of Philadelphia.

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ADRENALS CONTAINING PIGMENT CELLS RESEMBLING THOSE OF THE LIVER.*

Right Adrenal.—The gland measures 6 cm. in its longest diameter and 3 cm. in its greatest width. It is 1.5 cm. in thickness. Upon section of the specimen, which cuts with ease, the cut surface is of a uniform dark yellow color, firm in consistence with no demonstrable areas of necrosis.

Upon histologic examination, after staining by various methods, the mass is seen to be made up of adrenal structure, arranged very irregularly in small and large lobules. The cortical portion of the gland is for the most part normal in distribution. In one or two small areas there is an absence of the



Heart with bifid apex.

zones and in their place is an accumulation in masses of closely packed cells that resemble those of the normal gland. The medullary portion of the organ is very irregularly mapped out.

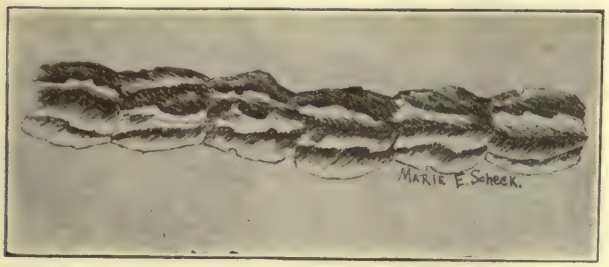
The lobules above mentioned are limited by masses of connective tissue in which few lymphoid cells and polymorphonuclear leukocytes are seen. In some of the lobules there is the appearance of a cortical portion, *i. e.*, the acini in rows or zones. In most of the lobules, however, there is an irregular arrangement of the contained acini. The bloodvessels throughout are engorged; small and large accumulations of red blood cells are seen scattered throughout the organ, but most marked at the periphery.

The capsule is slightly thickened and in the connective tissue, entirely outside of the gland structure, are seen small masses of cells that resemble acini of the gland proper, separated by delicate processes of connective tissue. The sections

*I am indebted to Dr. Joseph Sailer for the specimens.

cut from the gland are more or less triangular in outline and near the apex of this triangle is a small area, 5 mm. in diameter, that in the unstained condition is much darker than the surrounding structure.

Histologically, this area is made up of large, irregularly polygonal cells, arranged in cords, containing one and sometimes two or even three large round nuclei. The protoplasm is granular and dark and small fat globules are also present. They give a positive reaction to the test for glycogen, while the remainder of the specimen does not. The area in some portions is separated from the adrenal structure by fibrous connective tissue, but at other points is seen to merge gradually into the adrenal. Where this latter condition is noticed, an occasional solitary cell, or groups of two or three cells, can be seen as far up as the cortical portion. Another interesting feature is the presence of a number of lymph follicles scattered throughout the specimen, but most marked in the central part.

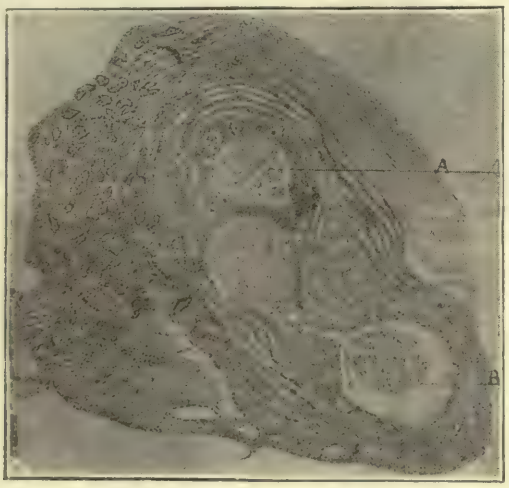


Teratological form of the Tænia Saginata (natural size).

Left Adrenal.—The organ measures 5 cm. in its longest and 2 cm. in its shortest diameter, and is 0.5 cm. in thickness. Upon section, the cut surface is yellowish in color and presents a small, sharply outlined nodule, 5 mm. in diameter, of a slightly paler color than the remainder of the organ. No areas of necrosis or caseation are observed.

Histologic Examination.—The cortical portion of the gland is for the most part regular as regards the zones. The medullary portion is faintly marked and in some areas is not demonstrable at all. There is an irregular arrangement of the acini of the gland where the medulla should be.

In one or two areas there are seen masses of cells, irregular in shape, staining more darkly than the cells of the organ and separated or limited by small bands of connective tissue. These irregular cells extend in quite a lawless manner in the areas mentioned, suggesting carcinoma, though no malignant process in other organs is present. Beside the cells mentioned above, there are columns or rows of large polygonal cells, markedly granular and pigmented, containing one and sometimes more than one nucleus. Some of the nuclei are oval, others round, and a few are coarsely granular. Some of these cells are 20 microns to 30 microns in diameter, while some of the nuclei are 10 microns in diameter. These rows of cells are seen distributed throughout the different regions of the organ, in the cortical and in the medullary portions. They give a positive reaction to the test for glycogen, while the cells of the adrenal do not. Small areas of hemorrhage are seen in the organ, while irregular areas of lymphoid accumulations are present, especially in the cortical portion.



Appendix with two lumina—A and B the lumina.

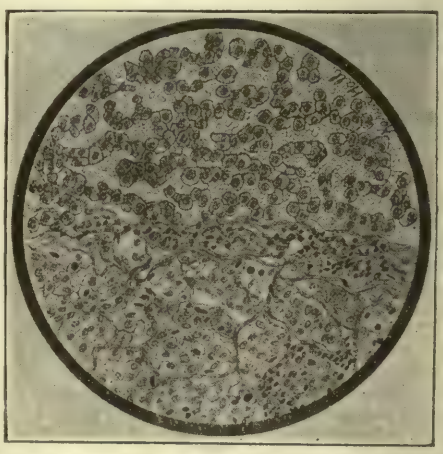
Rolliston[1] mentions that the cells of the adrenal in children are not pigmented, while in adults pigment is present. In negroes the cells of the cortex are said to be extensively pigmented.

Stilling claims that the cells of the medulla are chromophilic.

Orth refers to a green coloration of the medulla on adding a solution of perchlorid of iron, as a sign of chromogen in the cells of the medulla.

When fresh, the cells of the medulla stain brown with bichromate of potassium; blue with persulfate of iron. The blood spaces are surrounded by the cells so that there is some resemblance to the arrangement in the liver, of cells and capillaries.

Eurich[2] reports the occurrence of a mass which occupied the position of the right adrenal, but was separated by two inches from the corresponding kidney (which was displaced downward). The space between the kidney and adrenal was occupied by a tumor almost spheric in outline, of a purplish hue and encapsulated. Upon its upper pole was perched the adrenal, which was in nowise involved by the tumor mass, and from which it was separated by the capsule mentioned.



The lower half of specimen shows adrenal tissue, while the upper half contains the liver-like cells.

Microscopic examination revealed glandular-looking cells, without cell wall, irregular in shape, the polygonal form prevailing and containing an oval nucleus centrally situated and varying considerably in size. If bichromate specimens are examined, most of the cells appear to contain a diffuse, yellowish-brown pigment. In these preparations also there is a hyalin-looking, transparent substance found in veins and their branches, but apparently not in the larger vessels. It stains yellowish-brown with picrocarmin, pale-red with lithium carmin, faintly with alum carmin, and not at all with hematoxylin. The arrangement of cells is very irregular, and is determined by an intricate network of capillaries, veins, sinuses and blood channels, between which the cells are placed. No traces of fat or glycogen could be detected in the cells by the usual methods. (No diagnosis is given as to the nature of the tumor, but the supposition is that it probably represents a hyperplastic condition of the adrenal.)

Schmorl,[3] in two cases of accessory adrenal, found in one that the cells of the zona fasciculata showed fat gloubles and

yellow pigment, and in the other simply mentions that the cell protoplasm was pigmented.

Chian[4] mentions in a case of ectopia of the adrenal that just external to the centrum, pigment cells were noted. Another case by the same observer occurred in the broad ligament of a woman. In this case the pigment zone was well marked and the centrum especially so.

Dagonet[5] mentions, in discussing ectopia of the adrenal, that in children the centrum was red and the vessels filled with blood, while in the adult the centrum was usually pigmented and dark.

AN APPENDIX VERMIFORMIS WITH A DOUBLE LUMEN.*

The appendix was obtained from an adult male, aged 56, who died from inanition, resulting from carcinoma of the pylorus.

The organ measures 5 cm. in length and 1 cm. in diameter, and is firm and fibroid. The lumen is so much obliterated that only a pin point can be passed into it. Upon histologic examination the organ shows the result of a chronic catarrhal process. The most interesting point is the presence of two lumina, which can also be seen with the naked eye. Each lumen has its set of simple tubular glands, solitary follicles and muscularis mucosæ. Beside this feature there are present irregular groups of epithelial cells in small alveoli, suggesting secondary involvement of this organ by the growth in the stomach.

AN ADULT HEART WITH BIFID APEX.

The heart presented is from an adult male, aged 24, who died of enteric fever in Jefferson Hospital, service of Dr. Hare. Weight of organ, 180 grams.

The interesting point about the specimen is the condition of the apex, which is slightly bifid. Naturally, this is a congenital malformation.

There is a distinct groove separating the apex of the organ. This groove upon the anterior surface measures 2 cm. in length, upon the posterior surface 1 cm., and its greatest depth is 1 cm.

The anastomosis of the coronary arteries can be very plainly seen at the apex, as, according to Dr. Samuel West,[6] there is a very free and complete anastomosis between the two vessels. The accompanying photograph illustrates the condition very well. One view shows the anterior surface of the organ, while the other shows the heart tilted up and looking directly at the apex. (The light areas seen in the picture are "halation" spots produced by the glistening surface of the organ.)

A PECULIAR TERATOLOGIC FORM OF TÆNIA SAGINATA.

The specimen of worm here presented is interesting from the fact that upon cross section it is star-shaped. In none of the authorities consulted could a reference to such a monstrosity be found. Alluding to this specimen, Dr. John R. Mohler, of the Bureau of Animal Industry, in Washington, D. C., writes that the specimen is unique. He has seen "three-sided segments and various other freaks in this worm, but this is the first star-shaped variety. Some branched off from the side like yeast-plants, and still others had the three-sided segment, while one was covered with protozoa."

This specimen has probably six to eight suckers on the head, making it more difficult to dislodge. I am indebted for the parasite to Dr. Bradeen, of Colorado, who at a late date wrote that the head had not yet been passed.

REFERENCES.

1 British Medical Journal, 1895.
2 Journal of Pathology and Bacteriology, 1900, Vol. iii, p. 502.
3 Ziegler's Beiträge, Vol. ix, 1891.
4 Zeit. für Heil., Vol. v, 1884.
5 Zeit. für Heil., 1885.
6 Lancet, June 2, 1883, p. 945.

Yellow Fever Spreading in Tampico.—The National Board of Health is aroused over the spread of the yellow fever epidemic at Tampico. The port became infected several weeks ago, and all efforts to bring it under control have been unsuccessful. The disease is spreading through the best districts of the city.

* I am indebted to Drs. Wallace and Neuber for the specimen.

THE JOURNAL OF THE SHOE-MEN OF ADELPHIA: AN APOLOGUE.

To the Editor of American Medicine:—In view of the present-day trials of physicians in journalism, the experiences of the shoe-manufactures and dealers of several years ago in my native city may not be without interest and lessons to some of your readers. Up to the date at which my little history begins, the tanners of the city, and in fact of the entire country, as capitalists and controllers of supplies had had it all their own way with the poor cobblers and shoemakers and shoe-sellers. They fixed prices at their will, dominated the business entirely, and even forced the shoe-men to furnish all the leather-men with material free of charge. The shoe-men had often tried to break up this hated domination but all efforts had resulted in failure. Every attempt had come to grief because the shoe-men were so intent upon making good shoes, and were so disunited, that their few individual protests were resultless. The very means of intercommunication had been seized by the leather-men, for these had established and owned all the journals and books pertaining to both trades. Odd as it may seem, all the newspapers and organs of the shoe trade were owned by the tanners. So cunning were these that they hired shoemakers to edit their journals, and they thus made all shoe-men believe these were in reality the genuine representatives and mouthpieces of the guild of shoemakers. It is scarcely necessary to add that not a grievance of the shoemakers could ever come to light, their union became impoverished and sank lower and lower, while the tanners grew inordinately rich, powerful, and dictatorial. With increasing subserviency the shoemakers went into the service of the tanners, and the really ignoble position of the shoemaker editors of the tanner-owned journals became esteemed as enviable. So thick-witted and lost to a sense of honor had become the poor shoe-men!

In this condition some of the shoemakers of Adelphia got together and vowed to establish their own journal, free as they would believe from financial or other control of the tanners, and even of any clique or party among the shoemakers themselves. To such desperate straits had the poor shoemakers been brought that they had not enough money to pay the printer, and they asked help of any outsiders except the tanners. One of the astute shoemakers had long practised the art of appeal to the virtues and vanities of the successful, and here again he ended by inducing a number of helpers to come over into Macedonia. Although motive is the true standard of human conduct, and finally brings all undertakings to power or shame, it is at times difficult to see correctly the motives of some until the powerful or shameful end has made them visible to all. Wicked and backbiting neighbors whispered that rich men may give a trifle for various reasons, social distinctions, and many other vanities, worth, in fact, much money. This, to be sure, was the wagging of the tongue of malice, and not worthy of serious attention. It was of ill omen that when the subscriptions were footed up it was found that the socalled *Journal of the Shoemakers' Guild* was in fact and from the start not the property of the shoemakers. The majority of the stock had been subscribed for by paper-dealers, brewers, printers, and manufacturers. However, the majority of the board of trustees, who should be the rulers, were shoemakers, and the enterprise was launched. A shoemaker believed to be of independent mind and loyal to the shoe trade was given the editorship. For a time all went well. The poor cowed shoe-men of the whole country plucked up heart, and as many as 12,000 of them sent in their money for the journal. The editorial workers labored ungrudgingly, and even the tanners began to advertise the excellent qualities of their respective leathers. But significant of much, the practical business conduct of the enterprise had been given over to the majority stockholders, who were not shoemakers, on the gound that the shoemakers were such notoriously bad business men. In time it began to become manifest that despite the editorial success and large number of subscribers these fine business men were "making a mess of it." More stock had to be issued, which the business men took and paid for. But this also was soon used up, and when it was asked where the money had gone the reply was that there were

between $30,000 and $40,000 outstanding in uncollected bills. No answer came to the question, why?

Then a new trouble popped up. Some of the shoemakers—not they who had taken any stock, they naturally had no money to spare!—said with great show of wrath that the shoe journal was a fraud because it accepted the advertisements of the leather-men. That was a crime against all shoedom. How else to live they did not care. What harm it did they could not exactly say. So much of a rumpus did they raise that all but one of the majority stockholders, the socalled "laymen," were disgusted, and they would take no more interest in the "crank journal," would buy no more stock, and retired in disgust. This was the beginning of the end. From that date "the shoemakers' own" was in reality dead, and would much better have been so proclaimed at once than to have maintained a semblance of breathing with much hypocrisy, the tanners' money, and no professional hope.

All but one! The more the journal had of uncollected bills and the more unsuccessful it was, the more apparently was he pleased. He now began grumbling at the all too-independent editor, and suggesting that the financial troubles of the company were caused by the fact of too much independence in both the editor and the shoemakers generally. His openly expressed theory was that the tanner owners of this shoemaker journal should have exactly the same control of the reading and editorial departments as the owners of a yellow newspaper had of such departments and their editors in common newspaper offices. Without his there would be no success. This, said the editor and some of his shoemaker supporters, was precisely the sole test question in founding and carrying on the journal. The shoemakers had not control of any other of the falsely called shoemakers' journals, and if they could not have absolute control of the reading columns of this their last hope, then its continuance was a silly and useless farce. The answer to this incontrovertible logic was given by the all-but-one, and it was simply this: I will furnish the money to carry on your journal on condition that I become absolute ruler of the whole business department and discharge and appoint editors as I please. In fact, I have you by the throat, as I own the controlling interest, or direct it, and you have nothing else to do. This was true but the climax was planned not to take place until after many thousands of unsuspecting shoemakers had sent in the money for the renewals of their subscriptions on and about January 1, as was the custom. Even this trick did not disgust some of the shoemaker trustees, who clung to the semblance and dead body of an independent journal after its spirit had departed. They voted for the one majority stockholder, the editor was discharged without an hour's notice, his editorials cut out of his last issue, while his name was retained on it as editor, and many similar deeds were done confirmatory of the sense of honor, etc., in the new manager. All the shoemaker trustees who were loyal to the guild at once resigned.

Then the plot of the play began further unrolling. The new master and owner had a beloved son who was a shoemaker. He should be the new editor. But not one of the nonresigning trustees would accept this, which was going altogether too far, even for them. As even the owner and dictator of a shoemaker's journal must have at least a dummy board of trustees, a compromise was effected, and an "editor-in-chief" with a small salary attached in lieu of power was appointed, and the son was "associated," with a big salary.

The inevitable fatality followed. Many thousands of indignant shoemakers ordered "Stop my paper!" Recklessness in business management increased; all the shoemakers of the land subscribed to the new shoemakers' journal founded at once by the old independent, supposably "snuffed-out" editor—and debts grew for the old journal! All this might have been endured, because of the supreme necessity of "saving one's face," had not an indescribable, unmentionable, and inexplainable coldness arisen between father and son. Then came the order—"Sell it out at any price, and to anybody, by any methods, and if you cannot sell it, give it away. I will be rid of it!" The corpse, after much dickering, was sold in a neighboring city to a tanner. The "editor-in-chief" afterward explained that he had done his duty, but that undiluted rascality could not be overcome, and the owner of a piece of property always had a right to do as he pleased with his own, as he had also a right to discharge his servants. He entered into no explanation as to why he had undertaken service to a master who had so plainly shown his opinion of all cobblers, dealers and makers of shoes!

This little story, Mr. Editor, of a journalistic experiment, though happening long ago and in an unrelated and humble guild, appears worthy of preservation in your columns. It may perhaps serve both for warning and encouragement in the future. Faithfully yours,

A. O.

PULSATING SEROUS PLEURAL EFFUSION: A CASE.

BY

ALEXANDER McPHEDRAN, M.B.,

of Toronto, Can.

Mrs. J., a widow of 50 was of nervous temperament, and had suffered serious reverses in fortune. She had never been robust, but her only serious illness was diphtheria followed by marked paralysis three years ago. She made a complete recovery. Late last autumn (1902) she began to lose strength. She had laryngitis, from which she recovered, but a moderate cough which she had had for some time persisted. There were no tubercle bacilli in the sputum. Her temperature was normal, and her pulse ranged from 80 to 100 per minute.

On Christmas day she had slight chills for a few hours. A few days later pleural effusion was discovered in the left side. There had been no disturbance of temperature or pulse. As the fluid was not absorbed, the aspirator was used and 40 ounces of bloodstained fluid removed. Before its removal there was well-marked pulsation over the effusion round to the spine. The pulsation disappeared as soon as most of the fluid was removed.

The effusion recurred and as soon as a moderate quantity was present the pulsation returned. The second aspiration was also bloodstained, but subsequent ones were clear serous fluid. The fluid was removed in all five times, a trocar and cannula being used on the last two occasions. From the cannula the fluid flowed in pulsating jets that were easily seen across a long room.

When I saw the patient with her physician, Dr. Musgrave, in March last, she was quite prostrate. The upper border of the effusion was at the fifth rib in the midaxilla. The heart was in its normal position and its impulse quite easily seen and felt. As she lay on her back there was marked pulsation in the axilla in the sixth and seventh intercostal spaces, but not at the back. On turning her on her right side the pulsation disappeared in the axilla and became marked in the back below the lower end of the scapula. On turning her on her back again it reappeared in the axilla and disappeared at the back. The position of the heart did not change with the change of position of the patient.

Her temperature was normal, her pulse small and weak. She died three weeks later without a repetition of aspiration being required. Request for an autopsy was not acceded to.

It is not my purpose to discuss the various theories that have been advanced to explain the occurrence of pulsation in pleural effusion. Pulsation in purulent cases is a rare phenomenon, but in serous ones it is extremely infrequent, only a few undoubted cases having been reported.

In the case reported it is noted that the heart was not displaced, even when the effusion was quite abundant, rising as high as the fourth rib. This is accounted for probably by firm adhesion of the pericardium to the thoracic wall. It is quite possible also that the left lung was retracted so as not to intervene between the pericardium and the chest wall round to the back. Then if the pericardium was also adherent to the heart, or at least lay in close contact with it, the impulse of the heart would be communicated directly to the pleural fluid, and through it conveyed to the chest wall. The intercostal muscles, in common with the general musculature, were quite atonic, and offered little resistance to the impulse being transmitted through to the surface.

It is probable that the mechanism of pulsation in pleural effusion is not constant. The theories advanced by various writers may each be correct for their individual cases. It is also noted that pulsation similar to that of pulsating pleurisy may occur without the presence of any fluid in the pleura or the existence of an aneurysm. This is shown by the remarkable case of Edwards, in which the pulsation was both diffuse and expansible, and yet neither pleural effusion nor aneurysm was found at the autopsy.[1] Dr. Lafleur, of Montreal, also communicates a similar unpublished case.

[1] The American Journal of the Medical Sciences, October, 1902.

ORIGINAL ARTICLES

ON DISEASES OF THE GALLBLADDER AND BILE DUCTS.*

BY

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of Berlin.

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In responding to the request transferred to me by the Executive Committee of the Congress of American Physicians and Surgeons to take part in the discussion of the diseases of the gallbladder and bile ducts, I am conscious of the extreme difficulty of my task to speak before this assembly of excellent physicians and to do justice to you and my subject.

It is not my object to present a review of typical gallbladder diseases, inflammation of the gallbladder, the ducts, the contiguous parts, or the many complications with their confusing symptoms. I will, however, give the cardinal points with regard to diagnosis and therapy as a result of my own experience.

It is an established fact that our ideas concerning this disease have met marked fundamental changes during the last 10 to 15 years. We now know that this condition is due to a bacterial infection, and not to the presence of gallstones, the origin of which has always been more or less hypothetic.[1]

In accordance with the virulence of the bacteria the symptoms become mild or severe, acute or chronic. The necessary factors for the presence of such an infection are an invasion of bacteria either from the intestinal tract or from the blood and a stagnation of bile.[2] Fresh bile is sterile. In the normal condition the ducts in the liver are free from bacteria, but in the lower portion of the common bile duct *B. coli communis*, which, however, were perfectly harmless, have been found by some authors. Whenever a stagnation of bile occurs at any point of the system then there is always a favorable opportunity afforded for a bacterial invasion, followed by various pathologic changes in the gallbladder and ducts.

More frequently the bacteria appear from the intestinal tract, less so from the blood. The latter origin is the more uncertain, as the lesion begins in the gallbladder and remains confined to it and the contiguous parts in nearly all cases. After an injection of bacteria into the blood of animals was followed by the nonappearance of these bacteria in the gallbladder, Sherrington concluded that the bacterial infection never originated from the blood. On the contrary, however, Welch found three to four months after he had injected typhoid bacteria into the blood of rabbits, the bacteria were present in the gallbladder, but absent from every other organ. We would suppose whenever a bacteremia is present that there would follow at first a cholangitis and then a cholecystitis, but this is not the case. The process always begins in the gallbladder, as it is rather a diverticulum of the ducts, and thereby affords the best opportunity for the stagnation of the bile. Perhaps there are also such influences as adhesions, resulting from former circumscribed peritonitis or the tight lacing indulged in by the female sex.

There is little need for me to remind you of the various microorganisms found to be the invading germs. Most frequently *B. coli communis* is found. In a series of 128 cases collected by Merk,[3] in which operation was performed in Professor Czerny's clinic at Heidelberg, there was in 53% *B. coli communis* alone or with streptococci and staphylococci, and in 30% the bile was found sterile. From the latter we must not conclude that bacteria were never present, for they may have died off, as occasionally shown by their presence in the gallstones, and their absence from the bile. Those bacteria not from the coli group may have reached the gallbladder and ducts from the blood. Chiari,[4] out of 22 cases of typhoid fever, found the typhoid bacillus present in the gallbladder in 19 cases, 15 times alone and 4 times in company with other bacteria. Sailer,[1] in 6 cases, found the typhoid bacillus in pure culture in 3 cases. Chiari, in 13 cases of typhoid fever, found the wall of the gallbladder and ducts to be in an inflammatory condition.

But this bacterial infection is not confined to the inflammation of the wall of the gallbladder with its consequences. It may also be followed by *the formation of gallstones*. I do not wish to burden you with a statement of the process of their formation. We all agree now that stones arise from a catarrhal condition of the mucosa. The desquamation of the epithelium always acts as the first stage. We know that stones vary in size and number. We do not know however why stones appear in one patient and not in the other, whenever the conditions in both are similarly conducive. We all have *B. coli communis* in the intestinal tract, still we have not all got gallstones. In every case of typhoid fever the typhoid bacillus does not always serve as a nucleus for the stone and when found in the latter the bacilli may have migrated into it but not produced it. Chauffard found in 68 cases of cholecystitis only 18 in which there was a previous history of typhoid. In 66 cases of other diseases in only 15 had there been typhoid.

More seldom have stones been found in the smaller hepatic ducts, either alone or in company with stones in the gallbladder. It is questionable whether there is in such cases always a catarrhal condition followed by infection. William Hunter[24] in his investigations of the poisonous effects of toluylendiamin which caused a catarrh of the smaller hepatic ducts concluded that chemical irritation could produce such a condition. He says: "The liver is constantly being called on to deal with products more or less harmful carried to it in the portal blood from the intestines. If these products possess any irritant qualities, this continuous excretion will tend to set up and maintain a certain degree of intrahepatic catarrh in direct proportion to any irritant qualities they possess. And this is precisely the state of things favored in the chronic dyspeptic, in those who lead a sedentary life, in the bilious subject generally."

This view of Hunter might hold true not only for the ducts but also for the gallbladder, but surely not in the majority or even in a small number of cases. Indeed, we know of one toxic substance which produces a chronic irritation of the liver and this is alcohol, but the occurrence of cirrhosis together with gallstones is such a very infrequent thing that we cannot assume a chemical substance to be the causative factor of both conditions.

The reason for the stagnation of bile and the subsequent bacterial invasion is not truly known and perhaps we must always consider predisposition. It is a fact that gallstones have occurred in many members of the same family. Dufour,[5] in 338 cases, found this true in 35.

A second important question is, When do stones, either in the bladder or in the surrounding parts, cause *symptoms of pain?* Up to the present time it was always believed that the pain began with the passage of the stone into the cystic duct and was brought about by the reflex contractions of the gallbladder and the ducts in forcing the stone forward. But why does the stone from the gallbladder attempt to leave through the cystic duct, often against the law of gravity? The reason for this is unknown. We do know, however, that the gallbladder at times becomes enlarged, either because of increased fluid or of obturation of the ducts by a catarrhal swelling of the mucosa, or both, which state of affairs causes pain. Riedel[6] and others have seen such cases in which at the time of operation the gallbladder did not show the presence of stones or of adhesions, but simply a chole-

* Read by invitation of the Executive Committee of the Congress of American Physicians and Surgeons, held in Washington, May 12-14, 1903.

cystitis. Nevertheless such patients had had severe and repeated colics. The increase of fluid in the gallbladder increases the pressure within it, and on account of the *vis a tergo* any stone lying before the entrance of the cystic duct is pushed forward.

Colic may be due to cóntraction because of the presence of stone, or to inflammation. Some observers believe that most of the attacks are due to inflammation around the stone, or even without the presence of stone, and are caused by the stretching of the inflamed parts. I believe that colic is always caused by contractions. An inflammatory swelling, no matter how severe, can cause a continuous pain, but never a colic with its sudden onset and disappearance and its acute character. The bladder and the pelvis of the kidneys may be distended with fluid and the urinary tract may be inflamed, the pain from this may be dull in character, but never colicky. Against the view that the colic is due to inflammation stands the fact that whenever a stone is passed the symptoms subside suddenly while the inflammation remains unchanged. In those cases observed by Riedel, Kehr,[7] Krukenberg,[8] and others, perhaps there was a kink in the neck of the gallbladder, which, by the manipulations, became corrected at the time of the operation, or the attacks were not those of true colic, but due to a liver neurosis. To bring about a colic there must be some obstruction of the ducts, but I will not dispute that an inflammation may indirectly produce such an obstruction. On the contrary, there is a large number of cases in which after severe exertion or trauma immediate attacks of colic have occurred when there was not sufficient time for development of an inflammation. These colics, therefore, are only caused by a mobile stone.

For the diagnosis of gallstones there have always been three symptoms: *colic, icterus, and tumor.*

How often does colic occur with cholecystitis and how often with gallstone?

We internists unfortunately cannot give any reliable statistics as to the frequency of the symptoms, but must rely on those of the surgeons, because many of our patients do not come to operation and the diagnosis therefore remains unconfirmed. Merk, in Czerny's clinic, found that colic occurred in 56%. According to my experience this estimate is far too small, for in the last 10 years I have seen but two cases without colic. In most of the cases the pain is referred to the stomach region and not to the region of the gallbladder. Merk found this in 39 cases, *i. e.*, in 55%. In other cases the pain is present all over the abdomen and I have seen several in which the attacks only come on in the spring and fall. The length, frequency, and severity of the attacks are very irregular. When there is neither jaundice nor a tumor present, it is very difficult to differentiate from a liver neurosis and from diseases of the stomach, colon, pancreas, or kidney.

Formerly some forms of colicky pains in the region of the liver were supposed to be neurotic and were described as such by Frerichs, Stokes, and others. Their symptoms were not different from those of true colic. To differentiate, the attacks occur at the time of menstruation, are periodic, and accompany other neurasthenic and hysteric manifestations. They may be caused by irritants such as alcohol and tobacco. Swelling of the liver, gallbladder, and spleen are not present; local inflammatory conditions do not occur, and icterus is also absent. Carlsbad is injurious, a specific therapy has no result. Improvement and cure are brought about by treatment of the general condition of the patient.

The *different kidney diseases* attended by attacks of colic are easily recognized through a careful examination of the urine. It is more difficult to differentiate appendicitis, especially when the appendix occupies an abnormal position, directed upward and with its tip lying against the liver. Under such circumstances inflation of the colon is often of great assistance, as it causes the appendix with the painful point to change its location if adhesions have not already been formed. A hyperleukocytosis speaks for a suppurative appendicitis and against gallbladder disease. Empyema of the gallbladder has no hyperleukocytosis.

Still more difficult to differentiate are those cases which I described as *appendicitis larvata*[9] and here also inflation of the colon is of great aid in diagnosis.

In not a small number of cases pain may originate from *the transverse colon* because of a catarrhal, tuberculous or dysenteric colitis. With increasing peristalsis attacks of pain occur simulating those from the gallbladder. A careful examination of the stools, appearance of severe pain after filling the colon with water or air, the general examination of the patient, especially of the lungs and the history, all help to differentiate.

It is comparatively easy to recognize those pains accompanying a *hernia of the linea alba.* If you keep in mind that such conditions occur, you will not overlook them. Recently Dr. Howard Lothorp[10] gave a good description of its occurrence. But of all these affections those of the stomach and pancreas afford the greatest difficulty.

There are *primary diseases of the stomach and pancreas* which point rather to disease of the gallbladder and conversely there are diseases of the gallbladder with secondary manifestations in the stomach and pancreas that obscure the primary condition. Under such circumstances the chemical examination of the stomach contents is very important. In gastric ulcer, erosion, and most cases of nervous gastralgia there is a permanent hyperacidity and hyperchlorhydria. In gallbladder colic chemical examination of the stomach contents during the interval shows no change. Nevertheless during the attack or immediately after it there may be an increase of hydrochloric acid in the stomach. The hyperchlorhydria disappears with the subsidence of the attack. This I have observed repeatedly, and I have also seen that a hyperchlorhydria can occur reflexly from the intestine, as, for instance, when caused by a tapeworm.

Nervous gastralgia involves the whole stomach and is not confined to the pyloric region. It is important furthermore to notice that pain in gastric ulcer occurs after the administration of food and occurs regularly whereas gallbladder colic is irregular, appearing at varying intervals and frequently at night. The whole picture immediately becomes altered with the appearance of a cholecystitis, a pericholecystitis and the formation of adhesions between the gallbladder and stomach or with the duodenum. In this condition the pain occurs on account of a nervous irritation and is not easy to explain. Here only the history and other symptoms can be of assistance. One physician diagnoses a cholecystitis, another a nervous disease and has success with his therapy, whereas the course of the symptoms and the operation later show the presence of stone. The diminished hydrochloric acid is another chemical factor which points to a severe lesion of the stomach. Inflation of the stomach may be of assistance in cases of atony to decide whether it is primary or secondary. The vomitus is of importance. Although in pyloric insufficiency it may be mixed with bile, large amounts of bile mixed with intestinal contents only will flow back into the stomach when the gallbladder is blocked by a stone in the cysticus and the bile instead of collecting in the gallbladder will flow continuously into the intestine. Under such circumstances the discharge of bile into the intestine does not depend on contraction of the gallbladder during digestion as in the normal state, but occurs so soon as the pressure of the bile in the biliary passages has overcome the resistance at Vater's ampulla. The bile flows in the empty stomach and causes most severe and exhausting vomiting.

As Glaser[11] has shown, there is doubtless a reflex nervous tract between the gallbladder and stomach. If

the former contracts, the latter will also contract and vice versa. It appears that the stomach is more sensitive than the gallbladder, since the pain and cramp are first located in the epigastrium and later in the gallbladder region. It also happens that the patient has spontaneous pain in the pit of the stomach, but this is free from tenderness while the gallbladder is painful to pressure.

Finally the microscopic examination of the stomach contents must not be omitted. Sarcinæ, yeast cells and long bacilli may be explained by a stomach lesion, either primary or secondary. The socalled gastric crises of tabes may simulate gallstone colic, but the careful observer will avoid making a mistake by noting the nervous symptoms. One should therefore never forget to examine the nervous system in doubtful cases.

We must also differentiate between gallbladder colic and most cases of *acute and chronic pancreatic disease.* Here the whole picture can be a symptom-complex consisting of cramp-like pains in the upper right abdominal region, a painful tumor, jaundice (according to Fitz in one-fourth of the cases), irregular temperatures and dyspeptic symptoms—vomiting, diarrhea, nausea, eructations, and emaciation—all of which does not differ from a cholelithiasis. Acute purulent or hemorrhagic pancreatitis is the more readily mistaken for diseases of the gallbladder or passages as they frequently occur together or the latter may cause the former. Fuchs [12] mentions 23 cases in the literature in which hemorrhagic pancreatitis was combined with cholelithiasis and 22 cases in which the pancreatitis was purulent and necrotic. Indeed very disagreeable surprises occur at operation and at autopsy. Osler, in 1898, stated that these conditions were correctly diagnosed in but five cases. Riedel in 122 cases of gallstones found in three cases an induration of the head of the pancreas caused by a marked chronic interstitial inflammation, so that the hard tumor was considered a carcinoma. In all these cases an alimentary glycosuria, the presence of sugar in the urine, fatty stools and pancreatic stones are of importance. The latter are easily recognized on account of their formation from calcium carbonate with traces of cholesterin with the presence of bilirubin calcium. Unfortunately such concrements are found in the stools of other diseases, and diabetic or fatty stools do not necessarily point to pancreatic disease. Therefore the diagnosis always remains only a probable one.

Jaundice may be the result of a mechanical obstruction or of functional disturbance. Mechanical obstruction may be either (1) from stones; (2) from compression of the extrahepatic ducts through tumor, kinking, or pressure from without; (3) on account of inflammation of the walls of the ducts and adhesions. This latter condition occurs in the absence of the other two when the stone is confined to the gallbladder or to the cysticus or when there is an infectious cholecystitis or cholangitis present without formation of a stone. The inflammation, however, which is always the result of infection, may also be present with stone in the hepatic or common bile ducts. Ehret and Stolz [13] believe that such an inflammation may produce jaundice, notwithstanding the presence of a stone.

When the stone does not make a complete obstruction, as often happens, the mucosa may become inflamed and then block the channel. This swelling may subside and recur several times, which explains the change in the intensity of the jaundice. The stone may nevertheless remain in the duct, bile color the stools and bile pigment appear in the urine, and despite removal of the stone the cause of the jaundice be not removed. This also accounts for the enlarged gallbladder in some cases of cholelithiasis, whereas in other cases it remains unchanged, and in still other cases the gallbladder may be atrophied. As the inflammation involves the smaller as well as the larger passages, it may be localized to a smaller or larger portion of the liver and produce the corresponding symptoms. Most of the different forms of jaundice are clearly understood if we assume an infection of the biliary passages with or without the presence of stone. An inflammation jaundice, according to Riedel, appears in 10% to 15% of the cases.

As the inflammatory swelling of the ducts, however, is not sufficient in every case to occlude them, we must assume that jaundice also occurs from functional disturbances of the liver cells. The bile passes into the blood instead of into the ducts, and this form of jaundice is called "parapedesis of the bile" by Minkowski, and "diffusion icterus" by Liebermeister. It is clearly understood that such a cause of jaundice is only hypothetic.

In 16 cases without stone or tumor collected by Merk only one-fourth had jaundice. It is absent in 25% to 30% of all cases. Therefore, jaundice is not a necessary attribute of gallbladder disease, although not long ago physicians hesitated in their diagnosis of gallstones when jaundice was absent. A rapidly disappearing jaundice signifies a passage of the stone into the intestinal tract, whereas a compression jaundice remains unaltered. In some cases after a colic, bile pigment appears in the urine, although there is no jaundice. I have seen cases in which the blood-serum was already pigmented while any other evidence of biliary pigments in the skin or secretions was absolutely lacking.

Tumor of the gallbladder is more frequently absent than present. Merk found enlargement of the gallbladder in 11%; Courvoisier [14] in 16% of cases; my experience is about the same. A gallbladder may be easily palpated when there is a hydrops present, which may lead to a large increase in size and often cause it to lie low in the abdomen. It may under such circumstances be mistaken for floating kidney, mesenteric growth, pancreatic cyst, etc., because there is apparently no connection between it and the lower border of the liver. Often there is an adhesion formed with the lower margin of the liver, dragging a tongue-shaped process downward and forming the socalled Riedel lobe. A gallbladder filled with bile never becomes as large as in a hydrops, purulent or otherwise. Most frequently the bladder contracts around the stone, at first extends beyond the liver border and later atrophies. This conforms to Courvoisier's law that the tumor in carcinoma is always larger than in stone.

Tumors of the duodenum and pylorus are differentiated on account of their respiratory fixation and their change of position on inflation of the stomach with air. Floating kidneys can be pushed back into their normal position and on inflation from the colon the latter lies in front of the former. Pancreatic tumors lie deep in the abdomen and are not movable. Finally, the history, jaundice, colic, character of the tumor are all to be considered, though all these symptoms do not make a positive diagnosis, because occasionally carcinomatous nodules of the lower border of the liver or a lobular formation on account of a perihepatitis may simulate a gallbladder and operation only may give the diagnosis. I consider aspiration of the gallbladder a dangerous procedure and it should only be done if the patient is prepared for operation. If the gallbladder does not contract immediately after such an aspiration the contents may flow directly into the peritoneal cavity and cause infection. This aspiration is nothing more nor less than diagnostic inquisitiveness and gives no indication as to the necessity of an operation; the character of the tumor can be much better determined by an abdominal incision.

We finally have to consider the complications of *a cholecystitis and a newgrowth.* Here belong ulceration of the bladder wall with perforation and passage of stone into the adjacent organs or into the peritoneal cavity. Fortunately the latter occurs very rarely, because adhesions with the surrounding parts hold the stone within their grasp. If the stone perforates into the

peritoneal cavity a fulminating peritonitis follows, the intensity of which is dependent on the virulence of the infecting bile. Some patients have been saved by immediate operation. Perforation may occur into the stomach and the stone may be vomited. The stones may also perforate into the small intestine, traverse the whole intestinal tract, and be passed from the rectum with slight or very severe symptoms. In other cases stones may remain in the intestine and lead to obstruction; in such cases the history is of importance, because the perforation and passage of stone into the intestine are without any symptoms. I had two cases of ileus in which I diagnosed obstruction due to gallstone, because both patients years before had been to Carlsbad for cholelithiasis. Not only stones, but also purulent cholecystitis with enlargement of the gallbladder may lead to a paresis of the intestine and the movable gallbladder tumor can simulate intussusception. This was recently observed by Lane[15] and Bogdanick.[16] Finally, stones may perforate into the colon and cause a fistulous tract between the gallbladder, stomach, and colon so that intestinal contents may be vomited.[17] In some cases a cicatricial stricture of the duodenum has occurred, while the clinical course of the condition may lead to a diagnosis of carcinoma after ulcer of the pylorus (Reach[18]).

In other cases there may be dilation of the stomach, the cause of which is uncertain, or there may be compression of the choledochus, duodenum, portal vein, or inferior vena cava, with thrombosis and sequels, such as ascites, edema of the legs, stomach, and intestinal hemorrhages, etc. Infectious cholangitis is followed by multiple liver abscesses, which may lead to subphrenic abscess and perforation through the diaphragm into the lung and bronchi.

Infection of the bile passages occurs less frequently with carcinoma than with stone. The chills, fever, and septic symptoms of such an infection need no explanation; there is no necessity to mention all the complications that may follow.

Carcinoma of the gallbladder is complicated in 95% of the cases by cholelithiasis. This accounts for the fact that carcinoma is more frequent in women than in men. According to Ferrier and Ausray the proportion is 4 to 1; according to Musser, 75 to 23. I have seen but three cases in men.

As carcinoma of the gallbladder is primary in counterdistinction to that of the liver the cause must naturally lie in the gallbladder itself, and is undoubtedly brought about by the irritation of the stone (Musser[19]). Why a stone occasionally causes only ulceration and not always carcinoma we do not know. It must also be remembered that in carcinoma of the biliary passages gallstones were found, according to Devic and Gallavardin,[20] in 46 cases only 10 times. In the latter, 6 were in the gallbladder and without connection with the newgrowth, and in 3 cases the stones were above the growth. In women, carcinoma of the biliary passages is less frequent than in men, 16 to 30, whereas the reverse holds true in cholelithiasis. Such an investigation shows that stone in the gallbladder is but a problematic cause of carcinoma.

So long as carcinoma remains limited to the bladder or the cysticus, jaundice will only follow through complications, such as compression, obstruction or pericholecystitis, kinking or adhesions. On this account a carcinoma may remain latent for a long time and may only show its presence by a carcinomatous intoxication, or by metastasis, or by obstruction of the choledochus and the surrounding parts, which leads to glandular enlargement, ascites and edema. In addition there may be dyspeptic symptoms and metastatic formations in the liver, pylorus, pancreas, peritoneum, etc. An oligocythemia with a relative hyperleukocytosis is present. A differential examination of the leukocytes was of no benefit to me.

Carcinoma of the biliary passages *per se* is only to be considered when limited to the extrahepatic ducts. The choledochus becomes involved at the ampulla of Vater, in carcinoma of the head of the pancreas, because of its anatomic relations in running along the posterior surface of the duodenum, surrounded by the head of the pancreas and forming a connection with the duct of Wirsung. This passage may be so small that, as Opie[21] has found, a stone 3 mm. in diameter may be unable to pass through. In 53 cases Davic and Gallavardin found carcinoma of the choledochus present 22 times, 16 times in the hepaticus, 15 times at the junction of the three ducts. The newgrowth is most frequently ring or button-shaped. In such cases blood or bile may occasionally be vomited; the liver and spleen are often enlarged, which helps to differentiate from carcinoma of the head of the pancreas. The latter, gallstones, cirrhosis of the liver, metastasis about the entrance of the vessels to the liver must all be differentiated, as any one of these conditions may lead to chronic jaundice and progressive cachexia.

It is easier to recognize those cases of stone causing obstruction because of the history, the repeated attacks of colic, the varying intensity of the jaundice, the occasional rise of temperature, and the simultaneous presence of stone in the gallbladder. Much more difficult is the differentiation between a hypertrophic liver cirrhosis and carcinoma of the adjacent parts. The Lænnec cirrhosis runs a course without jaundice, whereas the Hanot cirrhosis, which runs a course similar to carcinoma of the ducts, can only be recognized because of its slower progress. But in all cases it is difficult to make a positive differential diagnosis, and when this does happen it is due more to a fortunate coincidence than to a convincing diagnostic consideration. All in all we must confess that a positive diagnosis in diseases of the gallbladder may be sometimes as difficult (or impossible) as it is easy in other cases. I have endeavored to give the different clinical points for such a diagnosis.

As to therapy, I wish to say a few words regarding the indications for operation, as I consider the internal treatment of cholelithiasis, etc., very uncertain. Although there are a large number of patients benefited by dietetic, hygienic, gymnastic, and medical means, the latter including the waters of Carlsbad, Vichy, Neuenahr, etc., still we are never positive that benefit or a complete cure will result from such treatment. Radically, we ought to operate in every case to remove the cause, for the acute inflammation may subside, the stone may pass through the intestine and apparent cure follow, but we are never certain that there may not be a recurrence which may lead to fatal complications. We will, therefore, only treat internally patients in whom there is no fear of bad results from such treatment.

Some surgeons consider immediate operation the ideal therapy in every case of gallbladder disease. In my opinion the circumstances are comparable to those of appendicitis; as we cannot go to such extremes in every case of appendicitis, similarly we cannot in every case of gallbladder disease. And this much more so as the operations on the gallbladder, either for incision or for its removal, are much more difficult and much more severe in their consequences than operations for appendicitis. All clinicians agree that in favorable cases, that is, when a stone has been passed and jaundice present, operation should not be performed.

I adopt the following measures: During the acute inflammatory stage and during colic I use the known means for relief, and in addition in such cases I advise lavage of the stomach with hot water or with a solution of nitras argenti (Ehrlich[25]), or the drinking of large quantities of hot water; in a severe acute infection, immediate operation; patients with rapidly recurrent favorable attacks, I would rather treat internally, as the stones are probably of similar size and able to pass. After such attacks the bile flows freely and the infection subsides.

In unfavorable cases with recurrent attacks I advise operation, especially when stones lie in the hepaticus or choledochus. If I can conclude that the stones remain either in the bladder or in the cysticus, I favor operation, but I allow latitude to a patient less disposed toward the surgeon to continue his chances in the lottery of internal treatment.

In cases of long standing obstruction or compression jaundice I advise operation according to the individual; a positive diagnosis of compression jaundice, whatever its nature, indicates immediate operation. On the other hand, in cases of an obstruction jaundice by stone, I believe the patients, if they can properly take care of themselves and use no extra exertion, can wait a much longer time than five weeks, as mentioned by some surgeons (Körte[23]). I have seen such wait five or six months before operation. The same may hold true for the many complications brought about by a pericholecystitis. Theoretically it would be right to operate immediately, and the dangers of the operation ought not to be considered. According to recent statistics by Kehr, the mortality rate is 4%.

An impartial observer like myself who has seen so many operations knows that surgical interference, even though it relieves the patient, may be followed in the course of the healing of the wound by so many threatening circumstances, so much anxiety, and the healing may be so slow that we would prefer to spare him the operation if possible. The inconveniences of postoperative cicatrices are occasionally many; stones may be left behind, or it may have been impossible to have removed all the stones; and finally we must not forget that parenchymatous hemorrhages in cases of long standing jaundice may be fatal. In this point I quite agree with the views expressed some years ago by R. H. Fitz[22] and quite recently by Harrington,[27] who says: "Good surgery is the degree of benefit afforded to the patient by the operation and not the ability to perform successfully the work undertaken."

Although a case may be favorable, or operation may have been performed, we should always use *preventive means against recurrence.* Riedel believes there are never true recurrences after operation, but that the socalled recurrences are due to stones either overlooked or left behind. This may be true, but I do not see why after operation conditions in the ducts may not remain favorable to the formation of new stones. In fact Grawitz and Hanseman have observed this to occur after operation. As we know that stagnation of bile predisposes to the formation of stones or to cholangitis, we must make use of methods to prevent such; dietetic and hygienic are more preferable than medical means for this, but I will not forget to mention that lately W. Clemm[26] recommends the use of "eusatrol" (Oelnau res Natron) which gave me also good results in some cases.

Gentlemen, I fear that I have not given much that is new and interesting. I am assured, however, that your friendly reception is due not so much to my paper and to my person, but to my representation of German science. Unintentionally you will think of my famous teachers, Frerichs and Virchow, to whom many of you, either directly or indirectly, are no doubt thankful for some of your education. Allow me to say that American science has a very fertile soil for the seed taken from Germany; for a long time it has repaid with interest what it has derived from us, and, furthermore, allow me to express the wish for a continued mutual reciprocation.

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DISEASES OF THE SKIN.

Their General Relationship to General Practice and the General Practitioner.

BY

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In the treatment of diseases affecting the skin it is of the first importance to recognize that dermatology is nothing more than a part of general medicine. It is true that as the skin differs to some extent in its structure and in its physical condition from the other tissues or organs of the body, its morbid manifestations are not identical with those met in other parts of the organism; therefore, in a way, the diseases of the skin are peculiar to it, but they are similar to the diseases met elsewhere. On the whole, the pathology of cutaneous diseases is practically identical with general pathology, and the treatment is a part of general therapeutics. Moreover, it must not be forgotten that many socalled diseases of the skin are merely outward manifestations of internal morbid conditions. In these it is obvious that to concentrate the attention unduly on the cutaneous lesions will result in the neglect of the underlying disease, of which it is nothing more than the outward expression.

The importance of care in diet in diseases of the skin is generally recognized. It is in the first place certain that some skin diseases may be produced by food. One of the best instances of this is urticaria, which is most commonly produced by the ingestion of fish, especially shellfish; but in certain cases many forms of food may give rise to it. Usually there is an idiosyncrasy on the part of the patient which enables articles of diet otherwise harmless to cause the urticaria, but certain conditions of the food also may excite the appearance of the urticaria—for instance, food that is not perfectly fresh is much more prone to give rise to the wheals; in the latter case we are justified in thinking that some chemic changes must have occurred in the food, and that the chemical substances produced are the cause of the disease. There are many other affections of the skin which can also be traced to the diet, though in none is the connection so striking as in urticaria. Thus as in health

food may cause disease of the skin, so when the skin is diseased the nature of the food may maintain or increase the severity of the skin lesion. Errors as to the quantity of the food, even though the quality be unexceptional, are also very liable to produce or aggravate diseases of the skin. The method of cooking, moreover, and the time at which the food is taken, may be of great importance in the prevention or cure of cutaneous disease. All these points must be taken into consideration in arranging a diet.

A dieting for a disease of the skin does not necessarily mean semistarvation. The food should be so regulated both in quality and quantity that its digestion is ensured. Especially, however, should the patient beware of taking any food, whether solid or liquid, which experience has shown does not agree either with digestion or with the skin. It is customary to give lists of food which should be avoided by those who suffer from cutaneous disorders, and there is much justification for these tables; but it must be understood that they cannot be of universal application. Carbohydrates in excess are certainly injurious, and it is therefore advisable that they should be taken only in moderation. Pastry especially should be avoided, for it consists of an intimate mixture of carbohydrates and fat, which experience has shown to be especially harmful. Fat in itself appears to have a beneficial action on the skin, but it must be consumed in a digestible form. Probably it is most easily digested in the form of meat.

The ingestion of liquids is of equal importance. Alcohol is harmful even in small quantities in many skin diseases. It acts both by its influence on digestion and by causing cutaneous hyperemia. It does least harm when taken with food, and when the percentage of alcohol present is small. On the whole, the lighter wines are less prejudicial in their effect than other forms of alcohol, but spirits (except when well diluted), champagne, and beer should be avoided. Tea frequently does much harm, chiefly because it is taken in excess and apart from food; it is also often infused too long. Coffee and cocoa are less injurious, but these, too, should be taken in moderation.

I may mention that the connection between disease of the skin and tobacco is not so obvious as in the case of alcohol, but I have little doubt of the harmful effect of tobacco, especially in excess; caution on the part of the patient in this respect is therefore advisable.

There are, however, other ingesta deserving of notice, as they can give rise to disease of the skin. These are drugs. Many medicines and chemicals have the power of evoking skin manifestations, even in those who are in health, and still more likely is the skin to be affected in disease, so that the possibility of some part of the lesion being the result of medication must always be borne in mind.

Climate and air have also their influences. On the whole, a fairly dry inland situation is most advantageous for these patients, for sea air is very irritating in many forms of eczema; but for conditions in which the general nutrition is impaired, as in lupus, sea air may have a markedly beneficial effect. It is, however, difficult to lay down general rules on the subject, as each case must be a law unto itself and treated purely on its merits.

The effect on cutaneous disease of soap and water is so important as to require special mention. Even in health frequent washing damages the skin by depriving it of much or all of its natural fat, so that it becomes unnaturally dry and also probably more easily invaded by parasitic microorganisms. The effect is still more harmful in disease. Except in those skin diseases due to the animal and some of the vegetable parasites, washing is of no therapeutic value, and in many morbid cutaneous conditions, especially in eczema, it may be exceedingly harmful. When washing cannot be avoided, the injurious effects of the water may be mitigated to some extent by the addition to it of oatmeal or of gelatin, so that a demulcent action is exerted on the skin. In cases in which washing is admissible the choice of soap is generally not difficult, and it should be remembered that that soap is beneficial to the patient the use of which is not followed by redness or smarting. Personally, I prefer the albuminate of mercury ("sapodermin"), a soap which is made up in two strengths; *i. e.*, $\frac{1}{5}\%$ and 1%, as fulfilling most requirements. These are antiseptic, and have the advantage of leaving the integument in a soft, velvety condition, as well as of being destructive to bacteria. Of recent years superfatted soaps have been introduced, and they are certainly less irritating to most skins than those formerly used; they are quite pleasant to use, but naturally their detergent effect is less, though sufficient for all practical purposes. Of medicated soaps I have little to say, as I do not consider soap to be a convenient vehicle for the application of drugs except in very peculiar cases.

To come more directly to the therapeutic part of my paper, it is obvious that if the general health be in any way impaired we should endeavor to restore it, although we may be unable to recognize that any causal connection exists between the general condition and the cutaneous lesion. The digestion should be treated if dyspepsia is present, and any abnormal condition of the bowels, such as constipation or diarrhea, should be corrected. In many cases, however, the general health appears to be perfect.

There is a very definite opinion prevalent among the public and held even by some medical men that there is some risk in curing a disease of the skin. The eruption and the discharge from it are imagined to be beneficial; it is thought that if these are removed then the disease is "driven inward" and produces very serious symptoms. These ideas were formerly widespread in the medical profession and they are to be found in all the older works on dermatology, yet at the present time it cannot be said that we have any definite facts to support such an opinion. It is known that in some of the eruptive fevers if the rash does not come out well, or if it recedes, the constitutional symptoms tend to be more severe and a fatal result often follows. This is probably the foundation, or part of the foundation, for the idea that the rapid removal of a cutaneous malady may give rise to severe internal disease. Possibly, since the skin is a great excretory organ, the cessation of its secretion may cause the retention in the body of noxious substances, but of this we know little of practical value. At all events no apprehension of doing harm to the patient need deter us from removing as speedily as possible a disease of the skin.

Accurate diagnosis is the very first essential for the satisfactory treatment of every disease, and to this skin diseases are no exception. Our aim in treatment should be to remove the cause of the disease if possible, but if the cause is unknown or if it cannot be removed we must treat the symptoms, and even when the cause is known and the disease is readily amenable to treatment the symptoms, or some of the symptoms, may require treatment, either because they are especially distressing to the patient or because it is not possible to remove the cause immediately. For instance, it is sometimes necessary to treat the itching of psoriasis because it may be very troublesome in itself, although we can in a few weeks or months completely remove the disease. It must not be imagined that when we know the cause the treatment which is the most obvious is necessarily the best. Many cutaneous diseases are now known to be microbic in origin, yet the direct application of antiseptics will in many cases not lead to recovery, hence indirect methods are sometimes indicated.

The treatment therefore of a disease of the skin may be internal or external. At one time the internal treatment was considered of very great importance in all forms of cutaneous disease, while external applications were thought to be of much less import. The recent

tendency has been to exalt the external treatment and to discredit somewhat internal medication. It should be obvious from even a superficial study of the etiology of diseases of the skin, even so far as we are acquainted with it, that in one disease internal treatment and in another external treatment must be of the most value, but in nearly all diseases of the skin both methods of treatment are indicated so far as my experience goes.

As for medication, I would speak of one drug which has been used for years and often to a very detrimental issue; let the dose be small or large, the issue can but be the same in the end. I refer to arsenic, which has been looked upon as the sheet-anchor to be employed in many skin diseases; and in fact, many medical men administer arsenic in almost every case of disease of the skin with which they have to deal. Yet curiously, those who have most to do with the treatment of cutaneous disease employ the drug comparatively rarely. In fact, I am inclined to believe that they employ it more rarely every year.

Arsenic is an organic or disease medicine, and will always aggravate skin diseases of an acute type. In what, then, is it of value? Only in cutaneous conditions of a scaly character, psoriasis, lepra, etc., which are very serious skin diseases and are often hereditary. In any case it requires careful watching in order to obviate the destruction of red blood-corpuscles, for arsenic will do this if given constantly. Along with scaly skin diseases there is apt to be trouble with mucous membranes, as might naturally be expected. In these cases there will be a tendency to asthma, and alternate bronchitis, chronic bronchitis, and chronic emphysema. Moreover, arsenic is capable of giving rise itself to morbid changes in the skin; not only does it increase any inflammation which is already present, but when the drug is exhibited for a prolonged period the skin becomes pigmented; on the palms and soles thickening of the epidermis occurs, and in a few cases multiple epitheliomas have developed.

With regard to external remedies, the dermatologist has an extensive choice. Baths are in certain cases of much value. In no other way is it possible to obtain so thorough an action on the skin; but, on the other hand, there is a risk of absorption by the skin of substances from the bath, so that a bath should never contain any substance the absorption of which might be dangerous. "Permanent" baths are but little used in this country; although occasionally of great use, they are troublesome and of limited application. The capacity of an ordinary bath is 20 or 25 gallons, hence medication should be calculated accordingly. In all parasitic or fungoid diseases of the skin, when baths are considered advisable, I prefer the albuminate of mercury (sapodermin) which if absorbed is not harmful and, moreover, does away with annoying calculations.

Ointments are certainly more frequently prescribed than any other form of application. They are very convenient, especially when inunction is required; but they are uncleanly, and may often be replaced by other applications. They are usually made up with hard and soft paraffin. They keep fairly well, and do not tend to irritate even though they have been made long previously; but this advantage does not appear to me of great moment, for ointments are better for being freshly prepared. The animal and vegetable fats seem to me to be much more preferable for ointment basis than the paraffins, and I believe that a drug made into an ointment with a basis of fat is able to exert a deeper effect on the skin. When there is a profuse secretion from the skin, lotions and dusting powders are suitable. They have to be used freely to obtain the best effect, and are hardly suited for patients who have to go about their work. Professor Kopp, of Munich, used dymal (salicylate of didymium), having the formula $Di_2(C_6H_4OHCOO)_6$ in dermatoses like acute and chronic, moist and dry eczema, psoriasis, impetigo contagiosa, erysipelas, hyperidrosis, intertrigo, ichthyosis, and gangrene of the skin. Dr. A. Roth also reports extended tests of this chemical in various skin diseases, and with very good results. However, I have not had the opportunity to make as comprehensive tests as have these gentlemen; but in weeping eczema the results have been so satisfactory that I hope for further experience with this form of treatment; it is undoubtedly of value, and deserves very careful consideration. Traumaticin, which is a solution of guttapercha in chloroform, forms a very convenient vehicle for many drugs. When painted on the surface of the skin, it dries quickly and forms an impermeable covering, which maintains the medicament in close contact with the part, and at the same time effectually prevents any staining of the clothes. Pastes are also of value, as they permit any exudation to make its way through them, and they are, therefore, often superior to ointments. Pastes are practically composed of a combination of an ointment with a powder.

Space will hardly permit of a consideration of the surgical treatment, scraping, excision, skin-grafting—all have their place in dermatologic therapeutics. Nor can I here describe the treatment of disease of the skin with light or the Röntgen rays; they are both of considerable value in suitable cases. It will be found, however, that as a disease varies from time to time, so will it be necessary to alter the chemicals employed and the mode of their application. One cardinal principle it may be well to bear in mind, I have found it so, *per se*, acquaint yourself with the therapeutics of a few substances, and the best mode of employing them, rather than make a hasty inconclusive trial of every new preparation or treatment that is devised.

TUBERCULOUS ULCERATION OF THE RECTUM AND ANUS.*

BY

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Tuberculosis is now recognized as the cause of a number of conditions occurring about the anus and within the rectum, the pathology of which was formerly obscure. The disease may be a primary process, but in the majority of instances it is secondary to similar changes in other organs. It may involve any portion of the rectum, or the skin about the anus; its most frequent site in my experience, however, is at the mucocutaneous junction. The affection is always due to the tubercle bacillus.

The ulcers may be single or multiple and vary as to the extent and depth of the tissue involved. They are irregular in outline, with their long axis parallel to the vertical axis of the bowel,—in the upper part of the rectum,—corresponding to the direction in which the blood-vessels ramify; hence, in the lower portion of the rectum, they spread in varying directions.

These ulcers have a peculiar appearance, somewhat difficult to describe. The edges are thin and undermined. Their bases are of a grayish-yellow color, with here and there small round, hard yellow spots of tubercles (usually visible to the eye) in the granular mass. The granulations are large, flabby, pale, often exuberant and readily made to bleed. The discharge is thin, whey-like, occasionally curdy.

The symptoms attending this affection depend to a certain extent upon the site and severity of the disease. Usually there is diarrhea, discharge of pus, blood and mucus, and some digestive disturbances. Rarely is there pain, though some distress or discomfort may be experienced in the sacral region.

* Read by title at the fifth annual meeting of the American Proctologic Society, held in New Orleans, La., May 5 and 6, 1903.

The diagnosis of tuberculous ulceration of the rectum is not always an easy matter. Its undermined edges and elevated base, together with its tendency to follow the course of the bloodvessels and lymphatics, are symptoms strongly indicative of the nature of the disease.

The fact that tubercle bacilli are found in the discharge or scrapings adds additional weight to this evidence, but it must be remembered that their presence taken alone is not positive evidence of the pathologic character of any given ulcer, for we must bear in mind as has been pointed out by James P. Tuttle, M.D.,[1] that the tubercle bacilli may pass through the intestinal tract and be found in the pus of an ulcer which in itself is not tuberculous. An examination of a portion of the tissue taken from the base of such an ulcer, showing the presence of the bacilli and giant-cells, would be stronger evidence of its tuberculous nature.

An interesting question bearing upon this subject is why so few persons affected with pulmonary tuberculosis are affected with intestinal ulceration of a like character, even though such individuals are constantly swallowing sputum laden with tubercle bacilli. Mr. Charles B. Ball, F.R.C.S.I.,[2] quoting from the work of Koch upon the etiology of tuberculosis, essays the following explanation, which seems like a reasonable solution of the difficulty:

That more individuals are not affected with intestinal ulceration may be due partly to the fact that the intestinal mucous membrane is not very susceptible to infection by the bacilli, and also to the slow development of the tubercle bacillus, Koch only having been able to cultivate the microbes of intestinal tuberculosis nine times in a period of six months. Experiments with *Bacillus anthracis* have shown that the fully developed bacilli were destroyed by the gastric fluids, but that the spores passed through and subsequently developed; and Koch concludes that possibly the same may be true of the tubercle bacillus, and that it is only in those cases in which the spores are delayed from some cause for a sufficiently long time in the intestinal canal that the bacilli develop and form intestinal ulcers. When once developed, the tuberculous ulcers contain vast numbers of the bacilli. In one case which Koch records they were found in great quantities in the floor of the intestinal ulcerations, although they existed only in small numbers in the pulmonary cavities.

Professor G. Sormani, quoted by the same authority,[3] has published some very interesting experiments on the artificial digestion of, and other conditions influencing the life of, these organisms.[4]

The stomach of a pig recently killed and kept without food for forty hours before death was the source of the gastric juice employed. Complete physiologic digestion not only destroys the vitality of the bacillus of tuberculosis but its form also. The destruction of the bacillus is not among the first phenomena of digestion, but rather among the last to happen; that is to say, their organisms are among organized substances the least easily attacked by the digestive juices. A digestion of too short duration, or of little activity from scarcity of gastric juice, or from insufficient acidity, does not attack the bacillus of tuberculosis and in such cases it maintains its virulence nearly unaltered. The knowledge of this, according to Sormani, helps to explain the association of intestinal tuberculosis with pulmonary tuberculosis. The stomach of the tuberculous patients, little active as a rule, from catarrh due to the fever, and possibly to the remedies, is of so weak digestive power that it readily allows these bacilli to pass unaltered, so that they may subsequently become the foci of intestinal tuberculosis.

This somewhat cursory consideration of the topic before us brings me to the main object for presenting this paper before this society, to wit, the treatment—not that I have anything new to add upon this phase of the subject, but, appreciating as every one must, who is obliged to come into professional contact with patients afflicted with this malady—the discouraging outlook for effecting a permanent cure in the majority of these patients,—I am led to hope that by opening the way for a discussion of the matter some suggestion may be made which may materially alter this condition.

Any plan of treatment to be of benefit must, in a large measure, be directed to the general constitutional condition, and for this purpose—pure air, forced feeding, and all the hygienic and medicinal measures should be adopted as are employed in general tuberculosis.

The local treatment has for its main objects the destruction of the tubercle bacilli, and the establishment of a healthy reparative process. The paquelin cautery or the galvanocautery; chemical caustics, such as zinc chlorid, nitric acid, and acid nitrate of mercury; the curet and the x-ray have been employed for these purposes, and with varying results. Some patients have been benefited, some cured but a large percentage have not been materially improved. Some satisfactory results have been procured by less drastic measures, such as the use of a 2% solution of creolin or hydrogen dioxid to cleanse the parts followed by the topical application of some one of the following remedies: ichthyol (pure or diluted), balsam of peru, bismuth subiodid, orthoform, orthoform and a 2% solution of methylene-blue as recommended by Tuttle,[5] compound or simple resin cerate combined with 1.3 grams (20 grains) of iodoform to the ounce, etc.

Following the indications obtained from the researches of Sormani, previously quoted, in which it seemed to be shown that gastric juice destroys the vitality of the tubercle bacillus, I have recently been experimenting with an application to the ulcers of an essence of pepsin acidulated with two drops to the ounce of the strong nitromuriatic acid applied either with the atomizer or, if the ulceration be perianal, upon gauze which is left in contact with the parts.

The pepsin solution is applied every day for a week, every other day for another week, and afterward as seems indicated by the character and condition of the ulceration. This treatment is supplemented by the use of some one of the remedies previously mentioned. In two cases in which I have employed this plan, sufficient encouragement has been given to warrant this mention of the matter, but sufficient time has not elapsed to be able to speak authoritatively on the ultimate outcome of the treatment.

I have purposely omitted in this paper any consideration of the tuberculous ulceration of the anus, formerly supposed to be a distinct variety and classified under the term lupoid, which is not only fearfully destructive of tissue, but also fatal in its outcome, due to the exhaustion it produces, as I desire, at some future period to take up the subject in an article specially devoted to that topic.

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THE ETIOLOGY OF LEUKEMIA.[1]

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One of the unsolved and baffling problems of medicine is the etiology of leukemia. Some factors that with more or less reason have been regarded as being of some etiologic or predisposing influence in causing the development of leukemia have been noted, as heredity, traumatism, and various precedent diseases (malaria, etc.). The immediate specific cause is undetermined. To many observers a parasitic or infectious agency has seemed to afford a probable explanation of the pathogenesis of the disease. Cases of acute leukemia, especially, so closely resemble acute infectious diseases as to create a strong impression that they, too, are of infectious nature. This impression is repeatedly expressed by those who have

[1] A portion of a paper which was awarded honorable mention in an essay prize competition under the auspices of the Medical Society of the District of Columbia, 1902.

reported cases of acute leukemia. An acute case recently observed and reported[1] by me directed my attention to this point, and suggested a study of the subject, both experimentally and by an examination of the literature. The results of this study of the etiology of leukemia, which embraces all forms of the disease, not only the acute, are here given.

Heredity.—A number of instances of heredity in leukemia have been reported, either the occurrence of the disease in two or more members of the same generation, or in members of two or three different generations. The number of such cases, however, compared with the total number of cases of leukemia, is so small that while heredity in these few instances may have been a factor in the incidence of the disease, it is in general of very little etiologic moment.

Traumatism.—In a considerable number of cases leukemia has developed after traumatisms, so as to have given rise to the impression that the injury had some direct influence in the development of the disease. Such cases have been reported in connection with both acute and chronic leukemia. The traumatisms reported as associated with the development of the disease are usually a blow over the splenic region, an injury to the bones, or a severe general concussion (as a fall from an upper story of a building). It is conceivable that contusions or injuries of the hematopoietic organs (spleen and bone marrow) thus produced might result in disturbances of the hematopoietic processes, so that the manner in which traumatism might produce leukemia can at least be appreciated. But whatever influence traumatism may have in lighting up leukemia in some instances, it is certain that in the great majority of cases it is an absent and nonoperative factor.

Precedent Morbid Conditions.—In a considerable proportion of the cases of leukemia there is a history of some previous disease, supposed with more or less probability to have had influence in causing the subsequent development of the leukemia. The principal precedent diseases that have been reported and considered in this connection are malaria, pernicious or severe anemia, pregnancy or parturition, syphilis, typhoid fever, influenza, general inanition, etc.

The mere fact that some other disease may have preceded a case of leukemia obviously does not prove that it had any causative relation to the latter; other considerations are required to determine if any and what etiologic influence was exerted by the prior affection. In some cases, therefore, the preexisting diseases can be acquitted of the suspicion of participating in the causation of leukemia on the ground of being entirely coincidental, and of having no relation whatever to the subsequent malady.

Another consideration that will eliminate some supposed instances of previous disease causing leukemia is the matter of diagnosis. The suspicion can not be overcome that in some cases the diagnosis of the first disease, malaria or influenza for instance, was erroneous, and that the morbid conditions present were really the early manifestations of the leukemia itself, which at that early period might naturally not be recognized. A case in point is one of extremely acute leukemia in which death occurred on the fourth day after coming under observation; on the first day the symptoms were such that the diagnosis of influenza was then made, but on the second day leukemia was recognized. This case was repeatedly cited as one of leukemia developing from influenza; it is much more rational to suppose that it was leukemia throughout, and that however much it may have resembled influenza at first, the first diagnosis should have been rejected and revised in view of later developments.

But after eliminating some alleged cases as being coincidental or erroneously diagnosticated, there remains a considerable residuum of instances in which prior disease conditions may be reasonably supposed to have had some possible influence in the genesis of the subsequent leukemia.

Of all the diseases precedent to leukemia none is so prominent or frequent as malaria. In the statistics of leukemia there is a previous history of malaria in about a fourth or fifth of the cases, a proportion so large, even after allowing for coincidence and error, as to justify a strong suspicion that malaria has some etiologic influence in producing the subsequent disease. As the great majority of cases of leukemia develop without previous malaria, the latter at most can be only an occasional, partial, and secondary and not a specific cause of leukemia. Further, the geographic distribution of leukemia and of malaria do not correspond well; while malaria increases southward, leukemia (so far as the data at hand show) decreases toward the south; still, it may be noted that in Michigan, where leukemia is remarkably frequent, malaria is also prevalent.

Aside from malaria and traumatism, and possibly severe anemias and female genital crises like parturition and pregnancy, no particular diseases seem to be so markedly associated with leukemia as to attract or justify special attention. The action, if any, of malaria, hemorrhage, or severe anemia in favoring the development of leukemia can perhaps be understood on the ground that in these conditions the blood and blood-making organs are especially involved. Also, a condition of lowered vitality produced by these or other affections might easily be supposed to be conducive to leukemia. It would not be strange, therefore, if precedent disease should have some predisposing influence to leukemia.

It is obvious, however, that whatever action heredity, traumatism, or any previous diseases may exert in causing leukemia it is only occasional, partial, or accessory. In themselves alone they are entirely inadequate to produce the disease, and in fact in the great majority of cases are absent and inoperative. The immediate efficient cause for the production of the remarkable manifestations of leukemia must be sought elsewhere. In this connection three theories of the immediate causation of leukemia are to be considered, namely, (*a*) toxemia; (*b*) infection or parasitism; and (*c*) cancer-like hyperplastic processes.

Toxic Theory.—A factor in the pathogenesis of leukemia that demands consideration is the action of toxins. The question is, Are the phenomena of leukemia wholly or partially due to circulating toxins, and to what extent?

That toxemia plays some part in the manifestations of leukemia can scarcely be doubted. In acute leukemia, especially, the fever, emaciation, asthenia, arteriosclerosis, etc., are strongly suggestive of profound systemic poisoning. The question here arises, Are the toxemic manifestations in leukemia primary or secondary? Is the original primary development of the disease due to toxins, or is the toxemia in leukemia produced by substances generated secondarily in the course of the disease? That leukemic toxemia is partly, at least, of secondary origin seems probable, since the excessive disintegration of red blood-corpuscles and leukocytes or the abnormal processes in the hematopoietic organs might readily be supposed to liberate katabolic substances of toxic character.

The important point, so far as the ultimate causation of leukemia is concerned, is whether toxins are responsible for the primary and initial development of the disease. On this point we have very little data, much too little for the formation of a final decision. The generalized and widespread distribution of the initial lesions in the bone marrow or lymph-glands indicates the operation of a causative principle equally widespread and general, just such as toxemia would present; and it is easy to see how toxic irritation could stimulate the

[1] *American Medicine*, May 23, 1903, p. 827.

leukocyte-forming cells and organs to excessive activity and produce the phenomena of leukemia.

If leukemia were of toxemic origin a most favorable condition for its development would seem to be offered by the fetus within the uterus of a leukemic mother; the toxins in the mother's blood would be expected to transude from the maternal into the fetal vessels and cause leukemic developments in the fetus. This is precisely what does *not* occur; the children of leukemic mothers are born unaffected with the disease. Even this negative fact, however, might not be incompatible with a toxemic origin of leukemia, since the toxins might not be able to pass through the membranes separating the maternal and fetal vessels.

Another favorable condition for the toxic transmission of leukemia is afforded by a leukemic mother nursing an unaffected infant. The case reported by J. C. Cameron [1] may be cited in this connection. In this case a mother while leukemic went through four pregnancies, the infants being unaffected at birth. One of the infants, born apparently vigorous, on the second day was nursed at the mother's breast; it immediately developed subcutaneous hemorrhages, vomiting, and purging, though with no changes in the blood or organs, and died on the fourth day. Another child was nursed for a week at the mother's breast, but did not thrive, and its nourishment was changed. A third child was nursed by the mother for three months; at about this age it developed leukemia, of which it died three months later. What part the toxic substances in the mother's milk may have had in the development of leukemia in this child is indeterminate; there was strong hereditary influence in the case, the woman's grandmother, mother, brother, and another child at the age of 6 also having had leukemia.

In three of the four reported cases of congenital leukemia (cited below) it is noteworthy that the placenta was markedly edematous, possibly due to a resorption of toxins from the leukemic fetus which, however, produced little effect on the mother beyond the placenta.

This question of leukemic toxins might be investigated experimentally by injection into animals of repeated and large doses of blood-serum or other material from leukemic patients to determine if any manifestations of the disease could thus be produced. In the animal inoculations heretofore made this point has not been in view.

The question last arises, If leukemia is produced by toxins what is the source of those toxins? Two possible sources readily suggest themselves: (*a*) the products of the growth of bacteria or other parasites, and (*b*) abnormal products of perverted or aberrant metabolic or other physiologic processes in the body.

If bacteria were the cause of leukemia they would probably act not so much by their mere presence as by the toxins which they might elaborate and which might be absorbed into the circulation. Search for bacterial or other parasitic causes for leukemia, as shown below, has heretofore proved unsuccessful and other possible sources of toxins therefore demand consideration.

Perverted metabolic and physiologic processes in the body resulting in the production of abnormal substances (leukomains, etc.) might be another source of leukemia-producing toxins worthy of consideration in searching for the cause of the disease. Peptone, for instance, introduced into the circulating blood is capable, according to some observers, of producing leukocytosis, so that abnormal processes of absorption in the intestinal walls wherein peptone fails to be reconverted into serum albumin or globulin as it enters the blood might result in leukocytosis. This peptone-leukocytosis is not leukemia, but it serves as an example of how some perversion of the ordinary vital processes might liberate leukemia-producing toxins. Possibly some causative enzyme is generated by perverted activity of some group of cells, or some internal secretion normally present and essential to the control of the hematopoietic processes may be suppressed. Our knowledge of the perversions of the metabolic processes and chemical activities of cell life, with their morbid consequences, is as yet so vague that we can form no conclusion as to the autogenous toxic causation of leukemia.

These considerations, even though somewhat speculative, show that until the matter is finally settled a toxic theory of the causation of leukemia is worth considering. This phase of the question has not been subjected to experimental investigation, nor indeed is it easily amenable to experiment, and until directly positive or negative proof is obtained the toxin theory must remain *sub judice*.

Parasitism and Infection.—On account of the strong likeness of leukemia, especially its acute form, to infectious diseases, many observers have suspected that leukemia is due to microparasites. This is a question to be settled by direct investigation. In order to obtain an adequate basis for a consideration of this subject, I have, in addition to personal observations in two cases (the acute case referred to and one chronic case[1]), made an exhaustive search of the literature for all observations and investigations as to the association of bacterial or protozoan parasites with leukemia and as to the infectiousness of the disease. The literature and published bibliographies on this subject confusingly include many bacteriologic observations on pseudoleukemia, but in this study these have been eliminated so far as possible and only those relating to true leukemia considered. About 92 published reports (up to and including 1902) bearing on the presence or absence of parasites in cases of leukemia, beside my own cases, have been found and analyzed; the references to these articles are given in the appended bibliography.

After allowing for error and incompleteness of diagnosis and observation, this series of studies and reports should afford a mass of data from which some judgment as to the infectiousness of leukemia can be formed, or at least narrow the field within which further studies should be pursued.

The evidence, positive or negative, as to the infectiousness of leukemia may be considered under several distinct lines of research or observation: (1) The finding, or not finding, of bacteria associated with the disease, either by direct microscopic examination of, or by attempts to cultivate bacteria from, the blood or organs of the patients; (2) observations of protozoa; (3) the results of inoculation of animals with the blood or organs of the patient, or with bacteria cultivated therefrom; and (4) evidences of contagion.

Bacteria.—Bacteriologic examinations, either by direct microscopic search of preparations of blood or organs, or by cultures from blood or organs, by all the ordinary methods, both during life and after death, are reported in human cases of leukemia by 69 observers (including my own observations), embracing 47 acute cases and 49 or more chronic cases, 96 cases in all, beside "several" cases reported each by Klebs and Widal. Similar examinations of cases in animals are reported by three observers. The general results are given in the accompanying table.

In addition to these cases are the several instances in which Klebs saw "monads" in the blood, and several (probably chronic) cases in which Widal had negative

[1] American Journal of the Medical Sciences, 1888, xcv, 28, and 1890, c, 479.

[1] The data in this case are as follow: In a boy who died of myelemic leukemia after two years' illness, specimens of blood taken 10 days before death and stained with methylene-blue showed numerous slender bacilli, similar in appearance to tubercle bacilli, many growing in chains of two to six bacilli each. Stained blood specimens two days before death showed no bacteria. At the autopsy agar tubes inoculated from the spleen, liver, and kidney yielded no growths; a tube inoculated with the heart blood yielded growths of *Staphylococcus pyogenes albus*.

results from cultures. In all the animal cases bacteria were obtained by cultures.

Results of bacteriologic examinations in human cases of leukemia.	Number of cases.					
		Chronic leukemia.				
	Acute leukemia.	Examined in terminal stage or post mortem.	Examined prior to terminal stage.	Time of examination not stated.	Total number of chronic cases.	Total number of cases.
Bacteria obtained by cultures	18	10	1	3	14	32
Bacteria seen or "found" in blood or tissues, but cultures not made, not stated to be made, or negative	7	6	5	2	13	20
Total number of cases in which bacteria were found	25	16	6	5	27	52
Cultures made, but without growths resulting	14	2	8	3	13	27
Bacteria not seen in blood or tissues (cultures not made)	6	2	2	.....	4	10
Bacteria not "found" (method of search not stated)	2	.....	5	.....	5	7
Total	47	20	21	8	49	96

In considering these results, it may be accepted that with very few exceptions bacteria were present in the cases in which they were definitely seen or obtained by cultures; and negative results from inoculations of ordinary culture media when properly done (as appears to have been the case in general in these reports) may be fairly accepted as evidence of the absence of ordinary bacteria. Failure to see bacteria in blood or sections, however, is not adequate proof of their absence, and such data are inconclusive on this point. On these lines the foregoing table of bacteriologic findings in human cases of leukemia may be summarized and revised thus:

	Acute cases.	Chronic cases.	Total.
Bacteria present	25	27	52
Bacteria absent (cultures negative)	14	13	27
Adequately examined cases	39	40	79
Presence or absence of bacteria not satisfactorily determined	8	9	17
Total	47	49	96

In brief, in the adequately examined cases bacteria were found present in about two thirds of both the acute and chronic cases; and in chronic leukemia they were found present much oftener in the terminal period of the disease than in earlier stages.

The bacteria reported found in the various human cases (not including bacteria in oral and intestinal ulcers and probable contaminations) are as follow:

	Acute cases.	Chronic cases.	Total.
"Microbes"	1	.....	1
Cocci, unidentified	3	5	8
Staphylococcus pyogenes albus	4	.....	4
Staphylococci	1	.....	1
Streptococci	4	1	5
Staphylococcus pyogenes aureus and albus	.....	2	2
Staphylococcus aureus and albus and bacilli	1	.....	1
Staphylococci and streptococci	1	.....	1
Pneumococci	.....	2	2
Cocci and bacilli, unidentified	1	1	2
Staphylococcus albus and bacilli	.....	1	1
Bacilli, unidentified	4	14	18
Bacillus of Friedländer	1	.....	1
Bacillus proteus	.....	1	1
Colon bacillus	1	.....	1
Colon bacillus and sarcinæ	1	.....	1
Colon bacillus and staphylococcus citreus	1	.....	1
Colon bacillus and bacillus of Bussenius	1	.....	1
Total	25	27	52

Taking the various kinds of bacteria by themselves, the number of human cases in which each was found was as follows:

	Acute cases.	Chronic cases.	Total.
"Microbes," unidentified	1	.....	1
Cocci, unidentified	4	6	10
Staphylococcus pyogenes aureus	1	2	3
Staphylococcus pyogenes albus	5	3	8
Staphylococcus citreus	1	.....	1
Staphylococci, unidentified	2	.....	2
Streptococcus pyogenes	5	1	6
Pneumococcus	.....	2	2
Sarcinæ	1	.....	1
Bacilli, unidentified	6	16	22
Friedländer's bacillus	1	.....	1
Bacillus proteus	.....	1	1
Colon bacillus	4	.....	4
Bacillus of Bussenius	1	.....	1
Total	32	31	63

Beside these there were a few cases in which tuberculosis coexisted with the leukemia. In the animal cases three different bacilli and one diplococcus were found.

Most of the varieties of bacteria thus reported are familiar microorganisms, not known to be capable of causing leukemia. They were present in the cases as complicating or secondary invaders (streptococci, staphylococci, etc.), or as terminal or postmortem invaders (colon and proteus bacilli), and for the most part were explicitly recognized by the observers as pertaining to secondary infections and not as having any causative relation to the leukemic process itself. The relation of the presence of bacteria to terminal infections is illustrated by the fact that in the cases of chronic leukemia the majority of the positive bacterial findings were obtained postmortem or in the terminal period of the disease.

In two or three of the early observations made in the infancy of bacteriology, granules in leukocytes and Müller's blood dust were probably mistaken for cocci, and these cases may be rejected.

Eliminating the obviously secondary invaders and erroneous observations only a minor proportion of bacterial findings is left for consideration, namely, the unidentified cocci and bacilli. Some of these were undoubtedly accidental contaminations. Many others must have been secondary, terminal, or postmortem invaders, as unrecognized staphylococci, colon bacilli, proteus bacilli, etc.

Certain points of resemblance in the bacilli found by a number of observers are noteworthy. The bacilli found by six different observers, covering 12 human cases, had clear unstaining spaces in the center, were mostly short and thick, with rounded ends, and some were stated to be spore-forming. The bacillus found by Moore in the "infectious leukemia" of fowls is also short, oval, with a clear central space. In one other human case the bacillus was spore-forming, in another it stained with difficulty, in another unevenly. Pawlowsky regarded the bacilli with these characters found by him in seven cases as having etiologic relation to leukemia; but his views have not met acceptance. Along with these resemblances are morphologic and cultural variations that differentiate some of the bacilli found by different observers as distinct forms. Some of these forms have been regarded as belonging to the proteus or some similar group, while from the presence of resistant spores some of them may have been laboratory contaminations. For the most part, therefore, this group of bacilli can be dismissed from etiologic consideration as being secondary or contaminating bacteria.

In summarizing the results of these bacteriologic investigations it will be seen that no microorganisms whatever were found in a considerable proportion (about one-third) of both acute and chronic cases, while the

bacteria that were found were manifestly mostly or entirely of secondary or adventitious character. The results of microscopic and cultural investigations in about 80 cases of leukemia in man have been practically entirely negative with reference to the finding of any bacteria that could have any etiologic connection with the disease. This question must be judged also in connection with the results of animal inoculation, which are considered below. Only four observers have claimed positive results from inoculation of animals with bacteria isolated from cases of leukemia, namely, a coccus and a bacillus from two human cases, a diplococcus from a dog, and a bacillus from fowls.

Protozoa.—Gram in 1894 failed to find hematozoa in leukemia. Monro saw small round bodies in the heart walls, of unknown nature. Stĕpán in an acute case saw bodies resembling protozoa within the red blood cells. Mannaberg saw forms closely resembling protozoa in leukocytes and leukocytic infiltrations in one case. Even if protozoa were present in these two cases, they are not shown to have been etiologic factors, and the cases were unique and exceptional instances with which the generality of cases of leukemia do not agree.

M. Löwit, professor of pathology at the University of Innsbruck, as the result of laborious investigations has elaborated and insistently advocates a protozoan theory of the causation of leukemia. By the employment of special staining methods he demonstrates certain bodies within the leukocytes which he regards as protozoa and as the specific causes of the disease. These bodies are seen only in stained specimens, and practically are not to be identified in fresh human blood. He distinguishes two varieties of the bodies or "parasites," one specifically and causally associated with the myelemic form of leukemia, the other specifically associated with lymphemic or lymphatic leukemia.

The variety associated with myelemic leukemia Löwit terms *Hæmamœba leukæmiæ magna*. He distinguishes various stages of development of this variety, young and full-grown ameboid forms, flagellate forms, and morula or sporulating forms in the circulating leukocytes, and spore forms in the leukocytes within the hematopoietic organs.

The other variety, regarded by Löwit as the parasite of lymphatic leukemia, is a small deeply-staining body within the nuclei of the lymphocytes, of which also he distinguishes different life phases. To this body he finally gives the name *Hæmamœba leukæmiæ intranuclearis*.

Löwit's protozoan theory has received very little acceptance. Türk and others as the result of careful investigations of the subject claim that the bodies regarded by Löwit as the parasites of myelemic leukemia are in reality artefacts formed especially from granules of basophile leukocytes by the staining method employed, and that the "parasite" of lymphatic leukemia is a nucleolus which can be brought out in degenerated lymphocytes by special methods. In view of the showings made by his opponents a fair consideration of the question compels the judgment that Löwit thus far has failed to prove that the bodies claimed by him to be protozoa are really parasitic or independently living bodies.

Animal Inoculations.—Leukemia is a disease to which some animals are known to be subject, cases having been reported in dogs, swine, horses, cats, cattle, mice, and fowls; natural cases have not been reported in rabbits or guineapigs. The manifestations of leukemia in animals are very similar to those in man. The chronic cases continue for months; acute cases also occur. The disease is manifested by emaciation, asthenia, diminution of red cells, great increase in the number of leukocytes, enlargement of spleen, lymph-glands and liver; infiltration of intestinal lymph-follicles, leukocytic deposits, and nodules in the liver and other organs. The increase of leukocytes in the blood is ordinarily not so great as in man, rarely exceeding 100,000.

Animals being subject to leukemia it would seem that if the disease is infectious and transmissible proof thereof should be obtainable by inoculation experiments; rabbits and guineapigs would not appear to be such favorable subjects for experiment as other species known to be susceptible to the disease.

As leukemia is mostly a chronic disease, and as in Obrastzow's acute case the supposed period of incubation was from 41 to 56 days, the animals experimented on should be observed for a long period (at least three or four months) before negative results from inoculation can be claimed. Some of the experiments made (as those of Pawlowsky and Türk) are defective from the observations not having been continued a sufficiently long time. Another error to be guarded against is the mistaking of a septic leukocytosis and other developments apt to be produced by the inoculation of autopsy material for true leukemia.

Numerous inoculation experiments on various animals have been reported, either with blood or portions of organs from individuals affected with leukemia, or with cultures of bacteria isolated from the cases. Eleven observers report results of inoculations of animals with blood or splenic or other tissue from over 20 human cases of chronic leukemia and seven (including myself) report animal inoculations with blood or tissue from 7 cases of acute leukemia. In all, over 123 animals have been inoculated, the majority of which were rabbits and guineapigs, also monkeys, dogs, cats, swine, rats, mice, and hens in less number. The inoculations were made intravenously, intraperitoneally, subcutaneously, and once into bone marrow. Some of the animals died from immediate effects of the inoculations—embolism, shock, infection, etc.; but most of them survived and afforded fair opportunity for the development of leukemia. Of all these observers only one, Löwit, claims to have produced leukemia in inoculated animals.

Two observers report unsuccessful attempts at transmitting leukemia from dog to dog and from horse to horse.

Beside these, many of the observers who have isolated bacteria from human or animal cases of leukemia have tested their pathogenicity by inoculation of animals, but of them all only four claim to have produced successfully leukemia in animals, namely, Verdelli, Delbet, Bonvicini, and Moore. These, with Löwit, make in all five such claims for consideration.

Verdelli claims to have produced leukemia or pseudoleukemia in rabbits with cocci grown from a human case of acute leukemia, and that these cocci had causative relation with these diseases. According to Verdelli's statements these cocci appear to have been *Staphylococcus pyogenes aureus* and *Staphylococcus pyogenes albus*, and the conditions produced in the animals were probably septic.

Delbet produced conditions in a dog quite suggestive of leukemia (emaciation, enlargement of lymph-glands, leukocytosis of 1 : 70) by inoculations of a bacillus grown from the splenic blood of a woman with "lymphadenoma." The details given are far too scanty to enable a satisfactory judgment in this case to be formed.

Bonvicini obtained from a dog supposed to be leukemic, cultures of a diplococcus or streptococcus which produced in 6 cats, 6 guineapigs, and 2 white rats, out of a total of 39 animals inoculated, conditions strongly resembling leukemia—asthenia, emaciation, enlargement of glands and spleen, marrow changes, leukocytic infiltrations in the viscera, decrease of red blood cells, great increase in leukocytes, etc. The leukocytes reached 110,000 in a cat, 80,000 in a guineapig, and 65,320 in a rat.

V. A. Moore, of the United States Bureau of Animal Industry, discovered and studied an acute epidemic disease among fowls to which he gave the name "infectious leukemia." The disease is caused by a short oval bacillus, with a clear central space, which he named

Bacterium sanguinarium. Inoculation with this germ produces an acute fatal disease in fowls, pigeons, rabbits, guineapigs, and mice. The disease in fowls is characterized by fever, weakness, emaciation, great decrease of red blood cells, enormous increase of the polynuclear phagocytic leukocytes (up to over 100,000, 150,000, and even 245,000), and other phenomena; the spleen and lymph-glands are unaltered. In the inoculated mammals the disease resembled that in fowls, but the spleen enlarged; blood changes in these mammals are not mentioned in the report. While this disease is certainly suggestive, it is by no means clear that it is a form of true leukemia; it certainly differs in important characters from human leukemia, and should perhaps be classed among the septic leukocytoses.

Löwit claims to have produced in rabbits conditions resembling leukemia by inoculation with splenic juice from cases of splenomedullary leukemia. Other observers, however, following the same technic, have failed to duplicate Löwit's results, and Löwit himself proves too much in claiming to have produced leukemia in a rabbit by inoculation with material from a case that manifestly did not have leukemia at all.

The general conclusion to be drawn from these observations is that no satisfactory showing has yet been made that in any case true human leukemia has been transmitted to animals, while the numerous absolutely negative attempts at inoculation have considerable weight toward showing that by the methods employed leukemia is not transmissible. At the same time the results of Delbet, Löwit, Bonvicini, and Moore, and of various investigators of pseudoleukemia, show that if true leukemia is not transmissible there is a class of septic, leukocytotic, or other reactions of the animal organism simulating leukemia, producible by microorganisms of more than one variety, that has not yet been studied out.

Contagion.— Unless some of the very few instances in which two or more cases occurring contemporaneously in the same family, ordinarily charged to heredity, were really instances of contagion, the only case on record in which transmission of leukemia by contagion can possibly have taken place is that of Obrastzow. In this case an army surgeon or apothecary (Feldscheer), previously well, who had been in attendance on a boy who died of acute leukemia after 16 days' treatment, 41 days after the boy's death himself sickened of acute leukemia and died 15 days later. This case was regarded by Obrastzow and in a more or less garbled form has been cited by numerous others as an instance of transmission of acute leukemia by contagion. If it was such a case the period of incubation must have been between 41 and 56 days.

This case is certainly striking; yet as it stands alone among hundreds of cases of leukemia it is by no means proof positive of the infectiousness and contagiousness of the disease, and may have been a mere coincidence.

As evidence against the infectiousness of leukemia may be cited the few cases in which leukemia has developed in the fetus in utero, the parents being nonleukemic. Four alleged cases of congenital leukemia have been reported, by W. Jakesch,[1] M. Sänger,[2] G. Siefart,[3] L. Pollmann,[4] respectively. In all of these the mother was free from the disease.

In these cases, developing within the uterus and the parents being unaffected, infection is precluded.

From this summary of the direct and experimental evidence it will be seen that there is nothing certainly positive, little that is suggestive or suspicious, and much that is negative as to the infectiousness of leukemia. If acute or chronic human leukemia is caused by a parasite, that parasite is refractory to the ordinary staining, cultural, and animal-inoculation methods, or else it does not occur in the tissues (blood, hematopoietic organs, etc.) ordinarily employed for investigation. A sufficient mass of negative results with the usual methods have been accumulated to make it worth while in future investigations to employ different means of research, such as the exploration of organs and regions heretofore not examined, modifications of cultural methods, the greater use of dogs, cats, or other animals known to be susceptible to leukemia, or methods of inoculation (as intracranial, inhalation, feeding) not yet employed.

If parasites were the cause of leukemia they would probably act through the production of toxins rather than by their mere presence in the cells or organs, although (as under Löwit's theory) they might act by invading one cell after another. If the toxins were the pathogenic stimuli it is clear that the bacteria might live, grow, and elaborate their toxins in other localities than the blood-making organs or the blood. As the bacteriologic examinations heretofore made have been mostly confined to these tissues, which according to this supposition might contain the toxins but not the causative bacteria, it is possible that the real foci of growth of the bacteria have been missed. What other sites to search for the local bacterial growths it is difficult to suggest—possibly the respiratory passages, possibly the alimentary canal; in fact, it has been suggested that leukemia may be due to absorbed toxins produced by bacterial growth and putrefactive processes in the intestine.

Some writers have suggested that leukemia might be producible by several different kinds of bacteria, not one alone, the different kinds producing toxins similar in their action; this might explain the experimental results of the various observers who have produced similar conditions in animals by means of different species of bacteria.

The evidence of the infectiousness of a disease rests on three general grounds: First, the general characteristics of the disease—infectious diseases have a general family likeness; second, the demonstration of the pathogenic parasite; third, contagiousness or communicability of the disease. With some diseases all three lines of evidence are presented to show infectiousness, as in diphtheria and erysipelas. In other diseases which are not contagious the infectious character is shown by the discovery of the parasitic cause, as malaria. In another class of diseases, as syphilis, rabies, and the acute exanthemas, the parasite has not been found, yet the general disease characters and contagiousness together constitute satisfactory proof of their infectious and parasitic nature. There are other diseases, however, which have the appearance of being infectious, but in which specific parasites and contagiousness have not yet been demonstrated, as is the case with the malignant neoplasms, acute rheumatism, and leukemia. In these cases there can be no more than a suspicion of infectiousness until more certain evidence is obtained. Leukemia in this respect is in precisely the same position as cancer; while there are some reasons for supposing it to be of infectious and parasitic origin no certain direct proof thereof has yet been obtained, in spite of diligent investigation.

Acute leukemia stands in precisely the same position as chronic leukemia, so far as evidence of its infectiousness is concerned, although the acute form has so strongly the appearance of being of parasitic origin. The suggestion that has been made that acute leukemia is infectious while chronic leukemia may be due to some different cause can hardly be maintained, since the two forms are morphologically identical and differ only in the intensity and rapidity of the developments.

Cancer or Hyperplastic Theory.—Another theory that has been presented to explain leukemia is that the enormous multiplication of leukocytes is analogous to

[1] Jakesch, W.: Zentralblatt für Gynäkologie, 1878, ii, 619; also Klebs and Eppinger, Prager medicinische Wochenschrift, 1878, iii, 489, 509, 521.
[2] Sänger, M.: Archiv für Gynäkologie, 1888, xxxiii, 161, 198; also translation in Annals of Gynecology and Pediatry, 1889–1890, iii, 504.
[3] Siefart, G.: Monatsschrift für Geburtshülfe und Gynäkologie, 1898, viii, 215.
[4] Pollmann, L.: Münchener medicinische Wochenschrift, 1898, xlv, 44.

the proliferation of epithelial and connective tissue cells that takes place in carcinoma and sarcoma. This explanation ranks leukemia among the malignant neoplasms, a "cancer of the blood," as it has been termed, with the causes of the cellular proliferation similar to those operative in the case of the ordinary malignant tumors—an innate tendency to vicious multiplication or whatever the primal essence of cancer may be. In lymphatic leukemia the leukocytes in excess are apparently of a young type, corresponding to the embryonic type of cells in cancer; the same cannot perhaps be said of the leukocytes at fault in medullary leukemia. One point of probable difference between cancers and leukemia may be pointed out; in carcinoma and sarcoma the morbific agents appear to be particulate bodies capable of being arrested at obstructing points in the lymph or blood circulation and forming foci of metastatic growth, while in leukemia the advance of the disease from point to point is not supposed to take place in a metastatic manner. If leukemia is due to a cancer-like hyperplastic mode of cell life there is yet to be explained the cause of the outbreak of this hyperplastic tendency, and also the manner in which it comes to be so generalized or impressed simultaneously upon so many cells widely distributed over the organism. Until the cause and nature of leukemia are finally determined the cancer theory must remain among the possibilities; as yet too little is known of the basic cytologic processes concerned in the generation of leukocytes or in the development of malignant neoplasms to permit any decision.

The possible causes of the exaggerated activity of the leukocyte-forming cells, which constitutes the chief feature of leukemia, might be analyzed thus: The stimulus to the increased cell division originates and acts either (*a*) internally or (*b*) externally to the leukocytogenic cells. The impress of a hereditary tendency to vicious overdivision would be an instance of an internal stimulus at work in the few cases in which heredity has been noted. Injury to the cells, causing a change or stimulus in the modes and tendencies of cell division, might be an internal factor in the alleged traumatic cases of leukemia. The hyperplastic tendency assumed in the cancer theory of leukemia would also be an internal principle.

External stimuli to cell division could be brought to bear upon dividing cells only from two or three sources, the nervous system, the circulation, or local morbid conditions. That nervous impressions can affect cell growth and division in general is probable; but the general characteristics of leukemia are not such as to lead to the suspicion that it is a disease of nervous origin. That the morbific agents are brought to bear upon the leukocyte-forming cells through the medium of the circulatory fluids bathing them seems much more probable; this is the toxic theory. The points where the superfluous cells are generated are numerous and widely scattered, and the morbific stimulus must be equally widespread in its action, whether it be an internal hyperplastic tendency or an external irritant agent; any explanation of leukemia must elucidate the general operation of the causative principle. Toxemia affords the easiest explanation of this generalized pathogenic stimulus, simpler, for example, than the hypothesis of local disturbing conditions, such as bacterial growths, at every focus of excessive leukocyte formation.

The foregoing considerations relate to the process by which the leukemic condition is primarily and essentially initiated. When this process is understood, then the course and succession of events by which the various secondary phenomena of the disease come into play and make up the ensemble of the clinical picture can be intelligently elucidated.

This extended consideration of the etiology of leukemia may be summarized as follows: Heredity, traumatism, and precedent disease conditions in a few cases may have some causative influence, but are of no more than subsidiary etiologic moment. Almost nothing positive is known as to the specific primary cause of leukemia. A nervous origin of the disease has not been suggested. Aside from this the possible explanations of the etiology seem to be limited to three: (*a*) That it is due to a vice in the internal processes of cell life and division that comes into generalized activity and results in exaggerated leukocytic hyperplasia; (*b*) that it is the result of the action of toxic substances, autogenous or exogenous, generated at some unknown place in some unknown way; and (*c*) that it is of infectious or parasitic origin, the parasites acting by the production of toxins or otherwise.

Of these only the infectious theory has been at all subjected to direct investigation. A considerable amount of bacteriologic evidence has been accumulated which, aside from three or four special or doubtful exceptions, is entirely negative as to the etiologic association of bacteria with leukemia, or as to the transmissibility of the disease. If bacteria are the cause of leukemia, they are apparently not demonstrable by the ordinary staining, cultural, or animal-inoculation methods, or else their seat of growth is not in the regions of the body that have hitherto been investigated.

In the failure of proof of the infectiousness of leukemia the explanation of its causation would appear to lie between the toxic theory and the hyperplastic theory, with the probabilities, perhaps, in favor of the former. Our ignorance of the cause of leukemia applies alike to all human varieties of the disease, myelemic and lymphemic, acute and chronic; though the disease of fowls discovered by Moore and provisionally classed as a leukemia is due to a specific bacterium. It also remains to be shown whether there is but one specific cause for the disease, or whether several agencies may produce it, individually or concurrently; and also whether there is a single cause for all forms of leukemia, medullary and lymphatic, acute and chronic, or whether there are different causes for the different varieties of the disease.

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Exterminating the Mosquito.—At Elizabeth, N. J., an extended effort is being made to combat the mosquito. It is known that the ova must incubate in stagnant water. Acting upon this knowledge, the authorities have proceeded to drain many swamps and in others where this could not be effectually done, kerosene oil has been used. Public opinion in the locality appears to differ as to the effectiveness of the means resorted to, but on the whole it appears that the officials feel encouraged in their work, and the official report from an authoritative source will doubtless be made toward the end of the season, when the public and the profession will be apprised of the results.

TREATMENT OF ECLAMPSIA.[1]

BY

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of Philadelphia.

One almost feels that an apology is necessary for presenting such an old subject as the treatment of eclampsia; but the introduction of a few new methods during the past few years has made the treatment the subject of much diversity of opinion, and it therefore calls for a thorough discussion. The object of this paper is simply to lead to such a discussion which it is hoped may be of profit to members of the society. Very few American physicians will be able to present such unique results as those of Strogonoff, who reported 58 cases which came under his observation in hospital and private practice during the three years 1898–1900, with absolutely no maternal mortality. We are almost inclined to believe that the Continental type of the disease must be much less virulent than the American. The average maternal mortality in America may be estimated at 30%, according to J. Clifton Edgar. Charpentier, taking the statistics of German authors in 171 cases of postpartum eclampsia, estimates the maternal mortality at 12.5%; Pagot gives 50%, Bailly 42%, Kaltenbach 30%. Olshausen's statistics of 200 cases show 25%; Winkel, 92 cases, 7.6%; Veit, 60 cases, 2 deaths; Royal Maternity, Edinburgh, 66.6%; Guy's Charity, London, 25%; 9 lying-in hospitals in America during a period of 5 years, 78 cases, 38.4%. These statistics should convince one of the stern necessity for further knowledge in treating this alarming complication of labor. It is not my purpose to deal with the etiology or symptomatology of this disease, but to outline what seems to be the natural method of treatment; yet, until we can be positive of the exact cause of puerperal eclampsia, the treatment must be largely empirical and symptomatic. To insist dogmatically upon a definite and undeviating method of treatment for any pathologic condition is to confess our lack of diagnostic acumen and ignorance of the action of therapeutic agencies. What is a thoroughly good and emphatically indicated treatment for one patient would be futile and damaging for another.

On general or broad lines the following plan of treatment will, I believe, prove most effectual. It may be conveniently divided into (1) prophylaxis, (2) treatment of convulsions, (3) treatment during the intervals, (4) after-treatment.

1. *Prophylaxis.*—This is chiefly directed to the prevention of the convulsions, if possible; to strengthening the vital processes by careful supervision of the cardiac and pulmonary circulation, and to an elimination or dilution of the unknown poisons as rapidly as possible. The symptoms of the state preceding an eclamptic attack are usually sharp pains in the head or epigastrium, disturbance of vision, lassitude, mental and physical; a gradual or rapid diminution of all excretions; in a word, the symptoms one would expect to observe from a retention in the blood of some toxic material. The condition of the urine is, in a majority of cases, the most valuable clinical index of the pre-eclamptic state, although all of us have observed cases in which the urine presented no abnormal condition, and yet the patient became eclamptic. The amount of urea excreted is a far better guide, as shown by Bouchard, of Paris, and Davis, of Philadelphia. Davis found that when the urea fell to 1.5%, stimulation of the excretory processes produced distinctly favorable results. One of the first indications in prophylaxis is the reduction of the amount of nitrogenous food to the minimum. This can best be obtained by an exclusive milk diet, to which fish and white meats may be added later, if the symptoms subside. A second indication is the stimulation of the liver and intestinal tract. For this purpose calomel in

[1] Read before the Philadelphia Obstetrical Society, February 5, 1903.

small doses frequently repeated is very valuable. The administration of 6 mg. ($\frac{1}{10}$ grain) of calomel three times daily for one or two weeks can be safely employed with favorable results. Basham's mixture is also very beneficial. The patient should be encouraged to drink large quantities of water; and if there is a decided diminution of urine secretion, caffein in .19 gram (3 grain) doses three or four times daily may be administered. If there is high arterial tension indicating vasomotor spasm, nitroglycerin in full doses is indicated. A healthy action of the skin may be secured by gentle massage aided by a hot bath once or twice a week. All eliminative processes should be stimulated. The five organs of elimination, the bowels, the kidneys, the liver, the skin, and the lungs should each and all receive careful attention in order that the obstetrician may be assured that they are properly performing their eliminating functions. Nicholson, of Edinburgh, has recently called attention to the relationship of the thyroid gland to eclampsia as seen in its bearing upon the preeclamptic symptoms; and he has apparently proved that there is an intimate connection between the inadequate function of the thyroid gland with a consequent diminished supply of iodothyrin and the mechanism which arrests the renal secretion. It has been noted that under the administration of iodothyrin there is a great increase in the metabolic processes of the body and an increased excretion of urea; that iodothyrin must be manufactured continuously and supplied in larger quantities during pregnancy, and that under such circumstances a physiologic hypertrophy of the gland should occur. Nicholson has successfully treated patients in the preeclamptic state with interesting and satisfactory results. He advises that thyroid extract be given in .32 gram (5 grain) doses night and morning, and after a few days the same dose thrice daily. Proteid food should be forbidden entirely at first, but with increasing secretion of urine and improvement in other symptoms, they may be cautiously resumed. The value of saline solution given either by hypodermoclysis, or as a less painful procedure during the preeclamptic state by enteroclysis, is to be emphasized. The absorption of the saline solution dilutes the poison and produces diuresis and diaphoresis. It might be noted here that recently potassium iodid infusions rather than the ordinary saline infusions have been advocated in the treatment of eclampsia; and it is probable that such a supply of iodin would stimulate the elaboration of iodothyrin by the gland itself and thus hasten its return to its normal activity. I believe that upon a thorough investigation of the relationship between the thyroid gland and pregnancy depends much of our future success in the prophylaxis of eclampsia. If, however, in spite of all prophylactic measures the symptoms do not abate, but increase in severity, the induction of abortion or premature labor should be considered after careful deliberation and consultation.

2. *Treatment of Convulsions.*—For the immediate control of the convulsive seizures chloroform is the most reliable agent. When chloroform first came into general use it was regarded by many as a specific for eclampsia. Series have been reported of 20, 10, and 9 cases in which the patients were treated by chloroform alone without a death. Charpentier reports a series of 63 cases in which chloroform alone was used with 7 deaths, a mortality of 11%. Although no one would rely solely upon it at the present time, yet it is the anesthetic *par excellence.* An argument in favor of its use, by Stewart, is that it prevents the change of urea into ammonium carbonate, which is one of the many elements in the production of the toxemia of puerperal eclampsia. So soon as the paroxysm begins a towel or some foreign body should be inserted between the teeth to prevent injury to the tongue; inhalations of chloroform should be continued until the paroxysm abates. I am well aware that Strogonoff recommends the administration of oxygen alone during the convulsive seizure, and considers that the use of chloroform or ether during the convulsion is not only ineffectual in stopping the convulsions, but injurious to the patient; but I believe that the majority of obstetricians will not willingly abandon an agent which has proved so useful, although they may adopt the use of oxygen in conjunction with it or during the intervals between seizures. The application of ice-bags to the back of the head and neck will have a decided effect in warding off and controlling convulsive attacks, and I think is much more effective and practicable than Trousseau's method of compressing the carotids.

3. *Treatment During the Intervals.* — One of the most important measures and one which has undeservedly fallen somewhat into disfavor is venesection. The reaction against phlebotomy has gone too far; in appropriate cases it may be employed with the best results. Personally, I believe that it is superior to veratrum viride for the prevention of recurring convulsions and the reduction of the pulse-rate. It frequently rescues the woman from impending pulmonary edema and apoplexy. It abstracts a large amount of noxious principles from the system, and by the immediate introduction of saline solution by hypodermoclysis the toxins are still further diluted. I am firmly convinced by personal experience that the abstraction of from 20 to 30 ounces of blood in appropriate cases will do more for the relief of eclampsia than any other one procedure. When the pulse shows high arterial tension, is full, rapid and bounding, and the face of the patient is suffused or almost cyanotic, even although there are no evidences of cerebral or pulmonary edema, bleeding should be employed. In a report of 15 cases in which bleeding seems to have been the only thing done, there was but one death. In determining whether venesection should be practised in a given case, the obstetrician should be guided exclusively by the condition or constitution of the patient. By using copious injections of normal salt solution, either intravenously, subcutaneously, or by enteroclysis, the depressing effect of the bleeding can be counteracted and the unknown toxins diluted. Jardin employs one part of potassium bicarbonate to three parts of common salt, using 4 grams (1 dram) to a pint of sterilized water at 100° F., as the fluid to be injected. There has been during the last decade no more valuable addition to our therapeutic resources than salt solution. Since it stimulates the heart, promotes diuresis and diaphoresis, and dilutes the toxins, it may certainly be classed as a rational method of treatment. The effect produced even when the patient is comatose is sometimes extraordinary. As a purgative is desirable to secure elimination, croton oil, calomel, or a saline may be administered. To secure immediate results a high enema of magnesium sulfate, glycerin and water should be given. If the patient is unconscious and unable to swallow, she may be purged by mixing a drop or two of croton oil with a little butter and rubbing it on the tongue (Garigues). If there is much anasarca the wet pack may be used to promote perspiration. Strogonoff, however, is undoubtedly correct in his position that the use of hot air and hot water baths has in many cases a distinctly harmful effect, not only depressing the overloaded heart but increasing the nervous irritability and thus favoring the recurrence of convulsions. While a warm bath has a distinctly soothing effect, the prolonged pack or bath certainly does more harm to the patient than the good derived from the comparatively limited excretion of toxins which takes place through the skin.

Morphia has a useful place in the treatment of eclampsia. Although the older statistics were unfavorable, Veit has published a series of 60 cases with but 2 deaths, a mortality of only 3.3%, the smallest deathrate obtained by any plan of treatment except that of Strogonoff, who also employs this drug. Veit has injected .03 gram (.5 grain) in each convulsive seizure and has

administered as much as .19 gram (3 grains) in 4 to 7 hours and .29 gram (4.5 grains) in 24 hours. On the other hand Strogonoff believes that the size of the dose is of great importance and that .02 gram (⅓ grain) is sufficient at a single dose. Very frequently the obstetrician is called to see patients in country districts who have not trained nurses, or the appliances for immediate employment of oxygen or the hot pack, and morphia used hypodermically becomes a practicable method of treatment. Writers on the subject of eclampsia must bear in mind that the majority of the patients are treated by general practitioners and often in unfavorable environments. There is in eclampsia an undoubted tolerance of opium which allows the use of toxic doses without serious results. Morphia can be used hypodermically and is an agent of great power and rapid action which is often essential to prevent repeated convulsions.

Obstetric Treatment.—It is a wellknown clinical fact that in the majority of cases of eclampsia the convulsions cease soon after the uterus is emptied. There seems little force in the argument that the delivery of the woman is a violent source of irritation to the already highly wrought nervous system, as such an effect can be prevented by the continuous administration of the anesthetic. The presence of the fetus in utero is the direct cause of those conditions which produce eclampsia. Its removal, therefore, is most certainly a removal of the cause, a removal of the most apparent and positive etiologic factor. Upon this subject the teaching of Duhrssen seems to be sensible and sound; and if the eclampsia comes on during the last month of pregnancy, when the child is viable, its speedy extraction becomes desirable. The fetal mortality is high even under favorable circumstances, and the fetal life is endangered by the repeated convulsions; so that fetal considerations should not influence us materially in securing prompt delivery. To secure this prompt delivery, cesarean section has been proposed by Halbertsma. Few operators, though, have the temerity to subject an eclamptic or nephritic patient to the dangers of celiotomy unless as a last resort. I believe it would be better to return to the old method of Gooch, of taking care of the convulsion and letting the uterus take care of itself, rather than further jeopardize the patient's life by such a radical procedure. The operation is justifiable only when there is pelvic deformity or some condition which prevents vaginal delivery. Hillmann has collected 40 cases of eclampsia in which cesarean section was employed. Of the 40 mothers, 21 perished and 19 recovered, surely not an encouraging report. The operation of vaginal cesarean section performed by pulling down the cervix, incising the anterior vaginal wall and pushing aside the tissue until the anterior wall is free to the internal os, then incising the anterior uterine wall and extracting the fetus, is open to many of the objections which are applicable to celiohysterectomy. Among these objections, as stated by Edgar, are the uterine atony and hemorrhage, the irritation of the uterine and abdominal scars, and the curative peritonitis about the uterine sutures, all of which should be avoided as exciting causes of subsequent eclamptic seizures. But the chief mooted point in the obstetric treatment of eclampsia is whether labor should be waited for and terminated naturally, or whether induced labor should be reserved for exceptional cases in which medical treatment has failed. From the report of the International Congress at Geneva, September, 1896, it would seem that the weight of medical opinion is in favor of emptying the uterus in as short a time as possible in cases of eclampsia, whether the attack occurs before or during labor. If the patient is in the second stage of labor, all authorities are agreed that the immediate emptying of the uterus is indicated, and should be performed promptly; but in cases in which labor has not begun, or is in the first stage, widely varying opinions have been expressed. An expectant or palliative treatment, I believe, means almost certain loss of the child and a loss of 30% of the mothers. Therefore mechanical dilation of the cervix, or deep cervical incisions properly performed under rigid antisepsis, are the best plans of procedure. When the cervical canal is thoroughly dilated, the child may be removed by forceps or version. While the obstetrician should not cease to combat the convulsions, the sooner he produces or hastens labor the better are the chances for both mother and child. It is unnecessary to detail to this society the method of delivery; it is enough to say that it should be accomplished as rapidly as possible, for we hold with Zweifel that the prompt emptying of the uterus contributes greatly to the patient's recovery. I am very well aware that the majority of cases of eclampsia occur in primipara, and that cervical dilation, either manual or by the use of some dilating bags, is a tiresome and difficult procedure; yet, nevertheless, the sooner that dilation is begun and completed the better are the chances for recovery. When fatal results do ensue in eclampsia, they are usually due to edema of the brain, the lungs, or the larynx, to apoplexy, asphyxia, or heart failure, or the patient remains comatose, dying from an overwhelming accumulation of the toxins.

After-treatment.—The eclamptic woman is more liable to septic infection because of the manual interference or traumatism inflicted during delivery, therefore extraordinary care should be observed during the puerperium. Still the after-treatment should be carried along the ordinary lines followed in the care of the puerperal patient, but with more absolute rest and quietude and with more vigilant attention to all the excretory organs.

SCARLATINAL ARTHRITIS.

BY

E. PALIER, M.D.,

of New York.

The joint affections occurring in scarlet fever had until recently received scant consideration at the hands of medical writers. According to Dr. Willshire[1] Semastus first mentioned it in 1619, and Betz, of Heilbroun, wrote of it in 1851 and tried to establish a relationship between rheumatism and scarlatina. Dr. Willshire himself also considers the joint affection in scarlatina of rheumatic origin, and recommends bleeding in severe cases, regarding it an excellent therapeutic measure. Other quite extensive treatises on medicine of a more recent date refer to it also only cursorily, considering it a rheumatic affection complicating scarlatina and advising antirheumatic treatment.[2]

Recently, however, investigators have devoted their attention to this matter, and the rheumatic theory finds little credence now. Scarlatina, it must also be stated, is looked upon now by most investigators as a microbic disease, being due to some form of streptococcus not yet definitely settled,[3] and the joint affections occurring in scarlatina are considered of the same origin. Lenhatz and Rasdin[4] have found a streptococcus in the affected joints. Monti[5] believes the joint trouble in scarlatina to be due to *Streptococcus pyogenes*, denies that it is of rheumatic origin, and calls it scarlatinal arthritis, considering it to be of the same nature as scarlatina. Or, in other words, it is one of the manifestations of scarlatina, and is not a separate, distinct disease complicating scarlatina.

According to Ashby[6] the severe forms of joint trouble in scarlet fever form about 2%; the slight forms occur more often. It occurs in the second or third week.[7] Most observers agree that the most frequent occurrence of the joint affection in scarlatina is about the end of the second week and before the period of desquamation sets in. It is said that when only one joint is affected it is more apt to terminate in suppuration than when several joints are attacked.[8] The smaller

joints, the wrist and the finger-joints, are most frequently affected.

As to the treatment of this affection, those who regard it as of rheumatic origin advise the antirheumatic treatment, the administration of the salicylates. That bleeding was once resorted to has been mentioned. In some of the works mentioned before the treatment is hardly considered at all. Of course, in the mild cases the patients do not need any particular treatment, and get well either without any treatment directed to the joint affection or any mild ointment will do. But the severe cases are very serious affairs and treatment must be instituted. As to the exhibition of salicylates we must take in consideration the fact that the trend of opinion of recent observers is that the joint trouble in scarlatina is not of rheumatic origin, and furthermore that salicylates are said by some trustworthy observers to do not only no good in rheumatism but in some cases positive harm by their pernicious effect on the heart. According to Gerhard [9] the salicylate does not cure the patient but it does frequently cause death by its pernicious effects on the heart. In several cases I have also seen great prostration follow the administration of a few (.65 gram, 10 grain, or even .39 gram, 6 grain) doses of sodium salicylate, and recently I have seen delirium follow the exhibition of a few (.39 gram, 6 grain) doses of this drug. It would seem, therefore, highly unadvisable to exhibit the salicylates in scarlatina, in a disease in which our aim should be to stimulate the heart and not depress, and in which there cannot be claimed for the salicylates the benefits that are claimed in rheumatism.

I wish to report the following case which I hope may be interesting both for illustrating a severe form of the disease under discussion and for showing the treatment and the result:

H. M., a female, aged 10, was born in New York. Her family history is good. She had measles a few years previously, from which she recovered, but had been suffering since then from a slight mucous or mucopurulent discharge of the ear, which however did not affect the hearing, otherwise she had been in good health. In January, 1902, she was suddenly taken ill with fever, and the accompanying systemic disturbances, such as rapid pulse, gastric disturbances, etc. In 24 hours a scarlatinal rash appeared, and a severe angina. The disease ran a course of about four weeks, during which the temperature would sometimes rise to 105° and the pulse to 140–150. On several occasions the heart action became hurried and irregular, and the pulse small and intermittent. These attacks, however, were successfully combated by the tincture of strophanthus and of nux vomica, which had a marvelous effect when given at the right time in doses as seemed to be required. When the heart's action was regular a slight roughening of the first cardiac sound could be heard, which, by the way, has remained since. At times there was a slight trace of albumin in the urin. As I do purpose to detail the treatment of a severe case of scarlatina, it is unnecessary to describe the treatment of the case till the end of the fourth week when the malady in question appeared. About the end of the fourth week some defervescence set in, and also desquamation, and convalescence seemed assured. However in about two days the evening temperature began to rise, apparently without any cause, and soon it reached 104°–105°, with increase in pulse, and other signs of some supervening trouble. Examination of heart revealed only slight roughness of first sound as before; lungs negative; urine, no albumin. Patient soon began to complain of some pain in the cervical region, and soon in the lower extremities. In a few days all the joints except the shoulder and hip-joints were severely affected. Even mastication was difficult, showing the maxillary joints to have been affected. The knee and ankle-joints and both feet were swollen and greatly increased in size. The legs were edematous, and the skin tense, and there was pitting on pressure with pain. Urine contained no albumin. The joints of the upper extremities, especially the whole of both hands, were also affected.

Treatment consisted of the following: A salve of ichthyol with lanolin, one dram of the former to an ounce of the latter, was applied to the joints of the lower limbs; then they were wrapped up in absorbent cotton and a light, long, external splint applied to both extremities and secured by a roller bandage. The patient complained of great pain on moving the joints and by thus immobilizing the extremities rest was secured. The upper extremities were similarly treated except the splints. The internal medication consisted of benzoate of soda .26 gram (4 grains) with sweet spirit of niter every three or four hours and of strophanthus when the heart's action indicated its use. At the end of a week recovery set in, the joint inflammation gradually subsiding, the last to disappear being the swelling of the toes. Uneventful recovery followed.

This case will show that a patient with scarlatinal arthritis can recover without the internal use of the salicylates, and therefore it is best not to use them at all in such cases, as they are apt to do harm. Whether the sodium benzoate did any good in the above case, and if it did, how, are questions I am not prepared to answer. But if we must use drugs the least harmful should be selected.

It is claimed by some that the benzoate has the same action as the salicylate without the latter's depressing effect. I have used the salicylates in small doses extensively, usually in combination with caffein, both on myself and on others in socalled colds, grip, etc. I have always obtained the desired results with them, but I was unable to obtain the same results with the benzoate, which leads me to the belief that their action is not precisely the same. But I must add that I never use the salicylates when there is any embarrassed cardiac action.

At the time I had under treatment the foregoing patient described I had five other cases of scarlatina, all of which occurred in the same family. In one of them, the eldest, a girl of 15, joint complications occurred. In this case, however, convalescence set in at the end of the second week and the joint trouble also appeared about this time. But here the affection was limited to the hands, was not severe, and the patient got well without any special treatment.

The joint affections in scarlatina vary with various epidemics; sometimes they occur more frequently and sometimes less frequently.

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[3] Traite des maladies de l'Enfance, Vol. i, p. 120, Paris.
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[5] Monti: Kinderheilkunde, Vol. ii, p. 571.
[6] Wm. Th. Corlett: The Exanthemata, Scarlatina.
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Mortality Rate.—A Bulletin of the Health Department of Chicago, for the week ended June 27, says: The remarkably low mortality rate of the month continued during the week. The 454 deaths reported—only three more than the week before—represent an annual rate of 12.54 per 1,000 of the Department's conservative estimate of Chicago's midyear population, 1,885,000.

The Late Dr. Thomas G. Morton.—The following minute has been adopted by the Faculty of the Philadelphia Polyclinic and College for Graduates in Medicine:

The Faculty of the Philadelphia Polyclinic and College for Graduates in Medicine desires to place on record its sense of deep loss in the death of Dr. Thomas George Morton, one of the Founders of the institution and throughout the period of its existence successively professor and emeritus professor of orthopedic surgery.

Dr. Morton was an original and progressive surgeon, a bold yet conservative operator, and he possessed and exercised the qualities of the highest type of physician Refined and gentle in manner, courteous and considerate in bearing, positive and forceful in act, he was esteemed by colleagues, respected by pupils, and beloved by patients.

Fasting Cure for Paralysis.—It is stated that Edwin McIntyre, a paralyzed hotel-keeper of Scranton, Pa., conceived the idea that a 40 days' fast would cure him of his paralysis—would starve the disease into submission. He died three days after the termination of his fasting period. Nourishment was administered in the form of predigested milk and "other foods." The story runs that a physician was called in to see the as yet uncured patient during the process of rebuilding his physical condition, but he found the man emaciated and exhausted. Suddenly, so says the newspaper, collapse was noted, this in spite of the fact that he had gained several pounds in weight during the past 48 hours. He sank into a sleep from which he awoke an hour later in a raving delirium which passed into coma and finally death. It is stated that the attending physician gave it as his opinion that the man had not taken an excessive amount of food since the time of breaking the fast, but that his system was too weak to stand the "reaction." When the fast was commenced the patient weighed 167 pounds, and at the end of 40 days he was reduced to 118 pounds, thus having lost 49 pounds, or more than a pound a day. Heroic treatment for paralysis this!

SPECIAL ARTICLES

A SEASON OF THE PIONEER RESIDENT PHYSICIAN IN THE YOSEMITE VALLEY, 1901.[1]

BY

CHARLES V. CROSS, M.D.,

of San Francisco, Cal.

The first medical history of a season in the Yosemite Valley.

Early in 1901 I was asked to spend the season in the Yosemite Valley as resident physician and accepted the proposition. After considerable arranging I gathered together supplies for a neat little dispensary and laboratory, a complete limited hospital equipment, with a generous supply of sterilized gauze, surgical instruments, and surgical supplies. I reached the valley in the latter part of April, early in the Yosemite season, and in order to be prepared for any major surgical procedure that might be necessary, proceeded to make the following preparations:

For major surgical cases four sheets and two dozen towels, after sterilization, were wrapped in another sterilized sheet and deposited in empty kerosene oil cans which had been sterilized and made antiseptic with formalin. The tops of the cans were soldered on, and about 30 cc. formalin was syringed into each can through the oil faucet about every two weeks. The contents were thus constantly in a formalin vapor and in condition for instant use.

Regarding instruments, I considered the surgeon should be prepared to do any emergency operation from trephining to removing an ingrowing toenail, and therefore a very complete equipment was taken along. To sterilize instruments I had two enameled pans fitting into the bottom of a valise about 8 x 14, and four smaller pans for sponges, sutures, etc.

For medical cases there were medicine-tubes, bed-pans, irrigators, ice-bags, hot-water bags, urinals, catheters, and a generous supply of drugs to fit any case.

As a resort for healthy people few places can surpass the Yosemite Valley. It is possible that the distance from the railroad may deter the delicate or semiinvalids from attempting the trip, but it should not. If they are able to stand the rattle and noise of a day's journey on a railroad train they could easily make a trip into the Yosemite over the Wawona route, resting a day at either of the good hotels; and for such persons the Yosemite Valley and surrounding country offers the best mountain accommodations and most excellent climate in the West.

This section has an ideal summer climate, although the valley itself is not a good place for pulmonary patients nor rheumatics to spend the season. Still they can spend a week or two there and enjoy many of the trails without fear of harm. They can spend the entire season at Glacier Point, 7,000 feet; Crocker's, 4,000 feet; or at Wawona, 4,000 feet. At Wawona the best accommodations may be secured, and there are many points of interest near by—the Mariposa Groves of Big Trees, Signal Peak, Chilnolnua Falls, Wawona Point; and unsurpassed trout fishing and hunting. Well-furnished tents with floors may be had for sleeping apartments; these are especially recommended for convalescents. Visitors may stop at the hotel in the Yosemite Valley or in one of the camps, which are hotels composed of tents set among the trees. These are in operation from May 15 to August 15. The rates for hotel accommodations are from $3.50 to $4.00 per day. For camp accommodations, $2.00 per day or $12.00 per week. Laundry rates are about the same as at any city laundry. However, there are no accommodations for the ill or injured. For 50 years the traveling public and residents of the valley have relied upon the visiting members of the profession to care for any case of illness or accident that might occur. In severe cases it has been necessary to call a physician 50 or 100 miles away to travel over mountain roads, where 50 miles is a good day's ride.

[1] Read before the Amecitia Medical Club of San Francisco, June, 1902.

When misfortune overtakes a visitor in this section, kind hearts and willing hands are not wanting. The kindly attention of one traveler to another, entire strangers, is something beautiful to note. But this kindness is necessarily of short duration. With the steady increase of travel that each year brings to this grandest scenic attraction, it is high time for the State to make some provision for the care of the sick, if it persists in neglecting the well.

The most prolonged illness of the season was a case of enteric fever lasting 73 days, occurring in a young man from the San Francisco post-office. He recovered after a very stormy illness with relapse and many complications, during which the temperature reached 106° F. This patient was cared for in a tent. Professor Joseph Le Conte died in a tent, and most of the sickness was among the people who occupied tents, not because tent life is conducive to illness, but because a very much larger proportion of the visitors availed themselves of that economic and novel manner of spending their time in the Yosemite.

Disinfection.—A trench was dug about four feet deep, into which was raked a quantity of leaves, grass and twigs. Upon this the excreta and soiled dressings from infectious cases were thrown and burned daily. By this method contamination of water-supply was prevented.

In a capital operation it is very difficult to prevent sepsis. Fortunately during my residence in the valley but one such case occurred, and with the utmost precautions an uneventful recovery was established.

The management of the Yosemite Valley from beginning to end is disgraceful. Except during the commissioners' annual visit and a couple of weeks following, the roads are in a miserable condition, and six weeks after their visit the dust is ankle deep. Papers, dirt, and rubbish are allowed to accumulate until the following year, when things are again put in order for the reception of the commission. The commissioners' annual visit should be during the first week in August, and the Legislature and the Governor should spend the entire month. It is probable they would then appropriate funds for the construction of decent roads and trails.

The buildings are eminently in keeping with the other disgraceful state of affairs. Beginning with the hotel, the most imposing looking structure of all, down to a recently constructed dark-room (?), they would hardly be acceptable to a good rancher as stable, chicken-coop, or feed-shed.

The hotel was constructed over 30 years ago by Mr. John Muir and Mr. Hutchings. The lumber for its construction was sawed on the ground. There is not a modern improvement or convenience in it, not a room in the place with bath attached. There is not a bedroom that can be heated except by kerosene stoves, and not a bedroom with hot water on the place. The only places in which to get warm in cold weather are two small rooms, stove heated, in the main building, one being dignified by the name office, the other parlor. Electric bells are wanting in more than half the rooms. The people who run the hotel do everything in their power to make the traveling public comfortable in the ramshackle buildings the State compels them to occupy. The Washburn Brothers have spent their money and their life to build up and now keep equipped at private expense the finest stage line and stage road in the world. For the invalid tourist they spare no pains or expense to give every comfort that can be supplied.

Three times during the season Mr. Henry Washburn placed his private carriage at the disposal of invalids who were able to be moved but were unable to sit up in the stages, which at that time were crowded.

After this review it is scarcely necessary to state that the Yosemite Valley is a very bad place in which to fall ill. The traveling public has a right to expect better accommodations than are now offered, and it is time for the State to make some provision for sick and well. A resident physician should be in the valley at least four months a year—from about April 20 to August 20. Over 1% of the visitors were sufficiently ill to require the services of a physician.

Below is a list of the diseases, etc., that came under my observation and the patients that died:

Appendicitis, 3, cured.
Aortic stenosis (ruptured compensation), 1, relieved.
Acne vulgaris, 1, cured.
Alveolar abscess, 2, cured.
Angina pectoris (pseudo), 1, relieved.
Angina pectoris, 1, died.
Abscess, ischiorectal, 1, cured.
Accidental abortion, 1, cured.
Biliousness, 1, cured.
Chronic bronchitis, 2, relieved.
Circumcision, 1, cured.
Coryza, 1, cured.
Contused knee, 1, cured.
Cerebral congestion, 1, relieved.
Carbuncles, 1, cured.
Conjunctivitis, 1, cured.
Cystitis, chronic, 1, relieved.
Diarrhea, 6, cured.
Enuresis, nocturnal and diurnal, 1, cured.
Epididymitis, 1, cured.
Erysipelas, 1, cured.
Enteric fever, 1, cured.
Fish-hook in finger, 1, cured.
Fissure of rectum, 1, cured.
Furunculosis, 1, cured.
Fracture of internal epicondyle, 1, left after first dressing.
Fracture, Colles', 1, cured.
Gingivitis, 1, cured.
Gastritis, alcoholic, 1, cured.
Hysteria, 3, relieved.
Hemorrhoids, 1, relieved.
Indigestion, acute intestinal, 1, cured.
Indigestion, chronic intestinal, 2 relieved.
Iritis, traumatic, 1, cured.
Lumbago, 2, cured.
Malaria, 1, cured.
Measles, 1, cured.
Migraine, 1, relieved.
Neurasthenia, 2, cured.
Nostalgia, 1, not improved.
Neuritis, 1, cured.
Neuralgia, intercostal, 1, cured.
Odontalgia, 3, cured.
Overexertion, 1, cured.
Pneumonia, acute, 1, cured.
Pneumonia, lobar, 1, died.
Periostitis, metatarsal bone great toe, 1, cured.
Periostitis, femur, 1, relieved.
Paraphimosis, 1, relieved.
Pharyngitis, smokers', 1, cured.
Pleurisy, with effusion, 1, cured.
Refraction, hypermetropia, 1, relieved.
Rheumatism, acute articular, 1, relieved.
Rheumatism, chronic, 1, relieved.
Rhinitis, subacute, 1, relieved.
Rhus poison, 2, cured.
Sprained back, 1, relieved.
Strain, loins, 1, cured.
Tuberculosis, 1, died.
Tonsillitis, diphtheric in appearance, 1, cured.
Ulcer, varicose, 1, not improved.
Ulcer, vaccine, 1, cured.
Urethritis, chronic, 1, cured.
Vaccinations, 3, 2 "takes."

Making a total of 58 diseases and operations among 69 patients.

Deaths from all causes were 4 in the valley and 1 en route. Two deaths occurred before coming under my observation; one patient was drowned and one died of acute heart failure.

In conclusion, I wish to express my thanks and appreciation of kindness to Drs. Spencer, Weil, and Hopper, of San Francisco; Dr. Clark, of Alameda; Dr. Case, of Oakdale; Dr. Rankin, of Columbus, Ohio; Dr. Baldwin, of Louisville, Ky. Dr. O'Brien, of Merced, for the benefit of their valuable professional advice in consultations, and to Messrs. A. H. Washburn & Brothers, Mr. J. B. Cook, Messrs. Coffman and Kenny, Chris Jorgensen, J. B. Garibaldi, and Nelson Salter for their hospitality, for which I am deeply grateful.

Vessels Equipped with Fumigating Plant to Avoid Quarantine.—In order to evade the strict regulations of the Marine-Hospital Service, the Gulf Transit Company, which is an auxiliary to the Louisville and Nashville, has equipped its three steamers of the Tampico Coal Line with complete fumigating plants, and the vessels on their return from Tampico are no longer detained at the quarantine station. The company has arranged with the surgeons of the service at Tampico to fumigate the vessels in the streams there before their departure, and as it usually requires about five days in which to make the passage the steamers are allowed pratique. This method results in a saving of about $2,000 for every vessel on each trip.

It is quite within the memory of older people, especially if their early life was passed in the country, when a mother nursed her child quite as a matter of course, and an infant brought up "by hand" was an exception. At the present time the mother who nurses her child is exceptional. Many, no doubt, are unwilling; but more are unable. The abounding animal life that belonged to simpler physical conditions is no longer theirs. The result of this is that the vast majority of children born in towns must be artificially fed, and herein is the obvious cause of the infant mortality which rightly gives all public sanitarians so great concern. Our babies have not the food that nature intended them to have, and the clumsy substitutes are too often poisonous. In the year 1895, to which reference has been made, while 29,838 infants were born in Philadelphia, 5,487, or 18.3% of that number, died within one year of birth. Most of these deaths, it is safe to say, were due to unfit feeding—more precisely, to septic milk. But even here sanitary science is not fruitless. The number of births in 1902, as we have seen, was almost exactly the same as in 1895, but the deaths under one year were but 4,622, or 15.5%, a gain of three infant lives in every hundred. Nor was this gain in the first year only. Of the deaths in the earlier period cited, 8,401, or 35%, were under 5 years; in 1902, the deaths under 5 years were but 6,922, or 24% of the whole. This shows that if the proportion of babies born is less, we are saving more of them, and so the race is not in so great danger as might be thought. The improvement is unquestionably the result of a better understanding of elementary hygiene, in which the advance in seven years has been very great, and it offers encouragement to philanthropists and the health officers in their present efforts to preserve a still larger proportion of infant lives.—[*The Public Ledger*, Phila.]

THE WORLD'S LATEST LITERATURE

Journal of the American Medical Association.

July 11, 1903. [Vol. XLI, No. 2.]

1. The Status of the Section on Ophthalmology: Chairman's Address. JOHN E. WEEKS.
2. The Value of Enterostomy in Selected Cases of Peritonitis. F. B. LUND
3. Prolonged Intubation Tubes, with a Method Leading to Their Extraction. BURT RUSSELL SHURLY.
4. Continued Fever: Neither Malarial nor Typhoid. T. J. HAPPEL.
5. Southern Fevers. WILLIAM KRAUSS.
6. A Clinical Observation of 90 Cases of Typhoid Fever: With Four Deaths, with Special Reference to Therapeutic Fasting. R. M. HARBIN.
7. Typhoid Fever in Colorado: A Report of 529 Cases. J. N. HALL and C. E. COOPER.
8. Weakness and Dilation of the Heart in Chronic Nutritional Disease. G. W. MCCASKEY.
9. Papilloma of the Sole. DOUGLASS W. MONTGOMERY.
10. The Management of Fever in General. AUGUSTUS A. ESHNER.
11. Early Eye Symptoms in a Case of Myasthenia Gravis. CASSIUS D. WESTCOTT and BROWN PUSEY.

2.—See *American Medicine*, Vol. V, No. 22, p. 860.

3.—See *American Medicine*, Vol. V, No. 23, p. 903.

4, 5, 6.—See *American Medicine*, Vol. V, No. 20, p. 770.

7, 8.—See *American Medicine*, Vol. V, No. 20, p. 772.

9.—Papilloma of the Sole.—D. W. Montgomery reports 7 cases called by chiropodists "rose corn." These warts usually appear first as painful, lenticular callosities. After removing the hard epidermal covering a well-like orifice is exposed with the papilloma in it. Pain may be present long before the callosity appears. Warts of the sole may also appear like filamentous threads in a soft, white epidermal mass, or like a soft tumor implanted like a cork in the epidermis emerging and spreading like the cover of a pot. Before applying treatment to the wart proper the epidermis should be softened and removed by applications of salicylic acid. [H.M.]

10.—Management of Fever.—A. A. Eshner questions whether a distinction between fever and pyrexia can be successfully made. It is doubtful whether we can recognize a febrile process in the absence of elevation of temperature, or if pyrexia occurs in the absence of fever. The rapid pulse, increased respiration, circulatory, secretory, and metabolic changes may be due to the underlying morbid state or to the pyrexia or to both. The problem therefore is to remove the causative factors and restore metabolic equilibrium. If the process is specific often little or nothing can be done to fulfil the first indication, but some form of elimination or evacuation should be instituted, as emesis, catharsis, diaphoresis, diuresis, enteroclysis, hypodermoclysis, intravenous transfusion. Reduction of temperature when excessive or long-continued may be accomplished by means of cold, wet or dry, with drugs to sustain respiration and the nervous system when needed. The diet should be easily assimilable. [H.M.]

11.—Early Eye Symptoms in Myasthenia Gravis.—C. D. Westcott reports a case with the statistics of the condition collected by B. Pusey. The latter's list contains 22 cases. In 12 there was partial or complete external ophthalmoplegia, in 9 diplopia, in 14 ptosis. In 13 of the 22 cases the paralyses of the eye muscles were of the very early symptoms, and this is true of the case now reported. Chances for recovery are probably favored by an early diagnosis. There was absence of involvement of the ciliary muscle in the cases studied by Myers. This fact and its histologic difference give rise to speculation. The development of myopia in Westcott's case suggests a question as to relationship. [H.M.]

Boston Medical and Surgical Journal.

July 9, 1903. [Vol. CXLIX, No. 2.]

1. Subparietal Injuries of the Kidney. FRANCIS S. WATSON.
2. A Case of Acute Epididymitis in an Undescended Testicle, with Gonococci Demonstrated in the Excised Organ. FRED T. MURPHY.
3. The Nernst Lamp for the Production of Ether Waves for Use in Therapeutics. WILLIAM ROLLINS.

1.—See *American Medicine*, Vol. V, No. 22, p. 854.

2.—Epididymitis in an Undescended Testicle from Gonorrhea.—F. T. Murphy reports the case. The patient was a man of 20, who was admitted to the hospital suffering from what his physician believed to be strangulated inguinal hernia.

His previous history was unimportant, except that he contracted gonorrhea three weeks before admission; and his left testicle had never descended. He complained of a tumor, pain and tenderness in the right inguinal region and there was some fever. From the absence of the classic symptoms of strangulated hernia and from the fact that this testicle had never descended, associated with the fact of the gonorrheal infection whose discharge had lately ceased, it was believed that the patient was suffering from a gonorrheal epididymitis in the undescended left testicle. Operation was not deemed necessary and the patient was put to bed with an ice-bag over the affected part. The symptoms, however, became more urgent, and operation revealed what appeared to be a small atrophied testicle lying on the aponeurosis of the external oblique. It could not be brought down to the scrotum and was therefore removed. A microscopic examination showed the entire absence of testicular tissue proper and only the epididymis. Staining and cultures showed gonococci present in the tubules. It was evident, then, that the patient was suffering from a gonorrheal epididymitis without abscess formation. The smaller tubules contained no gonococci. The author is of the opinion that the specimen adds materially to the evidence that epididymitis is due to the presence of the gonococcus in the epididymis and not to absorption of toxins from the urethra. [A.B.C.]

Medical Record.

July 11, 1903. [Vol. 64, No. 2.]

1. Some Recent Methods of Intestinal Anastomosis. GEORGE GRAY WARD, JR.
2. The Physician and the Ophthalmoscope. FRANCIS VALK.
3. The Cystoscope: Its Indications and Contraindications in Genito-urinary Diseases. FOLLEN CABOT and HENRY G. SPOONER.
4. A Case of Paraffin Injection Into the Nose, Followed Immediately by Blindness from Embolism of the Central Artery of the Retina. LEE MAIDMENT HURD and WARD A. HOLDEN.
5. Some Practical Remarks on the Management of Breech Presentations. JOSEPH KUCHER.

1.—Recent Methods of Intestinal Anastomosis.—G. G. Ward gives a review of the various methods which have been employed for intestinal anastomosis. Broadly speaking, there are three methods: 1. That in which a foreign body is employed in the lumen of the bowel to hold the ends together and to act as a splint to favor accurate approximation. 2. Approximation by suture alone. 3. Approximation by mechanic devices which hold parts in apposition while sutures are being placed, but which are afterward withdrawn. All these methods are in use at the present time. As the best illustration of the first we have the Murphy button. For the second we have a number of suture methods, each having its advocate. In the third we have such means as the use of the Laplace forceps. The author then calls particular attention to a comparatively recent means of affecting an anastomosis under each one of the three methods. The first is Harrington's segmented rings for intestinal anastomosis. This consists of a ring of aluminum made in four sections, which are grooved to fit each other, and are held firmly together by a small rod of steel which screws into two segments and thus holds all in apposition. The circumference of the ring is concave. A pursestring suture of silk or catgut is run around the cut end of the bowel as in using the Murphy button. The ends of the bowel are then slipped over the ring and the pursestring suture tied in the groove. Lembert or Halsted's sutures are then placed to approximate the peritoneal surfaces. The handle is then unscrewed and withdrawn and a little pressure separates the ring into its four sections. These are light and will easily pass out of the bowel. Under the second method we have Connel's suture. This consists of effecting an anastomosis by leaving all knots of sutures entirely within the lumen of the bowel. A detailed description is given, but the essential part rests in the fact that mattress sutures unite the cut ends and the knots are placed within the bowel until we come to the last suture, when the threaded end of a needle is passed between two of the interrupted sutures and brought out at the opening, which the last suture will close. This final suture is now passed through the loop of the threaded needle and the same is withdrawn, bringing the final suture out in the track of the needle. This final suture is now tied down, approximating the two walls of the intestine. It is drawn tight and cut off, and the knot pushed through the interval, where the needle was withdrawn. This effectually closes the opening and leaves the knots within the lumen of the bowel. Under the third class he mentions the O'Hara forceps. [A.B.C.]

2.—The Physician and the Ophthalmoscope.—F. Valk presents the method of using the ophthalmoscope in a simple manner and describes the appearance of the fundus under normal conditions, in albuminuric retinitis, papillitis, optic atrophy, choroiditis, embolism, hemorrhage, and glaucoma. The general practitioner must depend on its revelations if he would early recognize certain diseases of the brain, arterial degeneration, and renal complications. [H.M.]

3.—The Cystoscope: Its Indications and Contraindications.—F. Cabot and H. G. Spooner give specific directions as to how to use the cystoscope, the indications and contraindications to its employment. Special attention is called to the fact that no one means of arriving at a diagnosis should be relied upon exclusively. A rectal examination should be made to determine the condition of the vesical neck and prostate gland in all cases before the cystoscope is introduced. They have found the Nitze cystoscope the most satisfactory. In order to make a successful cystocospic examination, the urethra must be sufficiently large to admit of easy passage of a sound of the caliber 24—French scale; the bladder must be sufficiently tolerant to contain at least 90 grams to 120 grams (3 ounces to 4 ounces) of fluid; and the wall of the bladder must be transparent and remain transparent during the examination. The stumbling-block which confronts the beginner most often is that the light suddenly disappears. This is caused by (1) the lamp burning out, or an interruption of the electric circuit; (2) by the lamp coming in direct contact with the vesical wall; (3) by the prism being occluded by a large tumor; (4) by the coagulation of blood on the lamp; (5) by the lamp becoming overheated and causing a burn on the bladder wall. This danger has been largely overcome by the cold lamps recently perfected. A somewhat lengthy explanation of how to interpret the images seen by the cystoscope is given. The use of this instrument should become a routine measure, unless contraindications exist, in all genito-urinary work. [A.B.C.]

4.—Embolism of the Central Artery of the Retina from Paraffin Injection for Nasal Deformity.—L. M. Hurd and W. A. Holden report that immediately following an injection of paraffin for the correction of saddle-nose the patient complained of blindness in the right eye. The melting point of the paraffin mixture was 110° F. Ocular examination showed the veins normal, but the main inferior branch of the central artery of the retina and its divisions were empty and collapsed. The main superior branch contained some blood, but when gentle pressure was made upon the eyeball the blood column here broke up and the blood flowed backward into the central artery. Cardiac stimulants, massage, etc., calculated to force the embolus on into a branch of the artery and thus afford partial vision, were unsuccessful. Other cases in literature are referred to in which embolism followed a similar operation. The writers conclude that the obvious lessons taught by these cases is that loss of vision, and even of life, may follow the injection of paraffin into a vein. This danger could be partly avoided by performing aspiration after the introduction of the needle, and if there was no evidence of penetration of a vein, injecting the paraffin through the needle without moving it. There would remain, however, the possibility that the needle had passed entirely through and beyond a vein, and then the paraffin under high pressure might pass backward and thus gain entrance to the vein. [A.B.C.]

5.—Dangers of Breech Presentation.—J. Kucher claims that the dangers of breech presentation lie not so much in the presentation as in the improper management. Too early or too hasty interference is usually the cause of the troubles incident to this condition. If a foot or knee is within reach, as in incomplete breech presentation, the attending physician is easily tempted to pull on the extremity, hoping thus to hasten delivery and prevent danger to the child. Such interference always endangers more or less the life of the child, and besides it is not necessary. In the majority of cases there is no danger

to the child before the breech appears at the vulva. At this time the cord may be pressed upon, and the child must be delivered in a short time, which is easily done if the labor has taken its normal course without any outside interference. When no lower extremity is presenting, there is no danger of too early interference. The labor may have progressed quite satisfactorily up to the last stage, and then the pains may stop or become so lagging that for hours the labor makes no progress. It becomes necessary to interfere, as a too long delay at this stage would be dangerous to mother and child. When the child is dead, the simplest way to extract it is with the blunt hook in the groin. But Kucher has never dared to use the hook with a living child, and he has found the forceps satisfactory. But it should not be applied before the breech is down in the pelvis, the handles should not be pressed too firmly together lest the blades injure the soft parts. By inserting a folded towel between the handles of the forceps, too hard pressure of the tips of the blades on the soft parts of the child can be easily avoided. The tractions should be made slowly, and only during a pain. When once the mouth of the child is outside the vulva, there is no danger to its lungs from mucus, even if it begins premature respiration, and we can take our time and let the head pass slowly through the vulva and so avoid laceration of the perineum. [W.K.]

New York Medical Journal.

July 4, 1903. [Vol. LXXVIII, No. 1.]

1. Intravascular Antisepsis. (To be concluded.) CHARLES CLIFFORD BARROWS.
2. A Simple Method of Appendectomy. EMIL RIES.
3. The Hookworm Disease in Alabama. E. D. BONDURANT.
4. Gonorrhea Insontium, Especially in Relation to Marriage. (Concluded from Vol. lxxvii, p. 1157.) PRINCE A. MORROW.
5. Perineal Partial Prostatectomy. WELLER VAN HOOK.
6. The Treatment of Socalled Diabetic Gangrene of the Extremities. HOWARD LILIENTHAL.
7. The Diagnostic Value of a Proctoscopic Examination in Proctitis with Some Remarks on that Affection. HERMAN A. BRAY.
8. A New Method of Drainage in Empyema. SAMUEL LILE.
9. Black Chromidrosis with Hysteric Paralysis. JAMES W. PUTNAM.

2.—A simple method of appendectomy is described by Emil Ries. After the appendix has been lifted out of the abdomen he passes a forceps over its mesentery up to the cecum, the appendix up to its base is then severed from the mesentery. A small, blunt forceps takes hold of the cecum at the base of the appendix and holds it up as high as possible. A forceps catches the appendix one-third of an inch from its base, the appendix is cut away underneath this forceps and removed. The stump is held by the forceps and escape of fecal matter prevented by making traction on the cecum. Now a fine, round straight needle with a thread, at the very end of which is a thick knot, is introduced into the stump $\frac{1}{16}$ in. from the cut surface from the inside outward. Then the needle is passed back into the lumen of the appendix and on into and out through the cecum about one inch from the base of the appendix. Pulling on this thread inverts the appendix completely. A second needle, with a catgut thread, sutures in three or four continuous stitches the serosa of the funnel of the inverted appendix. Then the operator holds the suture of the funnel and cuts the inverting suture close to the bowel wall and rolls the wall of the bowel between his fingers. Thereby that portion of the inverting thread which was in the wall of the cecum is made to slip into the lumen of the same as the inverted stump of the appendix is moved away from the cecal wall, to which it was drawn by the inverting suture. The mesentery is sutured with the thread that closed the base of the appendix, and drawn so that the stump of the mesentery covers the suture of the appendix. Ries has employed this method successfully in 21 cases. [C.A.O.]

3.—The Hookworm Disease.—E. D. Bondurant calls attention to the prevalence of uncinariasis, or ankylostomiasis in the southern United States. A large number of cases have been reported by physicians and the author believes that this disease is the most widely prevalent and one of the most serious with which the poorer class of the white population have to contend. Anemia is always present and may be extreme. The diminution in hemoglobin percentage is out of proportion to the reduction in number of red blood-corpuscles. There is marked pallor, mental and physical weakness, apathy, indifference, and inability and disinclination to work. Hemic heart murmurs and edema are frequent. The appetite is capricious, sometimes ravenous. The bowel symptoms are not characteristic. The treatment consists in expelling the worms by the use of thymol or male fern and building up the blood by tonics. [C.A.O.]

4.—Gonorrhea Insontium.—This term is employed to designate a certain class of infections which are distinguished by the conditions under which contagion takes place. P. A. Morrow calls attention to the three principal modes in which gonorrhea insontium is manifest in married life: (1) The individual risks to the health and life of the woman; (2) its effect upon her conceptional capacity; (3) its effect upon the infant in the production of abortion and ophthalmia neonatorum. To these are added (4) the vulvovaginitis of young girls, which often results from the introduction of gonorrhea into the family. Authorities are quoted, showing that a large percentage of sterility, as well as of abortions, are due to gonorrheal endometritis of the cervix and body of the uterus. It is estimated that from 10% to 20% of all blindness is caused by gonorrheic infection. Statistics are given to show that a large percentage of the cases of vulvovaginitis in young girls is a true gonorrheal infection. The infection of the child may occur (1) during parturition; (2) from inoculative contact of the genitals of the child with a person suffering from gonorrhea or from mediate contagion by means of various articles upon which the virus may have been deposited. [C.A.O.]

5.—Perineal Partial Prostatectomy. — Weller Van Hook's technic, while utilizing Zuckerkandl's external incision, is radically different in its sequel. He considers promptitude in operating one of the most important features. The external incision is made transversely through the skin and the centrum tendineum, about 2½ cm. (1 inch) in front of the anus. A median incision is then made into the membranous portion of the urethra. The lobes are then carefully examined. This can be best done by the finger within the bladder. Access to the prostate at this stage is in the anteroposterior, or median, plane and the lateral halves of the levator ani muscle are left intact. The work of removing the prostate is effected between these muscles, which are practically uninjured. If the finger cannot be pushed through the capsule a knife may be used, and then the finger swept around the main mass of prostatic tissue, separating it from its capsule. The parts may then be removed with volsella forceps. [C.A.O.]

6.—Socalled Diabetic Gangrene.—H. Lilienthal divides these cases roughly into three groups. In the first are those in which the general condition is good, no acid intoxication, sugar, little or much; one or more toes or fingers affected with or without phlegmon, but not threatening the usefulness of the member. Here the treatment should be conservative. The affected parts should be removed and the phlegmon drained by the freest incisions. The wounds should be packed and wet dressings applied, tendon and fascia being allowed to slough away. In the second group the general condition is good, no acetone or diacetic acid in the urine, but the local condition is such as to threaten the usefulness of the affected member. Here the ablation of the limb high above the upper level of the disease is the proper course. In the third group the general condition of the patient is poor or comparatively good, with much or little sugar and acid poisoning present. Disease threatening or not threatening the affected part. The treatment of these cases must be palliative until the acid intoxication with its impending coma shall have disappeared. There should be no radical operation. Cases illustrating these conditions are reported. [C.A.O.]

7.—Proctitis.—H. A. Bray calls attention to the diagnostic value of a proctoscopic examination in this disease. He believes that this condition is frequently overlooked by the general practitioner, because the rectal symptoms complained of are not sufficiently marked to invite attention to a thorough examination. The local treatment consists of antiseptic and astringent injections. The healing of ulcers can be promoted by touching them with silver nitrate. [C.A.O.]

8.—A new method of drainage in empyema is reported by Samuel Lile. He uses a hard rubber tube three-sixteenths of an inch in diameter, and 1 cm. (½ inch) long, with a cup-

shaped funnel on each end, the cups being five-sixteenths of an inch in diameter. The tube is bent at a little greater than a right angle, and not in the center, but so as to leave one arm of the angle 2½ cm. (1 inch), and the other 3 cm. (1½ inch) from the angle. The short arm is placed in the pleural cavity. On the long arm a flattened surface is made above and below on which the ribs rest. With this tube Lile does not resect ribs, except in cases with sinuses existing for months after removal of the tubes, or in certain tuberculous cases. [C.A.O.]

9.—Black Chromidrosis.—Such a case is reported by J. W. Putnam in a girl of 19, who also had complete paralysis of all four extremities. The skin of the eyelids and malar regions and the upper portion of the nose was inky black; as also was the edge of the mucous membranes of the lips. By positive assurance and command, after making passive movements, she finally made voluntary movements of the arms and legs, and within a week all trace of paralysis had disappeared. The chromidrosis followed sudden cessation of the menses, and when the patient was annoyed, excited or tired, the black areas would grow larger and blacker. The total period of amenorrhea was 14 months; that of chromidrosis nine months, and there were six attacks of recurring hysteric paralysis in that time at irregular intervals. [C.A.O.]

Medical News.

July 11, 1903. [Vol. 83, No. 2.]

1. Stomach Vertigo. CHARLES SUMNER FISCHER.
2. Notes on the Selection of a Climate for the Treatment of Tuberculosis. RUSSELL BELLAMY.
3. Hypnotism and Hysteria. WM. BROADDUS PRITCHARD
4. Dry Superheated Air in the Treatment of Septic Infection. CLARENCE EDWARD SKINNER.
5. The Sanatorium Treatment of Tuberculosis. HERBERT MAXON KING.

1.—Stomach Vertigo.—C. S. Fischer classifies chronic gastric diseases into (1) disorders of secretion due to inflammatory and noninflammatory conditions; (2) disorders of motility resulting in atony or dilation; (3) displacements; (4) simple neuroses. It remains to be determined whether gastric vertigo can be associated with any one of these classes. It appears to be a matter of chance that some writers have reported hyperchlorhydria and others hypochlorhydria in connection with vertigo. The great fluctuation in the amount of acid secreted at different times in the same individual in neurotic affections renders determination of any relation between this function and vertigo extremely difficult. A study of percentages shows little difference in acidity in vertiginous and nonvertiginous cases. The same lack of causative relation to gastric irritability appears. Vertigo in atony might be due to pressure from excessive gas production, or to autointoxication, or to malnutrition. All forms of vertigo if persistent enough cause nausea, hence the latter is not sufficient for the diagnosis of stomach vertigo. In order to make a correct diagnosis we must classify the conditions of association of vertigo and chronic gastric diseases. The writer offers the following: (1) Cases in which the vertigo is intense and the only prominent nervous symptom. There may or may not be gastric symptoms, and there may be no history of dietetic indiscretions. This is the type described by Trousseau; (2) cases in which the vertigo is associated with intense palpitation, precordial fear, dyspnea, and possible syncope following isolated indiscretions; (3) cases in which the vertigo occurs as a momentary sensation in the course of well-defined pathologic conditions in the stomach. These are given in the order of frequency. In the first case the mechanism of production is a reflex. In the second gas interferes with the heart's action, leading to interrupted pulmonary circulation and so to irregular cerebral circulation, causing the vertigo. In the third case the relations between the vertigo and the gastric disease are obscure. [H.M.]

2.—Selection of a Climate for Tuberculosis.—R. Bellamy describes the climatic conditions in New York, in the South, and the West. He considers Colorado, New Mexico, and Arizona ideal. The tuberculous with a rapid breaking down of lung tissue, those of neurotic temperament, should avoid high altitudes; also those with especially developed cardiac lesions and those completing the fifth decade where the capacity of muscular exertion is considerably limited. Laryngeal cases do better at low altitudes. Infection would be lessened in cities if employes were compelled to take their midday meal away from the building in which they work or on roof-gardens or in sun-rooms provided for them. Prisms, humidifiers, ventilating apparatus, etc., should be more urged. Formaldehyd disinfection should be practised daily in crowded work-rooms. [H.M.]

3.—Hypnotism and Hysteria.—W. B. Pritchard believes that there is no proof of hypnotism having ever done harm when legitimately employed. It can be acquired by cultivation quite readily. The hypnotizer must believe first in hypnotism, he must have a legitimate purpose in view, he must have self-confidence, which is greatest when born of experience. Children are not as susceptible as adults. The subject is susceptible in proportion to his intelligent understanding of and cooperation with the operator's purpose. Absolute cooperation is not essential in the peculiarly susceptible. For therapeutic results it is immaterial whether the patient is in the lethargic, cataleptic, or somnambulistic state. It has been successful in neurasthenic and hysteric obsessions. In the delusional insanities and in organic and toxic nervous diseases it may work much evil. It may be used in minor surgery and to regulate menstruation, control constipation, etc. [H.M.]

4.—Dry Superheated Air in Septic Infection.—C. E. Skinner classifies cases into (1) those in which the infection has occurred in a limb and has not yet invaded the lymphatics of the joint connecting the member with the trunk; (2) those in which these lymphatics are involved, but infection at the original focus is not so profound as to demand removal; (3) those requiring immediate operative interference. Hot air has not yet been tried in streptococci infection. Locally applied it affects function by stimulating metabolism through raising temperature *en masse* and by reflex action. It also inhibits the development of the common disease germs. Pain and swelling are relieved by its influence on the circulation of the part. The physiologic action of body treatment is predominantly reflex through the spinal sympathetic, the area of skin affected being so great that the capillary circulation is able to dissipate the heat before it penetrates deeply enough to exert its action directly, therein differing from the local application. If hyperleukocytosis is not already present the number of white cells is increased from 15% to 50%, the red cells from 10% to 20%, the urine from 25% to 100%, urea from 15% to 60%. Mouth temperature rises from 1° to 5° F., the pulse increased from 30 to 50 beats, respirations 5 to 10 cycles. The patient reeks with acid perspiration. A skilful application means all the difference between success and failure. From 300° to 400° F. should be used. Susceptibility to stimulation varies with the individual, and the reactions must be carefully watched. [H.M.]

5.—Sanatorium Treatment of Tuberculosis.—H. M. King in concluding his paper describes the charts used at the Loomis Sanatorium, so kept that accurate statistics may be made from them. He discusses treatment by rest and by exercise and advocates a plan to make convalescents self-supporting. With disinclination for food without lesion in the digestive tract gavage has been practised with astonishing results. Tubbing to reduce temperature is disastrous. Tepid sponging or the wet pack is indicated. He has rarely seen in the home, conditions approaching in value the benefits of the sanatorium. [H.M.]

CLINICAL MEDICINE

DAVID RIESMAN A. O. J. KELLY

EDITORIAL COMMENT

The Battle against Malaria.—One of the results of Koch's investigations of the malarial problem has been an energetic and well-directed effort on the part of his pupils to combat the disease on the principles laid down by him. While not opposed to the extermination of the mosquito as one of the means of eradicating malaria, Koch thinks that this is a hopeless task and is a rather puerile way to attack the subject. The plan proposed by him, and first made public in 1899, consists in destroying the malarial organism in the infected indi-

vidual with quinin. It seems, *a priori*, perfectly logical to suppose that if all the infected persons in a given locality are discovered through the medium of blood-examinations and the organisms harbored by them are destroyed, malaria cannot continue in that place. That this is not a mere theory is proved by the success that Koch's pupils have met with in several notoriously infected regions. The report[1] of these results has just been published. Frosch has undertaken the destruction of malaria in the Brioni Islands, situated near the west coast of Istria. These twelve islands have a climate similar to that of the Riviera and a most fertile soil; but, owing to the prevalence of virulent types of malaria in them their population is not only perpetually changing, but is always very small and poor. At the beginning of Frosch's attack upon the disease the population was 303, but as it was constantly shifting 754 separate persons altogether were hematologically examined. The disease was most prevalent during the months of July, August, September and October. On the main island 25% of the indigenous inhabitants were found to be infected with malaria, while of the newcomers from 8% to 10% had the disease. Anopheles mosquitos were found in large numbers, even in winter, and they far exceeded every other species. The plan of attack was as follows: 1. Every person that complained of not feeling well was examined, and until the blood examination had been completed quinin was not administered. 2. The general state of health of the islanders was carefully watched, and any one showing the slightest indisposition was sent to the physician for a blood examination. 3. Continued resistance to having the blood examined or to taking quinin was punished with deportation from the island. 4. Quinin was gratuitously distributed, but only on the basis of a blood examination, and the result was controlled. 5. Periodic, usually monthly, examinations of the blood of all the inhabitants were made. 6. The blood of all persons treated was examined within ten days or two weeks after the completion of the treatment. 7. Interruption in the quinin treatment, on account of an absence lasting eight or ten days, was considered a cause for repeating the entire treatment. 8. The quinin was given in the form of the hydrochlorate, in doses of 1 gram (15 grains) at a time, and was taken on the empty stomach in the mornings of two successive days. In severe cases 7 grams was given in five days. This treatment was repeated in nine-day intervals in tertian malaria, and in eight-day intervals in the estivoautumnal form, throughout a period of three months. The result of the undertaking was all that had been hoped. In the second year, 1902, not a single new case of malaria occurred in the island. There were twenty-four cases, but nine of these were relapses and fifteen were imported cases.

REVIEW OF LITERATURE

Vascular and Toxic Acroparesthesia.—A very valuable discussion of this condition, based partly on 9 briefly-detailed cases and partly on cases reported previously by others, is furnished by H. B. Shaw,[2] who appends a lengthy bibliography. Shaw says there are three groups of diseases in which acroparesthesia is a prominent symptom: (1) Those disorders in which it is dependent upon local vascular disease, the commonest change being proliferation of the internal coat of the arteries, with or without thrombosis; (2) those disorders in which acroparesthesia is dependent upon a toxic agent, produced within the body or introduced from without, which is capable of causing vasomotor disturbances, the vessel walls remaining, for a long time at any rate, quite normal. Permanent changes may or may not occur in the nerves, but these are secondary in all instances; (3) a third group still remains, in which from want of more pathologic and experimental observations we are still unable to assign a cause of the acroparesthesia; such cases may be called "Idiopathic." The first of the above groups is designated by Shaw "vascular acroparesthesia" and under this heading he discusses four varieties: (*a*) Schultze's acroparesthesia; (*b*) Raynaud's disease; (*c*) erythromelalgia; (*d*) sclerodactyly. Under the second class, or toxic acroparesthesia, Shaw discusses those cases in which the influence of a toxic body actually demonstrable, or nearly so, is very clear. At present it is impossible to say whether the toxic agent alone is in operation, producing its effect by constricting or dilating the vessels, or whether it acts upon vessels that are primarily diseased; in most cases, so far as clinical observation goes, there is no permanent vascular disease. The paucity of investigations to determine the particular toxic body concerned is deplored by Shaw, who presents plates showing "interrupted" degeneration of the nerve to the vastus internus from a case of infantile tetany with succeeding fatty degeneration of the muscle. This is not taken to mean that tetany is primarily a neuritis. The relation of tetany, uremia, epilepsy, chorea, eclampsia, etc., is briefly considered. The treatment of acroparesthesia is also outlined. [A.G.E.]

On the Cauterizing Effects of Soft Soap.—A. Most[1] reports the case of a woman afflicted with eczema, and who applied soft soap to the scratched spots, with the result of severe localized gangrene at two points. As Most was not able to produce such lesions in people with normal skin, but could produce them on himself after scratching his skin, he concludes that the eczematous injuries predisposed her to gangrene. He calls attention to the ease with which drugs can be bought which under circumstances could produce not only superficial injuries, but deeper destruction of tissues, if permitted to act long enough. [E.L.]

The Effect of Mechanic and Thermic Stimuli upon the Blood-stream and Tone of the Bloodvessels.—Friedel Pick[2] describes his method of experimenting upon dogs with a view of determining the effect upon blood pressure and the vasomotor conditions. Massage of the extremities increased the blood-current and widened the bloodvessels—thus the blood-pressure was lowered. Massage of the abdomen increased the blood-current and lowered the tone of the vessels in the mesentery, at the same time slowed the circulation in the brain. Passive movements of the extremities increased the current and lowered the pressure in the muscles exercised as well as in the brain. When the skin is stimulated by cold or heat there was increase in the flow of blood and dilation of the vessels; that is, active hyperemia. [J.H.W.R.]

Vital Statistics: Their Value to the Public and to the Profession.—This convincing article by F. I. Herriott[3] is the sequel to one entitled "Death Returns in Iowa's Cities and the Profession," published in the preceding number of the Journal. In that article it was shown that the returns were deficient and defective; that the deathrate varied strangely in the several cities of the State, and that by the national census the cities of Iowa seemed less healthy than those of neighboring States. In the present paper Herriott asks if it is worth while for a community to provide for the annual compilation, analysis, and publication of the vital statistics and answers the question by stating that there are precisely the same reasons for doing this as there are for preserving historic records or for publishing the reports of city, county, and State finances. Municipal governments can be well conducted only on this basis. The vast volume of life insurance in force today rests upon vital statistics. Their value to workingmen and taxpayers cannot be overestimated. Charitable organizations have, or should have, a deep interest in these compilations. The commercial value to a State or to individual cities is not the least of the benefits to be derived. While the articles in question are written mainly from the standpoint of an Iowan the principles laid down can be applied equally well to any State. [A.G.E.]

Tonsillar Hypertrophy and the Physical and Mental Development of Children.—Walbert[4] has found enlarged tonsils in 231 (62%) out of 375 children examined; 122 (33%) showed symptoms referable to the tonsillar condition; 19 had

[1] Zeitsch. f. Hyg. u. Infektionskrankh., Bd. xxxiv, Hft. 1.
[2] The Practitioner, June, 1903.

[1] Deutsche medicinische Wochenschrift, February 19, 1903.
[2] Zeitschrift für Heilkunde, February, 1903, p. 29.
[3] Iowa Medical Journal, May 15, 1903.
[4] Deutsche medicinische Wochenschrift, February 5, 1903.

symptoms of nervous disturbance, 103 ear disturbances. Of the 84 most stupid boys in the classes 65 (77%) had enlargement of the tonsils. [E.L.]

Proteid Metabolism in Pernicious Anemia.—E. Rosenquists's[1] investigations are directed especially toward pernicious anemia caused by Bothriocephalus latus, and are reported in minute detail. In bothriocephalus anemia the proteid destruction within the body is increased, as shown by an increase in the excretion of nitrogen. This increase is undoubtedly of toxic origin, the toxin being produced by the parasite. After the worm is discharged from the body, the proteid destruction ceases and gives place to an increase in the proteid absorption. As a rule the nitrogenous balance swings to and fro, periods of increased proteid destruction alternating with those of nitrogenous conservation. The loss of nitrogen in the urine arises not only from destruction of the blood elements, but also from destruction of other bodily tissues. In idiopathic pernicious anemia the same oscillation of nitrogenous balance is observed as was noted in bothriocephalus anemia. This indicates a toxic origin for all forms of pernicious anemia. [B.K.]

The Abuses and Uses of Venesection.—R. Reyburn,[2] after 47 years' practice, inclines to the view that he has seen the two extremes of blood-letting and that present opinion is too much against this procedure. He mentions instances in which venesection is a life-saving expedient—in threatened cerebral apoplexy, pneumonia, eclampsia, etc. Considerable space is given to the question of the increased mortality from pneumonia. Reyburn says that notwithstanding the advent of influenza and the increased mortality in large cities from the class of pneumonia patients treated in the city hospitals there is room for the query whether our change of treatment and abandonment of blood-letting has not been a factor in producing this discouraging result. [A.G.E.]

An Epidemic of Ulcerative Stomatitis during the South African War.—Such an epidemic is reported by De Haan,[3] who considers its predisposing cause to have been the absence of salt from the diet; its exciting cause, in addition to special microorganisms, the irritation produced by the particles of food adhering with their sharp edges to the gums and mucous membrane of the mouth. The contagious character of the condition seems proved by the fact that the disease spread quickly through entire regiments, but did not attack any who did not come in contact with the affected soldiers. The soldiers ate from one vessel and one pipe would do service for many of them. The palate, pharyngeal pillars and gums were seats of predilection, but bone necrosis and noma were not observed. The cleansing of the mouth with weak potassium permanganate solution, the vetoing of the smoking habit produced rapid cures, especially after the reintroduction of salt to the diet. [E.L.]

The Relation of Age, Sex, and Conjugal Condition to Deathrate in Typhoid Fever.—D. W. Moorehouse[4] from a study of the death records of the city of Cleveland for 13 years, from 1890 to 1902 inclusive, has come to the following conclusions: Typhoid fever in Cleveland furnished during the 13 years under consideration 3% of the total deaths. The number of deaths reported by the Health Department in the same period was 2.5% of the same total. The mortality was 56 to each 100,000 of the average estimated population; 19% of all tuberculous deaths occur between the years 20 and 25, 36% between 20 and 30, and 50% between 18.5 and 35.4 years; 1.8% of all deaths were of males from typhoid fever; 58.1% of all deaths from typhoid fever were of males; 1.2% of all deaths were of females from typhoid fever; 41.9% of all deaths from typhoid fever were of female patients. In proportion to the total the greatest number of deaths, both for males and for females, is found in the five years' period between the ages of 20 and 25. In proportion to the living population by age, the greatest number of deaths occur between 20 and 25 years. In this respect the mortality of typhoid fever differs essentially from that of tuberculosis, in which the highest mortality is found well past middle life. The conclusions given in the previous paper on the relation between the conjugal condition and the married state were that tuberculosis delays and prevents marriage, and that we may infer that marriage in women increases the liability to death from tuberculosis. A further computation with the material of the other study, made in the course of the present investigation, will warrant us in withdrawing the second of these conclusions. We have shown that the excess of deaths of the married in tuberculosis are practically the same for males and for females—namely, about 39% of the total mortality of each sex. The same relation holds in typhoid fever, but with a much lessened excess of deaths in the married, this excess for each sex being about 10% of the corresponding total mortality. The fact that the percentage excess of married over single mortality in tuberculosis is four times that found in typhoid fever tends to strengthen our conclusion that tuberculosis frequently delays and prevents marriage. [D.R.]

[1] Zeit. für klin. Med., Bd. xlix, p. 193.
[2] Washington Medical Annals, May, 1903.
[3] Deutsche medicinische Wochenschrift, February 12, 1903.
[4] Cleveland Medical Journal, May, 1903.

The Regime of Albuminurics.—Perochaud[1] recognizes several forms of albuminuria, namely: intermittent or irregular albuminuria; the purely nervous form; albuminuria attributable to disturbance of digestion; albuminuria in certain forms of anemia; the cycle albuminuria of Merlez, caused by a hyperacidity of the liver; and albuminuria with a kidney anatomically normal, in which a slight lesion is compatible with a normal existence, which frequently ends in spontaneous cure. In the last form a regime applicable to the albuminuria of Bright's disease works rapid cures. In Bright's disease the hope is merely to postpone the fatal issue. While milk is unirritating to the kidneys, and does not favor the development of toxic substances, it causes anorexia, and is insufficient to sustain the strength of one who is obliged to work. The patient's forces decline, the albuminuria remains unchanged, and the general state does not improve. For this reason a mixed diet is instituted. Milk diet is employed in acute exacerbations during the course of chronic nephritis, or when uremia is threatened. Game and veal are absolutely interdicted. Red meats are used in moderation. The white meats, such as chicken, squabs, fresh pork, ham, are permitted, as are also gelatinous foods. Fatty soups are interdicted; fish is absolutely cut out of the diet of albuminurics. Eggs do not increase the albumin, as is proved by the observations of Oertel and Patain. The vegetables to be avoided are cabbages, sauercrout, cress, mushrooms, asparagus, sorrel, tomatoes, artichoke, and spinach. All fruits are permitted. Cheese is harmful. Milk and water are the two beverages in albuminuria. A little white wine may be used when milk is not supported well. When first treating albuminuria a milk diet is prescribed until the edema and other symptoms begin to improve, then a mixed diet is ordered. [J.H.W.R.]

The Relation of Inorganic Salts to Protoplasmic Activities.—A. P. Mathews[2] says that inorganic salts are absolutely essential to protoplasmic activities, because by means of their dissociation in water they form an electric substratum in which protoplasmic processes go on. This substratum must be practically neutral and to bring about a condition of absolute neutrality there must be a mixture of salts in definite proportion, because in no salt yet known are the two ions exactly balanced. For this reason no single salt solution thus far tried can sustain protoplasmic activity. Inorganic salts act upon protoplasm, primarily at least, by disturbing the protoplasmic equilibrium. By changing this equilibrium very slightly, for example by varying the relative amounts of inorganic salts in the blood, a condition of depression or stimulation may be produced and extended over very long periods. The action of mineral waters and intravenous solutions depend upon this principle, and we are now in a position to employ these agencies upon a scientific basis. Based on these facts electric stimulation may be explained and electrotherapeutics developed in a scientific manner. [A.G.E.]

Auscultation of the Oral Cavity.—U. Baccarani[3] calls attention to Galvagni's work, performed as long as 30 years ago, concerning oral auscultation. He was able to note two

[1] Journal Med. de Bruxelles, 1903, No. 17, p. 263.
[2] Yale Medical Journal, June, 1903.
[3] Münchener medicinische Wochenschrift, February 3, 1903.

different sounds; moist rales and interrupted systolic expiration. The former were heard in some cases having uncertain or no physical pulmonary signs. They indicate incipient tuberculosis or a small cavity, and are therefore very important. The latter are associated with pleuritic adhesions in the neighborhood of the heart and large vessels, and are not necessarily tuberculous. [E.L.]

Tuberculous Meningitis.—Albert Delcourt[1] reports a case of this condition with a confused clinical history. The patient, a girl 5½ years of age, complained nine days before admission to the hospital of headache, gradually developing stupor, loss of appetite, and convulsive attacks, but no vomiting. Upon admission there was marked stupor, the neck stiff, the limbs contracted and Kernig's sign was present on the right side. There existed a double suppurative otitis. On the left side there was a complete facial palsy; on the right a partial facial palsy. A double ptosis was observed, and the dilated left pupil reacted poorly to light. The right pupil reacted normally to light. There was no deviation of the eyeball or change in the fundus. A lumbar puncture was done, and examination of the cerebrospinal fluid revealed the presence of 96% mononuclear cells. The autopsy revealed the presence of a membranous exudate, involving the oculomotor nerve on the left. Along the vessels in the left fissure of Sylvius a few tubercles were observed. The examination of the cerebrospinal fluid served to diagnose this condition which was confused by the presence of the otitis, caries, the facial paralysis, and other symptoms. [J.H.W.R.]

The Deathrates of Working Class Communities.—L. Parkes[2] furnishes in tabulated form the results of an inquiry into the housing and vital statistics of certain selected populations representing the working classes residing in the borough of Chelsea. Two divisions were made: (1) Those residing in the ordinary streets of the borough; (2) those who inhabit industrial dwellings. Other columns in the table show the percentage of population living in one room, two rooms, and three or more than three rooms. The average number of persons per room and per family is also shown. The general deathrate of the borough was 18.8 per 1,000, and it varied in Division 1 between 20 and 44, and in Division 2 between 10 and 30. Contrary to expectations the highest deathrate was not found among the people living in one-room tenements, and it was difficult to trace any connection between overcrowding and high deathrates. Parkes believes that high deathrates are very largely due to social and economic conditions. A great variety of measures are necessary to improve the general health of the laboring population. Among these are (1) improved education; (2) an improvement in the condition of unorganized, unskilled labor; (3) the spread of temperance; (4) the inducement to thrift that would be promoted by a well-considered scheme of old-age pensions. [A.G.E.]

Two Peculiar Cases of Measles.—In the first it was difficult to decide whether measles of a hemorrhagic form or sepsis with multiple cutaneous emboli existed. The general symptoms were very grave, and the eruption consisted of slight, elevated, livid patches, having in their center dark red spots. From an angina arising later diphtheria bacilli were developed; about the same time emphysema of the skin of the neck developed. At the autopsy an acute miliary tuberculosis, disseminated to all parts of the body, was found. The diphtherial infection was evidently secondary and developed in the house, the measles an accidental, very grave complication. The second case, recorded by J. A. Grober,[3] had no prodromal stage; the eruption consisted of isolated pink spots of variable size, some of which had miliary vesicles in their center. It was a question between varicella and variola. The next day the riddle was solved by the appearance of a typical measles eruption. [E.L.]

A New Species of Blood Filaria.—Powell[4] describes what he believes to be a hitherto unrecognized form of filaria occurring in the blood of man. The worm was found in a patient under treatment for scabies who seemed otherwise healthy. The parasite which was found only at night and in very small numbers was of the same diameter throughout, being blunt at both ends, and measured 5.3μ by 131μ. [H.C.W.]

Serotherapy of Typhoid Fever in Children.—A. Josias[1] gives short notes on each of the 50 cases of typhoid fever in children he has treated by antityphoid serum in addition to the ordinary methods of hydrotherapy. He details the dose, the technic of administration, the day of the disease on which the serum was first administered, and the results. The serum generally exerted an action upon the temperature, a more or less marked reduction occurring during the first 12 or 24 hours after the administration. In some cases this reduction continued in a regular manner until definite cure resulted. Among the cases there were two deaths, a mortality of 4%. The average deathrate in three other hospitals for children in Paris during the same period was 14.2%. These results are believed to show that antityphoid serum is really efficacious, especially as they correspond closely with those obtained in adults by M. Chantemesse. [A.G.E.]

Soxhlet's Nutrient Sugar for Sick Infants.—O. Rommel[2] recommends Soxhlet's sugar in all acute cases as first food after absolute water diet in chronic disturbances of nutrition following a diet rich in fat and milk. It can be used in earliest childhood. He describes the method of preparation, and appends extracts from 36 histories, 75% of which showed improvement or cure. [E.L.]

Torpid Liver of Hot Climates.—Tourtoulis,[3] of Cairo gives this condition careful consideration. It is characterized by an enlargement of the liver, more or less chronic, with clinical signs of a defective hepatic function. It is accompanied by gastrointestinal disturbances, and especially constipation. There is usually a slight icteric hue to the skin. Frequently nervous symptoms manifest themselves, and may be so pronounced as to overshadow those of the gastrointestinal tract. The patient may indeed, entirely overlook the hepatic condition, but a careful examination, especially of the urine, will reveal the true basis of the trouble. The chronic engorgement of the liver should be treated vigorously, for it may lead to more serious disturbances, such as hepatic abscesses, or cirrhotic conditions. Torpid liver is incited by the absorption from the gastrointestinal canal of the products of increased fermentative and putrefactive processes, induced by hot climates. The torpidity is furthered by sedentary habits, and by the ingestion of large quantities of fluid, which increase the intrahepatic pressure and thus decrease the flow of bile. The gastrointestinal derangements produced by such habits aid further in the absorption of toxic substances. The therapeutic deduction is to avoid digestive disturbances, and if such occur, to treat them at once, however mild they may appear. [B.K.]

The Action of Carbonated Mineral Baths, Especially in Relation to the Circulation.—R. Wybauw[4] describes the baths of Spa, the water of which contains 850 cm. to 900 cm. of carbonic acid gas to the liter. He has made some careful observations upon the pulse-rate and blood-pressure. The pulse is slowed and the blood-pressure elevated. The baths are indicated in all cases in which a gentle stimulation of the pneumogastric nerves would be useful. In cases of insufficient nutrition with anemia and an antecedent history of infectious disease in which the heart is accelerated with or without arythmia, palpitation, etc., the baths are to be highly recommended. In myocarditis, in purely nervous conditions, *i. e.*, neurasthenia of the heart, pseudocardiac disease—the effect of the baths is truly remarkable. The baths are recommended in a certain number of toxic conditions, such as tobacco heart and in exophthalmic goiter. They are contraindicated in general arterial sclerosis, aneurysms, certain conditions of nervous excitation in which carbon dioxid causes distress, insomnia, restlessness, etc. In such cases a mixture with other water often prevents unpleasant symptoms. [J.H.W.R.]

Angioma of the Synovial Membranes.—Frederick Eve[5] records four cases in which the symptoms pointed to tubercu-

[1] Jour. Med. de Bruxelles, 1903, No. 19, p. 289.
[2] The Practitioner, June, 1903.
[3] Münchener medicinische Wochenschrift, February 3, 1903.
[4] British Medical Journal, May 16, 1903, p. 1145.

[1] La Médecine Moderne, April 29, 1903.
[2] Münchener medicinische Wochenschrift, February 10, 1903.
[3] Lyon Médical, April 26, May 3, 1903.
[4] Jour. Med. de Bruxelles, 1903, Nos. 15, 16, 17.
[5] British Medical Journal, May 16, 1903, p. 1143.

lous disease of a joint, but in which on operation the trouble was found to be due to the presence of a nevus growing either directly on the synovial membrane or on the tendon of a neighboring muscle. [H.C.W.]

Thrombophlebitis.—J. Cnoph[1] relates the case of a child suffering from measles who was seized with clonic cramps of the left side of the body about the seventh day of the disease. This was followed by a paralysis of the left arm. Death occurred a few days later, and postmortem search revealed a suppurative thrombophlebitis of the longitudinal sinus. The kidneys and brain contained numerous embolic abscesses. [E.L.]

GENERAL SURGERY

MARTIN B. TINKER
A. B. CRAIG C. A. ORR

EDITORIAL COMMENT

Ingrowing Toe-nail.—This painful affection is almost always caused by an ill-fitting shoe. Pressure of the soft parts against the edge of the nail causes abrasion, irritation and redundant growth of these tissues. The condition is not truly an ingrowing of the nail but an overgrowing of the soft parts. The patient almost always makes the matter worse by cutting away the corner of the nail on the affected side. The outgrowing nail then acts as a wedge, wounding, abrading and irritating the skin pressed against it. The corner of the nail is again trimmed away, only to perpetuate the painful condition, after perhaps giving temporary relief. Infection more or less severe usually contributes added aggravation. The treatment naturally divides itself in to the palliative and operative procedures. The numerous methods advocated in the former suggests their usually unsatisfactory character. A palliative method which Wharton has found most satisfactory consists in cocainizing the ulcerated surface and with a curved probe introducing a pledget of cotton under the edge of the nail and a layer of cotton between the nail and the ulcerated surface. A mixture of tincture of benzoin and collodion is dropped on the cotton, and a narrow strip of adhesive plaster is wrapped around the toe. The dressing is changed at intervals of three or four days. The nail is not permitted to be trimmed until grown out flush with the end of the toe, and it is then cut square across, the corners being left as long as the central portion. In most cases, especially among dispensary patients, the better plan is to operate. Mere avulsion of a part or all of the nail should be condemned, as the matrix is left behind to reproduce the same or a worse condition. Anger's operation is satisfactory in most cases. It consists in transfixing the soft parts on the affected side at the level with the highest point of the matrix, and just grazing the bone. The knife is carried out, emerging at the end of the toe, and forming a lateral flap. This is now held aside and a strip of the nail and its matrix is removed. The flap is returned and secured by a few sutures. If careful antiseptic precautions are employed healing generally takes place promptly. Cotting's operation is more heroic and especially suited to badly infected cases. Briefly it consists in taking a broad slice, including soft parts, a strip of nail and its matrix from the affected side of the toe, and allowing the entire surface to heal by granulation. Whatever the operative procedure it should be thorough, else it is useless. Every vestige of the matrix supplying the removed portion of the nail should be taken away, to be sure of which one should remove the underlying soft tissues well above the apparent root of the nail. Operation should be done under cocain anesthesia, but the area should be infiltrated widely and thoroughly, after placing a compressing band around the toe to control hemorrhage and to limit the introduction of cocain into the general circulation.

[1] Münchener medicinische Wochenschrift, February 3, 1903.

REVIEW OF LITERATURE

Pancreatic Cysts.—C. Ehrlich[1] reports the cases of two individuals with pancreatic tumors, in both of which a diagnosis of cyst was made; in one case an endothelioma, in the other a sarcoma was discovered at autopsy and operation respectively. In the two cases the course of the disease was very much alike. Pain in the abdomen radiating toward the back was the first symptom, and this continued to a varying degree all through the disease. The discovery of the mass was the next sign, and with it came constipation, loss of appetite and strength. The patients soon had the appearance of cachexia. Abdominal examination revealed round immovable tumors the size of a man's head, with smooth surface and tense elastic consistency. The stomach and transverse colon lie in front of the mass and cover it in part when inflated. At the operation the tumors were found covered only by the abdominal wall and gastrocolic omentum. Puncture brought to light in both cases brownish bloody fluid, but incision of the tumor wall revealed in Case I the presence of a malignant growth instead of a cyst. None of the positive signs of a malignant growth could be said to have been present, but all of them pointed more to cyst than cancer. The pathologic examination in both cases was necessary to reveal the diagnosis, but it seemed as if the tumors had grown in both cases from the wall of the cyst; in the second case most likely during the period of after-treatment. The two points which are taught by these cases are: In cases of large nontraumatic pancreatic cysts in people of advanced years the possibility of malignant growths must not be lost sight of. In no case is an exploratory puncture to be recommended, as it contributes nothing to the certainty of a diagnosis, and by possibly flooding the abdominal cavity with the contents of a malignant tumor, can only make matters worse. [E.L.]

Surgical Treatment of Gastric Ulcer.—Mansell Moullin[2] says medical treatment of gastric ulcer, especially of the chronic form, should be replaced by surgical treatment. He confidently looks forward to the time when chronic ulcer of the stomach will as distinctly indicate operation as chronic inflammation of the appendix, and as early, if the object of the operation is to cure the patient. Of course, the treatment of ulcer of the stomach will always be more medical than surgical, but the patients which come to hospitals, especially with the chronic type of ulcers, are the ones demanding surgical intervention. From 1897 to 1902 there were admitted into the London Hospital just 500 patients suffering from gastric ulcer—98 men, 402 women; 48 (nearly 10%) of these died of peritonitis; 13 (2½%) from hematemesis; 28 (5.5%) from other causes, a total mortality of 89, or 18%. Were only the serious cases considered the mortality rate would be higher. Two hundred and eleven (42%) of the 500 cases, had suffered from one or more previous attacks. This shows that gastric ulcer relapses in at least two-fifths of the cases which are apparently cured, and many of those supposedly cured not infrequently suffer from strictures, stenoses, and gastric cancer. The author reports 15 cases on which he operated for active gastric ulcer. There were two deaths. The others are apparently cured. In acute ulceration there are only two imperative indications for operation, threatened perforation and hemorrhage. In three cases he has declined to operate, because death was imminent. In six of the operative cases transfusion was necessary. A single hemorrhage is rarely fatal. Nearly all stop if the stomach is given absolute rest. Should hemorrhage continue operation is, of course, indicated. Every case of chronic ulcer of the stomach, because it has become chronic, should be operated upon without further delay. The longer it lasts the worse it becomes, and the greater the liability to complications. The ulcer itself should be dealt with if found, and gastroenterostomy done only in those cases in which the ulcer cannot be dealt with or in which the ulceration is multiple. [A.B.C.]

The Distribution of Cancer.—D'Arcy Power[3] gives the details of two villages where deaths from cancer have appeared to be unduly numerous. They show the fallacies as well as the advantages of this method of examination because in one the increase in cancer is real, while in the other it seems only

[1] Münchener medicinische Wochenschrift, March 3, 1903.
[2] British Medical Journal, April 25, 1903.
[3] The Practitioner, May, 1903.

apparent. Power says parenthetically that on no account would he reside in either district unless he knew that his ancestral tree was absolutely free from even a suspicion of cancer. He believes it impossible to resist the conclusion that in the first district the marshy grounds from which the rivers arise, as well as their wooded banks, have some causal connection with the numerous cases of cancer which have been observed in their immediate vicinity. This is not improbable because the hypothetic cause of cancer has increased facilities for its work and growth in these surroundings. Attention is called to a series of cases of malignant disease in the same family or in different families in certain houses. Some of these series are no doubt accidental, but others are sufficiently marked to make it worth while to keep under observation the houses where they have occurred. Power, in commenting on the frequency with which a widow or widower dies of malignant disease when the husband or wife has previously died of cancer, says that this may point to some common factor in the joint lives of the sufferers that has allowed their decadent epithelial cells to run riot. [A.G.E.]

One hundred and ten cases of Strangulated Hernia.—William Thorburn[1] reports the series. There were males 57, females 53. Of the forms of hernia there were: Inguinal 55; femoral, 37; umbilical, 17; and ventral, 1. The mortality of herniotomy is estimated by Trevis at over 30%; by Ross and Carless about 35%. The writer's figures show a mortality of 24.54%. This he thinks about the average rate in hospital practice in England. Of the 27 deaths 9 were due to delay, leading to gangrene; 14 to delay, rendering the patients unable to bear the shock from autointoxication from intestinal obstruction, etc.; 2 were due to advanced age and mitral stenosis; 2 were the direct results of the operation *per se*. Of the 27 fatal cases the average age was 52 years, while of the 83 which recovered it was 41.7 years. Of the 10 infants operated upon all recovered. His method of operation varied from time to time. Drainage is seldom used. The herniated omentum is invariably removed. The intestine is reduced in doubtful cases. In 8 cases the gut was gangrenous, the intestine was merely opened, attached to the skin and the stricture relieved; of these 7 died. Two cases of inguinal hernia which had been reduced *en masse* were treated by median laparotomy. Both recovered. [A.B.C.]

Operative Treatment of Certain Lung Diseases.—G. Treupel[2] relates the case of a boy of 4½ years, with no hereditary tendency, who developed some disease of the lungs, after having for some days vomited after breakfast. The disease began at 2½ years of age. For several months distinct signs of abscess, respectively gangrene were present. Physical examination some time later revealed the presence of air and fluid in the region of the right upper and middle lobe. Instead of pus as expected, a puncture brought to light a sterile, serous fluid. Several weeks later the clinical picture left no doubt as to the presence of a pyopneumothorax, and puncture revealed a fetid, gangrenous exudate. This must have been due to spontaneous perforation of the lung. Resection of a rib with drainage was followed by complete recovery. [E.L.]

The Diagnosis of Epithelioma of the Mouth from Tertiary Syphilitic and Other Lesions.—Jonathan Hutchinson[3] speaks of the difficulties met with in these cases because from at least 30% of patients with epithelioma of the tongue a history of former syphilis can be obtained. Among the points to be considered are the site of the ulcer, the induration and the projection of its edges, and the examination of a scraping from its floor. The age of the patient and the condition of the cervical lymphatic glands furnish no help in diagnosis. The earliest epitheliomatous change in areas of leukoplakia are not easy to detect, but as soon as localized induration or papillomatous growth is recognized surgical interference is called for. Hutchinson's article is illustrated by many cuts of epitheliomas, gummas and leukoplakia. [A.G.E.]

Foreign Body in the Left Bronchus.—G. Speiss[4] reports the case of a woman, who in July, 1899, swallowed a small bone which produced no other symptoms during the next 18 months than bronchitis. About January, 1901, she became very hoarse and the expectorations more profuse and fetid. Laryngoscopic and tracheoscopic examinations were negative. Speiss then performed a tracheotomy, and through the tracheal fistula performed bronchoscopy. At the first examination he was able to discover the bone in the left bronchus, 2 cm. below the bifurcation, but it was not until the eighth treatment that he was able to extract it. Pus from a neighboring abscess constantly obscured the field. The patient recovered. The author insists that since Killian's method has proved itself so successful, it is criminal to adopt the expectant method in such cases. [E.L.]

Malignant Disease of the Stomach and Partial Gastrectomy.—B. G. A. Moynihan[1] holds that malignant disease of the stomach begins in the majority of instances near the pylorus below the lesser curvature; that from this point it spreads most rapidly and most widely in the submucosa; that the rate of growth toward the cardiac orifice is rapid, toward the duodenal side extremely slow, the duodenum being rarely affected extensively; that the tendency of the growth is to drift toward the curvatures. The author made a study of the lymphatics of the stomach. There are three chief areas. One along the lesser curvature from which the lymphatics pass upward and to the left into the coronary glands. The latter lie along the artery of the same name. At the celiac axis they become continuous with the glands along the upper border of the pancreas. The second area lies along the greater curvature, from which the lymphatics pass downward, and to the right into the glands along this curvature. They communicate with the pylorus and the head of the pancreas and the liver. The third group, termed by the author the "isolated area," comprises the greater tuberosity of the stomach, the lower end of the esophagus, and the area along the greater curvature. This latter area remains unaffected in the vast majority in cancer of the stomach. Therefore the author holds that in operating for cancer of the stomach we are justified in doing partial gastrectomy, leaving the fundus of the stomach with the attached esophagus, completely closing that portion of the stomach which remains and anastomosing the jejunum or duodenum thereto. He reports one case operated upon in the foregoing manner and although the disease had advanced far the patient lived almost one year after operation, there being no recurrence in the stomach, but metastatic growths in the lung and liver, showing the disease had spread beyond the stomach previous to the operation. [A.B.C.]

Congenital Partial Defect of the Clavicle.—K. Preleitner[2] reports the cases of a brother and sister who presented separation from the rest of the clavicle of both acromial ends. They were also placed lower than normal. The younger of the children could appose both shoulders without effort. In the absence of a history of traumatism the condition must be considered a congenital one. Braces to keep the shoulders back were ordered for the children. [E.L.]

Operative Treatment for Chronic Facial Paralysis of Peripheral Origin.—C. A. Ballance, H. A. Ballance and P. S. Stewart[3] report a series of six cases. The reported work consists in an attempt to deal with the uncured facial palsy of peripheral origin by performing an anastomosis between another nerve and the distal segment of the paralyzed facial. The rationale is based upon the conclusions arrived at in a work previously published by the authors, according to which regeneration occurs in the distal segment of the divided nerve even when separated from the central. Such regeneration, however, does not reach full maturity unless the distal segment is joined to the proximal so as to permit transmission of impulses between the nerve-centers and the periphery. The method of procedure was as follows: Having first found by galvanic stimulation that the muscle-fibers still survived in the paralyzed side of the face the facial nerve was exposed at its point of exit from the stylomastoid foramen. The nerve trunk was cut across as high up as possible, and the spinal accessory nerve was then exposed, its sheath incised, and into it the distal segment of the facial nerve was fixed by silk suture. After the healing of the wound the paralyzed muscles were assidu-

[1] British Medical Journal, April 25, 1903.
[2] Münchener medicinische Wochenschrift, February 3, 1903.
[3] The Practitioner, May, 1903.
[4] Deutsche medicinische Wochenschrift, February 19, 1903.

[1] British Medical Journal, April 25, 1903.
[2] Wiener klinische Wochenschrift, January 15, 1903.
[3] British Med. Jour., May 2, 1903.

ously stimulated by daily galvanism for months until faradic excitability reappeared, when faradism was substituted. In five of the six patients voluntary movements have already appeared in the paralyzed facial muscles, the nerve prior to the operation having been paralyzed for periods varying from five months to three years. In the sixth case only 4½ months have elapsed since the operation, and recovery is still anticipated. Their conclusions are as follow: Peripheral facial palsy is remediable by facioaccessory anastomosis, but the extent of recovery appears to be limited to associated movements in conjunction with the shoulder. In most cases the previous deformity disappears when the face is at rest. For reasons given in the article and practised in one case we recommend in the future, faciohypoglossal anastomosis rather than fascioaccessory. The cases suitable for operation are those in which the paralysis has lasted so long that no recovery is to be expected, say six months, without sign of recovery. In our opinion the sooner the operation is done after this date the better. A suppurative causal condition producing an effective neuritis renders the prognosis after operative treatment less favorable than in cases due to trauma. Their first operation with this end in view was in 1895. [A.B.C.]

Subcutaneous Paraffin Injections.—L. Moszkowicz[1] reviews the work done by his chief, Gersuny, during the last three years, in the line of subcutaneous paraffin injections for the correction of superficial deformities. When Gersuny began his injections, he used paraffin having a melting point of between 36° and 40° C., which passes cold through the finest needle, and never produces burns. In spite of many objections raised since, he has not seen any reason to use paraffin of higher melting points. It certainly is never absorbed, as proved by observations of all patients operated upon; neither is it proper to speak of any toxicity, as so many operations have been performed without any untoward results. Dislodgement of the paraffin may occur, but if the point of injection is protected from trauma during the first two weeks danger from this is reduced to a minimum. Lung emboli are also preventable by certain precautions, which he describes fully. The indications for the operation are saddle-nose, progressive facial hemiatrophy, scars, replacing of vesical and anal sphincters, prolapsus ani, uteri, vaginas, cleft palate, etc. Several photographs show the cosmetic results of the operation in cases of saddle-nose and facial hemiatrophy. [E.L.]

Interstitial Nephritis in Congenital Syphilis.—G. A. Sutherland and J. W. Walker[2] report two cases. The first was a female, aged 16 months, suffering from congenital syphilis. There were a number of symptoms, one of which was retention of urine; the latter being withdrawn was shown to contain albumin. Necropsy showed syphilitic arteritis of the left, middle, and anterior cerebral arteries, softening of the left frontal lobe, and acute interstitial nephritis. The second case was a female of 8 months suffering from congenital syphilis. Necropsy showed among other things a diffuse nephritis. Both cases presented a diffuse infiltration of the kidney cortex. The kidneys in both instances were fully developed and corresponded in no way to the condition of arrested kidney development described by Stoerck. The authors believe that syphilis plays a more important and frequent role in the etiology of nephritis in childhood than is commonly recognized. [A.B.C.]

Oxyuris Vermicularis as Cause for Acute Appendicitis.—In a soldier who had several attacks of abdominal colic, and was again suddenly taken with pain in the ileocecal region Rammstedt[3] removed the appendix because of constant tenderness, boardlike hardness, continuous fever, attacks of colic, and especially because of leukocytosis (26,000), which led him to suspect an appendiceal abscess. Instead he found injection of parietal and visceral intestinal peritoneum, but without exudate or adhesions. The congested appendix was kinked in two places and gave the appearance of stiff erection. It was found to be filled with some feces, and large masses of oxyuris vermicularis, the latter evidently the cause of the colic. [E.L.]

[1] Wiener klinische Wochenschrift, January 8, 1903.
[2] British Medical Journal, April 25, 1903.
[3] Deutsche medicinische Wochenschrift, December 18, 1902.

Observation of Intestinal Movements Through the Cystoscope.—Latzko[1] states that this is a comparatively common observation, and is not as Halban declared, due to adhesion of the intestines to the bladder wall. Before he is satisfied to consent to the latter statement, other symptoms must be noted in addition. Halban states, that in his own case, he is satisfied adhesions did exist, as he was not able to push the intestines away. He does not wish however to generalize the statement. [E.L.]

GYNECOLOGY AND OBSTETRICS

WILMER KRUSEN FRANK C. HAMMOND

REVIEW OF LITERATURE

Repeated Tubal Pregnancy.—Karl Reiffersdheid[2] reports two cases of repeated tubal pregnancy. In the first it is significant that two years before there had been an abortion with subsequent fever and pelvic inflammation and as a result many adhesions. Hence it is probable there were changes in the mucous membrane of the tubes, or through adhesions such angles in the lumen of the tubes, as to delay the passage of the ovum until it reached the stage of attachment ere it had escaped from the tube and hence developed therein. In the second case there had been two primary normal deliveries and at the time of the laparotomy for the first tubal pregnancy the left tube presented a normal appearance. But the writer concludes that the macroscopically healthy appearance of the tube does not exclude the possibility of such changes in the mucous membrane as would suffice to delay or hinder the passage of the ovum. In favor of this theory was the irregular course of menstruation, also the fact that there had been two previous abortions. In both cases gonorrhea was excluded. [W.K.]

Syphilis in the Mother and the Newborn.—Fr. Mracek[3] discusses this subject most exhaustively, and comes to the following conclusions: The earlier the fetus becomes infected the greater the existing danger for the same. In studying the question of the age of the maternal syphilis, whether postconceptional, during conception, shortly before conception, whether it be many years old, inveterate syphilis, probable syphilis, and undemonstrable syphilis, he concludes that in all events there is great danger to the life of the fetus. He found the placenta diseased in 9 of 11 cases in which syphilis of the mother was not demonstrable, a fact which is remarkable in relation to the question of the manner of the communicability from the father. The long-enduring transmissibility of the syphilis of the mother, and the deleterious effect upon the fetus, calls for energetic treatment. It is to be noted that there are cases of syphilitic mothers who have brought healthy children into the world, and who have escaped early abortions. [J.H.W.R.]

Dislocation of Frontal Bone.—A case of dislocation of the upper half of the frontal bone occurring parturition is reported by S. L. McCurdy.[4] The child was several months old when first seen by the writer and immediate reduction of the bone was considered unadvisable. The application of a spring band about the head with a pressure pad resting upon the frontal eminence was tried but accomplished very little in the way of reduction. The brain has apparently conformed to the cranium so perfectly that its functions are being properly performed, the child being bright, well-nourished, and in every way normal. [A.G.E.]

Carcinoma of the Ovary in a Girl of Fourteen Years.—D. P. Kusnetsky[5] reports an original observation in such a case. According to Olshausen primary ovarian carcinoma is not infrequently met with in early life. Usually the growth shows the socalled medullary form, while the scirrhus occurs chiefly in elderly individuals. The patient reported was a well-developed girl who had never menstruated. The symptoms were: Abdominal pain and a tumor the size of a very

[1] Wiener klinische Wochenschrift, December 18, 1902.
[2] Zentralblatt für Gynäkologie, May 30, 1903.
[3] Wiener klin. Wochenschrift, 1903, No. 18, p. 519.
[4] Pediatrics, June, 1903.
[5] Journal Akersherstra, etc., January, 1903.

large fist. Laparotomy was performed by the author and the tumor found to be the metamorphosed right ovary. The left ovary showed small tubercles on its surface and was enlarged to the size of a walnut. Both ovaries were removed. After a somewhat irregular postoperative period the girl finally recovered, and 22 months later the author could find no indication of a recurrence. Microscopic examination of the removed ovaries revealed medullary carcinoma in both. [L.J.]

TREATMENT

SOLOMON SOLIS COHEN
H. C. WOOD, JR. L. F. APPLEMAN

REVIEW OF LITERATURE

Pharmacologic Considerations Concerning Salicylic Esters.—Patients with rheumatic pains prefer to rub some irritant over the affected part rather than take internally a disagreeable medicine, such as the salicylates, and Dreser[1] therefore believes the external use of a salicylate which is absorbable by the skin is frequently a very important measure. The oil of gaultheria (methyl salicylate) has been used for some time with good results, but its strong odor is objectionable to many. Efforts have been made to replace the methyl of this combination with the higher homologs as amyl or ethyl. In order to penetrate the skin it is necessary that the remedy be soluble in fatty mediums, which all these preparations are. The promptitude of their absorption after entering the subcutaneous tissue is largely dependent on their comparative solubility in water and oils. Amyl salicylate is 46 times less soluble then methyl salicylate, and should therefore be absorbed more slowly, a conclusion which has been proved by experimentation. Methyl salicylate, however, has a much greater affinity for oil than for water. Thus if water saturated with oil of gaultheria is shaken with olive oil and the oil and water allowed to separate, the former will contain 2,000 times as much of the drug as the water. Methyl salicylate can therefore be absorbed by the blood from the fatty tissues only with slowness. In attempting to overcome these difficulties to the skin absorption of salicylic acid, Dreser prepared by the action of formaldehyd, methyl alcohol, and hydrochloric acid on salicylate of soda a methyloxymethyl ester of salicylic acid, to which has been given the commercial name of mesotan. This has an affinity for water $\frac{1}{38}$, that for oil as compared to $\frac{1}{2000}$ of the methyl ester. The local irritant influence of neither mesotan nor oil of wintergreen is sufficient to interfere with their local use, but if desirable, this may be lessened by olive oil. Dreser affirms that not only are the vapors of mesotan less penetrating than those of wintergreen, but they are absolutely less toxic. [H.C.W.]

The Anesthetic Action of Yohinbin.—Magniani[2] has discovered that yohinbin, which has achieved popularity as an aphrodisiac, possesses local anesthetic properties resembling those of cocain. It acts either when applied directly to the nerve or to a mucous membrane. In contrast to cocain, yohinbin produces local hyperemia rather than anemia. [H.C.W.]

Isarol, a Substitute for Ichthyol.—Goliner[3] has had very favorable results in the treatment of eczema and other skin diseases with isarol. This is a substance prepared from ichthyol and having a definite sulfur content. From the description it seems to have the same appearance and odor as ichthyol. What practical advantage it has over the older preparation aside from a cheaper price is not apparent. [H.C.W.]

A Case of Trional Poisoning.—J. Alksue[4] reports the case of a physician who intentionally swallowed nearly 30 grams (1 ounce) of trional. He slept four days after the dose. On the fourth day he received 2 mg. ($\frac{1}{30}$ grain) of strychnin beneath the skin every four hours, and after six injections was completely awake. The symptoms of poisoning were: Leaden hue of the face, contracted pupils, subnormal temperature, a pulse of 84, somewhat like the water-hammer pulse in quality and low of tension, respirations about normal in frequency, and claret-colored urine containing traces of albumin. The patient gave rational answers when roused from his stupor. [L.J.]

A Case of Salipyrin Poisoning.—Scharfe[1] reports a case of serious poisoning from two doses 1 gram (15 grains) each of salipyrin four hours apart, taken for the relief of migraine. The symptoms were collapse, face pale, lips bluish, hands cold, pupils dilated, respiration irregular and jerky, trismus and semiunconsciousness. The patient had completely recovered in 36 hours. [H.C.W.]

Engoform in Eczema.—Weil[2] has had excellent results from engoform in the treatment of eczemas, especially of a moist type. It is a grayish powder almost odorless, which is made by the action of formaldehyd on guaiacol. The parts are dusted with the powder most easily by means of a dry brush. [H.C.W.]

The Mechanism of the Action of Saline Purgatives.—McCallum,[3] as the result of experiments on rabbits, comes to the conclusion that the catharsis caused by the salines is due partly to increased peristalsis and partly to increased secretion. He found that they purged more quickly when injected intravenously than when given by the mouth, and therefore believes they act only after absorption, that their effects are central rather than local. Calcium chlorid prevents the action of the salines by inhibiting peristalsis, and is a rational remedy in nervous diarrheas. [We would point out that these results are not only contradictory to nearly all previous investigators but that it seems improbable that the salines act after absorption, since some of them, as magnesium sulfate, are deadly poisons when injected into the circulation. H.C.W.]

Thigenol.—Saalfeld[4] believes sulfur to be the most valuable remedy that the dermatologist possesses. The disadvantages of sulfur itself, however, have led to the use of various substitutes of which ichthyol may be mentioned as a type. The value of ichthyol is lessened by its unpleasant odor and the staining of the clothing it causes. Thigenol, which is a solution of sodium sulfite in a synthetic sulfuretted oil containing 10% of sulfur in organic combination, is a dark-brown fluid of syrupy consistence, without odor and almost tasteless, soluble in water, alcohol, and glycerin. The discoloration it leaves upon the skin and upon the clothing is unlike that of ichthyol, very easily washed off. Saalfeld has employed thigenol in 124 cases of various skin diseases. In eczemas of various types, in seborrhea, and in acne rosacea, the results were very pleasing. In sycosis vulgaris although it seemed to have a beneficial effect it is by no means a specific. In psoriasis it was usually not sufficiently energetic to be of much value. In scabies it had to be employed in very strong solution, from 70% to the pure drug. It may be used either in the form of a salve or in a wash, in strengths varying from 10% to 100%, according to circumstances. [H.C.W.]

The Antitoxic Effect of Over-saturation with the Chlorids.—Lesné and Richet[5] read before the Société de Biologie the results of experiments made upon dogs, showing the antitoxic effect of sodium chlorid. They found that if large quantities of this salt were given the amount of potassium iodid necessary to poison was four times as much as in the normal animal. With bromids, and also with the salts of ammonia, and even with cocain, the results were similar. In the light of these experiments it would seem advisable that when desired to get rapidly a full iodid effect the chlorids be withdrawn in the same manner which Richet has recommended to get the full bromid effect in epilepsy. [H.C.W.]

The Treatment of Grave Forms of Syphilis with Iodomercuric Cacodylate.—G. Löwenbach[6] reports 44 cases of severe types of syphilis treated in Neumann's clinic with the cacodylate of iodin and mercury. The treatment was always by means of injections into the gluteal muscles. They were found to be of especial service in cachectic, anemic patients with ulcerating and gummatous lesions in either the early or later stages of the disease. Prompt local healing and considerable improvement of the general health resulted, even in cases when other varieties of mercury produced no improvement

[1] Therap. Monatsh. 1903, xvii, 131.
[2] Medicin. Woche., 1903, iv, 96.
[3] Therap. Monatsh., 1903, xvii, 151.
[4] Voyenno-meditsinskii Journal, January, 1903

[1] Therap. Monatsh., 1903, xvii, 164.
[2] Medicin. Woche., 1903, iv, 176.
[3] University of California Publications—Physiology, 1902, Vol. i, p. 5.
[4] Therap. Monat., 1903, xvii, 199.
[5] Med. Woch., 1903, iv, 223.
[6] Wiener klinische Wochenschrift, February 26, 1903.

whatsoever. The next best results were obtained in polymorphous eruptions of the early stage and in late papulosquamous and lichen eruptions. Combinations of syphilis and psoriasis seemed to yield very quick returns. In light types of the disease, especially when occurring in healthy young adults, the drug is productive of very little benefit. [E.L.]

The Intravenous Administration of Drugs.—Mendel[1] lauds very highly the intravenous method of introducing certain drugs into the system. Contrary to the general belief, he asserts that if practised with care it is quite without danger; in the hands of the beginner he thinks the hypodermic injection more perilous than the intravenous. The danger of air embolus has been very much exaggerated and is easy to guard against; the possibility of septic infection, with ordinary care as to cleanliness, is very remote, on account of the powerful bacteriologic action of the blood. Perhaps the greatest danger is the formation of thrombi, either from the injection of substances which coagulate the albumin of the blood, or from the contact of irritant fluids which injure the endothelial lining of the vein and lead to secondary clotting at the point of injury. These dangers may be avoided by the proper selection of remedy and care in its introduction. The advantages he asserts for the method are the avoidance of painful sequels, the accuracy of dosage, and the promptness of action. The technic he employs is simple: The needle should be sterilized by boiling, the syringe may be rinsed out with boiled water, and should be used only for the injection of the one fluid. The arm is cleansed and a rubber band tied above the elbow to prevent the venous flow, when the median basilic vein at the bend of the elbow usually stands out prominently. If it does not, a vein on the inner side of the forearm takes its place. The syringe and needle, entirely free from air bubbles, is inserted into the vein. If a column of blood does not appear in the syringe the piston should be drawn back a little until the blood is seen in the syringe as a proof that the needle is within the vein. The medicine is then injected slowly into the vein, pressure made over the spot by a piece of cotton as soon as the needle is withdrawn and the ligature subsequently removed. [H.C.W.]

Quinin as a Cause of Blackwater Fever.—Ross and Low[2] report an interesting case showing the possibility of quinin causing hemoglobinuria. The patient while resident in South Africa developed malarial fever, for which, on several occasions he took quinin without bad effects. After using the drug intermittently for some months as a prophylactic, a .7 gm. (10 grains) dose was one day followed by black urine, with vomiting and purging. This occurred twice previous to his return to London. In a hospital in this city, with the patient's consent, an experiment was made to determine positively whether the quinin was the cause of the urinary disturbance. His blood count before the administration was: Red cells, 3,635,000; hemoglobin, 65%; the urine was clear. At 9 p.m. he was given .7 gm. (10 grains) of quinin. At 1 a.m. he awoke with nausea and diarrhea and passed a large quantity of black urine. The urine cleared by morning. It contained one-third by bulk of albumin and tube-casts, and examined spectroscopically showed the bands of methemoglobin. The blood count fell to 3,000,000, hemoglobin 57%. [H.C.W.]

The Treatment of Tabes.—René Verhoogan,[3] in discussing the mercurial treatment of tabes, states that in his opinion it is not necessary to use the intense mercurial treatment to obtain the best results, and cites a case in which Sirop de Gibert, made by dissolving .2 gram (3 grains) of the red iodid of mercury and 102 grains of potassium iodid in 90 cc. (3 fluidounces) of water, filtering and adding syrup to 300 cc. (10 fluidounces), was given over a period of four years, with but few interruptions, and without any unpleasant symptoms. Under its influence the constipation became less pronounced, vesical incontinence disappeared, the gait was less ataxic, sensation on the sole of the foot returned, and the fulgarant pains disappeared. The reflexes remained unchanged, as is true of all the observations hitherto published. If for some reason the intense treatment is undesirable, one has recourse always to the prolonged treatment. [J.H.W.R.]

[1] Therap. Monat., 1903, xvii, 177.
[2] British Medical Journal, May 16, 1903, p. 1139.
[3] Journal Méd. de Bruxelles, 1903, No. 17, p. 257.

Drug Eruptions.—Pernet[1] divides drug eruptions, not by the poisons which caused, but according to the character of the skin lesion.

1. *Erythematous*, *papular*, and *urticarial* eruptions from the first group. They may be caused by atropin, arsenic, quinin, copaiba, or antipyrin, by chrysarobin, mercury or iodoform locally, and occasionally by a number of other drugs. The diagnosis is often difficult. From scarlet fever the differentiation is made chiefly by the mode of onset, the examination of the urine and the absence of corroborative symptoms. Multiformity of lesions is rather in favor of drug origin. The existence of any disease likely to be treated by one of the above mentioned drugs as gonorrhea (copaiba) or headache (antipyrin) should make the practitioner bear in mind the possible toxic origin of the skin lesion.

2. *Vesicular* and *bullous* lesions may be caused by antipyrin, quinin, arsenic, salipyrin, or the salicylates, and less frequently by morphin, chloral or mercury. Iodids may sometimes cause bullas, but rarely unmixed with pustules.

3. *Pustular* eruptions are most commonly due to bromids or iodids. The bromid rash has frequently been mistaken for syphilis. In making the diagnosis it must be remembered that bromids are taken for many conditions, and are found in a number of proprietary remedies, so that the history is unreliable.

4. *Purpuric* rashes may be caused by the drugs mentioned in paragraph 1. The diagnosis must be made largely by exclusion.

5. *Pigmentation.* Arsenic may cause a dirty brownish deposit on parts of the skin not exposed to the air. The belief that this is more common in blondes is fallacious. The coaltar antipyretics have also been known to give rise to permanent deposit of pigment. The blue discoloration caused by prolonged use of silver is well known. [H.C.W.]

Enteroclysis in Acute Alcoholism.—Forster[2] reports a case of a child of 4 who had taken two ounces of raw whiskey, in which life was apparently saved by the injection of a pint of warm normal salt solution into the rectum. The case is interesting as showing the possibility of absorption from the rectum even in cases of marked collapse. [H.C.W.]

THE PUBLIC SERVICE

Health Reports.—The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended July 11, 1903:

SMALLPOX—UNITED STATES.

			Cases	Deaths
California:	Fresno	June 1-30	7	
	Stockton	June 1-30	4	
Colorado:	Denver	June 6-20	15	
Georgia:	Atlanta	June 24-July 1	2	
Illinois:	Belleville	June 27-July 4	6	
	Chicago	June 27-July 4	11	
Indiana:	Elwood	June 28-July 5	3	
Iowa:	Des Moines	June 27-July 4,	3	
Kentucky:	Lexington	June 27-July 4	1	
Louisiana:	New Orleans	June 27-July 4	1	
Maryland:	Baltimore	June 27-July 4	1	
	Cumberland	May 1-June 30	45	6
Massachusetts:	Fall River	June 27-July 4	1	
	New Bedford	June 29-July 6	1	
Michigan:	Detroit	June 27-July 4	5	1
	Flint	June 27-July 4	1	
	Grand Rapids	June 27-July 4	1	
	Port Huron	June 27-July 4	5	
Minnesota:	Winona	June 27-July 4	1	
Missouri:	St. Louis	June 21-July 5	7	
Montana:	Helena	June 1-30	1	
New Hampshire:	Manchester	June 27-July 4	7	
New York:	Elmira	June 27-July 4	1	
Ohio:	Hamilton	June 27-July 4	1	
	Toledo	June 27-July 4	1	
Pennsylvania:	McKeesport	June 27-July 4	2	
	Philadelphia	June 26-July 3	30	8
	Pittsburg	June 20-July 4	46	9
			Two cases imported.	
South Carolina:	Charleston	June 27-July 4	8	
	Greenville	June 20-27	1	
Tennessee:	Nashville	June 27-July 4	1	
Utah:	Salt Lake City	June 21-27	7	
Washington:	Tacoma	June 22-29	1	

[1] British Medical Journal, May 16, 1903, p. 1131.
[2] British Medical Journal, May 16, 1903, p. 1142.

SMALLPOX—INSULAR.

Philippines:	Manila.....May 8-16.....	6	

SMALLPOX—FOREIGN.

Belgium:	Brussels.....June 13-20.....		7
	Liege.....June 6-13.....	1	1
Brazil:	Rio de Janeiro.....May 31-June 14...		12
Canary Islands:	Las Palmas.....June 6-13.....	9	
Chile:	Antofogasta.....May 1-31.....		3
China:	Hongkong.....May 20-27.....	2	
Colombia:	Bocas del Toro.....June 17-24.....		2
Great Britain:	Birmingham.....June 13-20.....	1	
	Dublin.....June 13-20.....	9	3
	Leeds.....June 20-27.....	10	
	Liverpool.....To June 20.....	24	2
	London.....June 13-20.....	16	
	Manchester.....June 13-20.....	3	1
India:	Bombay.....June 2-9.....		24
	Calcutta.....May 30-June 6.....		2
	Karachi.....May 30-June 7.....		1
Mexico:	Coatzacoalcos.....June 20-27.....	1	
	Tampico.....June 20-27.....		1
Russia:	Moscow.....June 6-13.....	3	2
	St. Petersburg.....June 13-20.....	35	2
	Warsaw.....May 31-June 6.....	6	
Turkey:	Constantinople.....June 14-21.....		1

YELLOW FEVER.

Alabama:	Mobile.....July 3.....	1	
	On S. S. Mount Vernon, from Limon, July 4. Death of case occurred at Gulf Quarantine, Ship Island.		

YELLOW FEVER—FOREIGN.

Ecuador:	Progreso.....June 20-27.....	1	
Mexico:	Guayaquil.....June 6-13.....		1
	Tampico.....June 13-20.....	37	23
	Tampico.....June 20-27.....		39
	Vera Cruz.....June 20-27.....	20	8

CHOLERA—INSULAR.

Philippines:	Manila.....May 8-16.....	66	58
	Provinces.....May 8-16.....	358	245

CHOLERA—FOREIGN.

India:	Bombay.....June 2-9.....		1
	Calcutta.....May 30-June 6.....		35
	Karachi.....May 31-June 7.....		1

PLAGUE—INSULAR.

Philippines:	Manila.....May 8-16.....	8	8

PLAGUE—FOREIGN.

Africa:	Cape Colony.....May 10-16.....	6	
China:	Amoy.....May 9.....		50
		Daily.	
	Two Kwangs.....May 12.....	Increasing.	
India:	Bombay.....June 2-9.....		229
	Calcutta.....May 30-June 6.....		11
	Karachi.....May 31-June 7.....	43	35
Japan:	Nagasaki.....May 21-31.....	1	1
	Yokohama.....May 23-30.....	3	3

Changes in the Medical Corps of the U. S. Army for the week ended July 11, 1903:

MASON, Major CHARLES F., surgeon, leave granted for seven days is to take effect upon the adjournment of the board of medical officers.

KENDALL, Major WILLIAM P., surgeon, is granted leave for ten days from about June 30.

WHITCOMB, Lieutenant CLEMENT C., assistant surgeon, leave granted June 26 for seven days is extended ten days.

ARTHUR, Major WILLIAM H., surgeon, is granted leave for six days.

DUVAL, First Lieutenant DOUGLAS F., assistant surgeon, will report to Major Louis A. La Garde, surgeon, president of the examining board at the Army Medical Museum building, Washington, D. C., for professional examination and physical reexamination for promotion.

HENDERSON, Sergeant first class JOHN L., Fort Egbert, Alaska, will be discharged from the Army, under the provisions of paragraphs 157 and 158 of the regulations, by the commanding officer of his station.

LOTHROP, Sergeant first class JAMES N., Army General Hospital, Presidio, is transferred to Fort Liscum, Alaska, to relieve Sergeant first class Milton T. Esterly. Sergeant Esterly will proceed to Fort McDowell for duty with company of instruction No. 2, hospital corps.

HENDERSON, First Lieutenant ALBERT B., assistant surgeon, is granted leave for one month and ten days on surgeon's certificate, to take effect about July 10.

WINTER, Captain FRANCIS A., assistant surgeon, is granted leave for ten days, with permission to apply for an extension of twenty days.

EDIE, Major GUY L., surgeon, is detailed to attend the encampment of the Ohio National Guard at Newark, Ohio, from August 17 to 24.

CORBUSIER, Major WILLIAM H., surgeon, is relieved from duty at Fort Crook, to take effect at such time as will enable him to proceed to San Francisco, Cal., and report for transportation to the Philippine Islands on the transport to sail from San Francisco August 1. Upon his arrival at Manila Major Corbusier will report to the commanding general, division of the Philippines, for assignment to duty.

KEEFER, Major FRANK R., surgeon, is relieved from duty at Fort Meade, to take effect at such time as will enable him to proceed to San Francisco, Cal., and report for transportation to the Philippine Islands on the transport to sail from San Francisco September 1. Upon his arrival at Manila Major Keefer will report to the commanding general, division of the Philippines, for assignment to duty.

POLHEMUS, Major ADRIAN S., and GANDY, Major CHARLES M., surgeons, are relieved from duty in the division of the Philippines, to take effect at such time as will enable them to proceed on the first transport to sail after September 1 from Manila to San Francisco, Cal., where they will report by telegraph to the adjutant-general of the Army for further orders.

BORDEN, Major WILLIAM C., surgeon, is granted leave for one month and fifteen days, to take effect about July 17.

WILLIAMSON, First Lieutenant LLEWELLYN P., assistant surgeon, is relieved from further duty at Jefferson Barracks and will proceed to San Francisco, Cal., and report for assignment to temporary duty at the U. S. General Hospital, Presidio of San Francisco, Cal.

RUTHERFORD, First Lieutenant HENRY H., assistant surgeon, is relieved from further duty at the U. S. General Hospital, Presidio, and will proceed to Fort Mackenzie for duty.

FOSTER, CHARLES L., contract surgeon, now in Washington, D. C., will proceed to Fort Myer for duty.

CHAMBERS, WILLIAM H., contract dental surgeon, is detailed to represent the dental corps of the Army at the annual meeting of the National Dental Association to be held at Asheville, N. C., July 28 to 31.

CABLE, GEORGE L., contract surgeon, leave granted is extended fourteen days.

BROWN, HENRY D., contract surgeon, is relieved from duty in the division of the Philippines and from temporary duty at the Presidio for assignment to duty with the Second Battalion of the Nineteenth Infantry, and to accompany that battalion to Vancouver Barracks, where he will report to the commanding general, department of the Columbia, for assignment to duty.

DEVEREUX, First Lieutenant JOHN R., assistant surgeon, is relieved from further duty at Fort Snelling and will proceed to Fort Meade for duty, to relieve Major Frank R. Keefer, surgeon, in time to enable him to comply with his orders for the Philippine Islands.

MARROW, First Lieutenant CHARLES E., assistant surgeon, is relieved from further duty at Fort Sheridan and will proceed to Fort Crook for temporary duty.

LA GARDE, Major LOUIS A., surgeon, is granted leave for one month, with permission to apply for an extension of three months, to take effect about July 15.

Changes in the Medical Corps of the U. S. Navy for the week ended July 11, 1903:

SUTTON, R. L., assistant surgeon, detached from Naval Hospital, Washington, D. C., and ordered to Baltimore, Md., for special temporary duty—July 3.

KOHLHASE, O., assistant surgeon, ordered to Naval Hospital, Mare Island, Cal.—July 3.

RENNIE, W. H., assistant surgeon, ordered to Naval Hospital, Naval Home, Philadelphia, Pa.—July 3.

SMITH, W. B., assistant surgeon, ordered to Naval Hospital, Pensacola, Fla.—July 3.

WOODWARD, J. S., and DESSEZ, P. T., assistant surgeons, ordered to Naval Hospital, Navy Yard, Washington—July 3.

MANCHESTER, J. D., assistant surgeon, ordered to Naval Hospital, Navy Yard, Boston, Mass.—July 3.

GEIGER, A. J., BOEN, W. S., assistant surgeons, ordered to Naval Hospital, Navy Yard, Norfolk, Va.—July 3.

RYDER, C. E., RANDALL, J. A., assistant surgeons, appointed assistant surgeons, with rank of lieutenant, junior grade, from June 26, 1903—July 3.

MILLER, J. T., acting assistant surgeon, ordered to Navy Yard, Mare Island, Cal.—July 3.

TYREE, F. W., acting assistant surgeon, appointed acting assistant surgeon with rank of lieutenant, junior grade, from July 1, 1903—July 7.

DICKSON, S. H., medical inspector, granted leave for three months—July 9.

PLUMMER, G. R., acting assistant surgeon, appointed acting assistant surgeon with rank of lieutenant, junior grade, from July 1, 1903—July 9.

HARRIS, H. N. T., surgeon, detached from Glacier and ordered home to wait orders—July 8.

WIEBER, F. W. F., detached from Naval Academy and ordered to wait orders—July 8.

Changes in the Public Health and Marine-Hospital Service for the week ended July 9, 1903:

GASSAWAY, J. M., surgeon, leave of absence granted for two days from June 28 amended so as to be effective from July 5—July 3, 1903.

STONER, G. W., surgeon, to proceed to Richford, Vt.; Malone, Niagara Falls, and Buffalo, N. Y.; Montreal, Canada; Port Huron, Detroit, and Sault Ste. Marie, Mich., for special temporary duty—July 8, 1903.

DECKER, C. E., assistant surgeon, granted extension of leave of absence, on account of sickness, until July 15—July 7, 1903.

TROTTER, F. E., assistant surgeon, granted leave of absence for seven days—July 6, 1903.

MCLAUGHLIN, A. J., assistant surgeon, assigned in charge of miscellaneous division, Bureau of Public Health and Marine-Hospital Service—July 8, 1903.

ROBERTSON, H. MCG., assistant surgeon, granted leave of absence for five days—July 3, 1903.

CHANDLER, R., acting assistant surgeon, granted leave of absence for eight days from July 18—July 8, 1903.

CLEAVES, F. H., acting assistant surgeon, granted leave of absence for twenty-three days from July 6—July 2, 1903.

PRIMROSE, R. S., acting assistant surgeon, granted leave of absence for ten days—July 2, 1903.

WIGHTMAN, W. M., acting assistant surgeon, granted extension of leave of absence for one week from June 26—July 2, 1903.

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PUBLISHED WEEKLY AT 1321 WALNUT STREET PHILADELPHIA BY THE AMERICAN-MEDICINE PUBLISHING COMPANY

VOL. VI, No. 4. JULY 25, 1903. $5.00 YEARLY.

The Diagnosis of Pope Leo's Case.—Drs. Lapponi and Mazzoni have been criticised for not having discovered the existence of pleural effusion earlier than they did. It is easy for those that do not know the difficulties attending the diagnosis of pleurisy to condemn these two most competent physicians; but anyone that has had experience with pleural effusion knows that it sometimes simulates pneumonia so closely that it is almost impossible to differentiate it from the latter without recourse to exploratory puncture. When the two affections are combined, and both are atypical, as they would naturally be in a feeble man of Pope Leo's advanced age, the diagnostic difficulties are exceedingly great. Under the circumstances, we feel that high credit is due to the Pope's physicians for their skill in managing their case in sight of the whole world. We may add that it is only just to record commendation of the reasonably scientific reports that have come from the Vatican during the illness of Pope Leo. The accounts were interesting and instructive for the medical, as well as for the lay reader. The physicians spoke frankly, and did not seem to desire to surround the case with impenetrable secrecy. Such details as were given bore the stamp of medical authority and gave proof of having been cabled by journalists of more than average conscientiousness and ability.

Nonimmunity after Many Nontaking Vaccinations.—We recently published a number of interesting reports concerning the number of times one should continue unsuccessful revaccination. A striking illustration of the fact of the wide range of idiosyncrasy, and of a decidedly practical character also has lately occurred in Philadelphia—the case of Dr. Stanton. He had, it is reported, been revaccinated at least 24 times during the past year, but all were resultless so far as producing the typical reaction. Dr. Stanton thought himself justified in holding himself immune, and yet he was seized with smallpox and died week before last. It may be that science is incapable of solving such a mystery at present, but in view of the large number of similar cases, of which we have published reports, it would at least seem that our leading pathologists and bacteriologists should state some rule for the guidance of practitioners. For example, should a person, and especially a physician, be considered immune after 24 unsuccessful vaccinations within a year, or should he continue to be vaccinated all his life, and if so, how often—so long as there is no take? We invite the expression of professional opinion upon this important subject.

The Consent of the Patients or Relatives to Operation.—It appears perfectly reasonable to demand that an amputation or other serious operation should not be performed except with the expressed consent of the patient. True, in many cases the patient is the very worst judge as to whether an amputation should be performed or not, and in most cases the best interests of the patient, so far as his bodily well-being is concerned, would be served if the advice of the physician or surgeon were accepted. But anyway the responsibility lies entirely with the patient to adopt or refuse expert advice, and if the patient is satisfied the profession has no reason to object. Almost equally reasonable does it appear that the right to give the consent to an operation should be vested in the next of kin if the patient himself, owing to unconsciousness, delirium or other effective causes, is not in a fit condition to give or withhold such consent. We say that this provision appears "almost as reasonable," because the patient, after the operation and subsequent recovery, might have cause, just or imaginary, to find fault with those through whose consent he finds himself minus a leg or arm. But that again is not the surgeon's business, hence the practical congruity of the two provisions.

Consent to Operation during Temporary Aberration and after Accidents.—The case, however, is complicated when a patient becomes mentally incapacitated just at or about the moment when his consent is requested, and it is practically impossible for the surgeon to determine whether the consent was legally given or not. If he performs the operation will he be responsible for the result (*a*) to the patient for the lost member, if he should survive; (*b*) to the relatives, widow, etc., should he die? The surgeon's predicament becomes greater still in cases of accident. Take that of a person whose injuries, in the opinion of the hospital surgeon, require immediate amputation of a leg. At the same time the person is unconscious and his consent, therefore, not obtainable. The injured person is totally unknown to those in charge, nor is there any letter or document in

his pockets by which communication with his relatives might be established. The surgeon diagnoses the case as one for immediate action with the alternative of certain death. Here again he finds himself between two stools. Should he follow the dictate of his conscience, perform the amputation, and thereby run the risk of being held financially responsible for the loss of the member, if the patient recovers, or should he delay the operation until the consent of as yet unknown relatives has been obtained and thereby lay himself open to the blame of having caused, or at any rate not having tried to prevent the person's death? An even more serious aspect of the case confronts us, if the surgeon, perhaps an inexperienced young man, actually commits a mistake in diagnosing the case as one requiring immediate amputation, while a more experienced operator would have seen that the employment of less heroic measures, such as stopping the flow of blood at the right point, application of ice, asepsis and antisepsis, etc., might have been sufficient to prolong the patient's life long enough to enable him to regain consciousness and give his consent to the operation. Here is a case in point. During the Austrian war in 1866 an officer was shot through the leg, dragged by the horse for a considerable distance with one foot in the stirrup, and totally unconscious—in fact, at the point of death—when the surgeon decided to amputate one leg. The commanding officer, an uncle of the wounded man, happened just then to enter the field hospital, and on learning the facts of the case asked the surgeon whether he honestly thought that that amputation would save his nephew's life. "No," the surgeon replied, "in my honest opinion there is nothing to save this man's life." "Then," was the decision, "let him die with his leg." The man, however, did not die, but lives today to tell the tale, with both his legs hale and hearty, while the amputation would in all probability have killed him.

Unscrupulous Litigants.—While it is undoubtedly a most lamentable thing for a man to lose his leg or other member of his body, and while it is undoubtedly still more unfortunate to lose such member through the incompetency of the operating surgeon, it must be recognized that the surgeon, competent or otherwise, has acted to the best of his knowledge, experience, judgment and skill, and more than that should not reasonably be expected of any man. Furthermore, it is bad enough if a surgeon is made the defendant in a bona fide case for damages of this description, but what protection is there for him against trumped up cases brought into court by unscrupulous litigants? If the surgeon is a financially substantial man, he is in the opinion of the unscrupulous worth "going for." A lawyer of similar ilk is soon found who is willing to fight the case for half the damages which may be awarded, without any expense to his client. Even if defendant should win the case, which may possibly only happen after appeal the matter will have cost him a considerable amount of money, quite apart from the constant worry and annoyance to which he will have been subjected during the time of the proceedings which may have occupied years. It should be clear to every thinking and impartial man that it is positively unfair to expect a surgeon to run any such risks as we have set forth. Steps should therefore be taken to introduce a law stating in absolutely clear and unequivocal terms, under what circumstances a surgeon is permitted to perform an operation without the consent of the patient or his next of kin.

Begging Cripples Should be Banished from the Streets.—If one who has just given alms to a cripple-beggar in the streets, and who is therefore beaming with virtuous self-satisfaction, should be told, "You are a criminal," the satisfaction would be turned to indignation as great and as virtuous. Yet an aider and abettor of crime, and hence a criminal, is such an almsgiver. In Brooklyn recently five notorious professional beggars were arrested, photographed, and measured for the rogue's gallery. The shooting of Superintendent MacFarlane encouraged these wretches so much that they defied the police. Four of the five lacked a leg, and the fifth was the most expert of "thrower-outs." A "thrower-out" is one who imitates paralytics so well as to fool even physicians. Such fellows are believed to be important accomplices of safe blowers and burglars in small cities and towns. While begging, the cripple gets acquainted with all the details of the place to be robbed. Then he disappears with his companions who have done the actual work of housebreaking, thieving, etc. "Andy," the Jersey Swede, is the most successful beggar of the five rogues arrested, attracting attention by his size. Kneeling on his one good leg, with the stump of the other sticking pitifully out, he stands so high that he catches the eye, and his appearance is such as to give the impression of one used to better things, but reduced to poverty entirely by misfortune. It is a pity that "Earl Williams," "Pekin Eddie," "Denver Curly," "Wheeling Sticks," and "Baltimore Blue," were not also caught. In Philadelphia the police cannot be moved to do anything with these criminals, while in Chicago they go into copartnership with them. The following is said to be the price paid for protection of criminals in that city:

A "dip" (pickpocket), $10 a day.

A "peterman" (safe-blower), $50 a day when working.

A "hold-up man," $25 a day.

A "con" man, $20 a day and 10% of the graft.

A burglar, no set price; depends on the class of work done.

Work of the United States Division of Entomology.—According to Dr. Howard, the chief of the division, insects injure the agriculture of the United States to an extent of more than $300,000,000 annually, and it is further estimated that were it not for the continued investigations and suggestions of economic entomologists, this money loss might any year reach the sum of $450,000,000 to $500,000,000. The appropriation for the division is now nearly $100,000, and 25 scientific experts are employed. Insects injurious to cotton, sugar-cane, tobacco, fruits, vegetables, forests, stored products, etc., are systematically studied. The Mexican cotton ball weevil is said to have caused a money loss of about $75,000,000,

during the past three years, and this can probably be entirely prevented. The chief relation of the division to medicine is in its investigations of insects in relation to diseases of man and other animals, and as animal parasites. The enormous importance of mosquitos in relation to malaria and yellow fever, and of flies to typhoid, has drawn attention to this phase of work, which in future should yield most valuable results.

"Substitution" in the wine business is an old story, but some revelations recently given by the *Lancet* show to what length scamps will go in the criminal use of wellknown names. One cannot have the sympathy for "the wine bibber" in this matter that he must have for the poor and the rich also, in their endeavors to get rid of adulteration in foods. The label, "St. Julien," or "Medoc," or any other, has no longer, of course, any significance whatever, and as to the testimony of corks, are they not proverbially lighter than water, and therefore lighter than wine? If one wishes to make "Bordeaux," or "Burgundy," "Madeira," "Malaga," "Port," or indeed any other brand, said to be "indistinguishable from the original," and at a fraction of its expense, he can easily obtain the recipes, also very cheap. But the *Lancet's* revelations will be a shock to champagne drinkers who, unless their purveyors are honest and have bought direct from the wellknown champagne firms, will learn that they may have paid enormous profits to the fraudulent artificers. The following are the directions for:

"*Champagne liqueur.* Boil eight and three-quarter pounds of the finest loaf sugar with one gallon of water, add gradually while the water is boiling half gallon of alcohol of 90% and then filter the mixture." "The above liqueur is added to all the following compounds." (We reproduce them literally to show the disgraceful use made of the names of certain well-known champagne firms.) "*Chandon et Moet* (*Green Seal*). Mix the above liqueur with seven and a half gallons of white wine and one quart of Cognac." "*Louis Röderer* (*Green and Bronze Seal*). Mix the champagne liqueur with seven and a half gallons of white wine, one bottle of Cognac and four drops of sulfuric ether dissolved in Cognac." "*Heidesick et Cie* (*Sealed with Tin-foil*). Mix the champagne liqueur with seven and a half gallons of white wine and three quarters of a pint of Cognac." The next one is very interesting. "*Lemberg Geldermann et Deittz* (*Sealed with Tin-foil*). Mix double the quantity of champagne liqueur with seven and a half gallons of white wine and three-quarters of a pint of Cognac in which two roots of celery carefully cleansed have been previously digested for four hours."

Killing the medical profession will, of course, in the long run prove an expensive and suicidal policy on the part of any government or people, but in Austria the fact is already becoming manifest. Like so much socalled "charity," indeed like all thoughtless charity, the evil of "protection of the laboring man" may be more ruinous than an entire let-alone policy. The Austrian Government has about killed the profession by its socialistic laws, and young men are now solemnly warned against entering upon medical study. The country does not support good physicians, and in the cities, as Vienna, one-third are taken from private practice by the Krankenversicherung, and its underpaid employes. Quackery is of course enormously increasing. It is said that 20,000 communities, or 86% of all, are so poor that they cannot afford regular physicians, and 30% of the dead (in Galicia 75%) are buried without medical certificate. Yet, while there is such need of doctors, the number of medical students is decreasing at a surprising rate. Of every 1,000 students in the Austrian universities this year only 132 are in the medical departments. The total number of medical students is only 2,120 as against 5,277 in 1888–89, a decrease of about 60% in a little over a decade.

A new advertisement scheme is evolved at least every week. For some time past manufacturers and dealers of drugs have been pestered with circulars and letters setting forth the advantages of membership in a cooperative association of enterprising manufacturers, physicians, and chemists. At least 26,000 physicians are said to belong to the association and to "indict articles" or clinical reports on any proprietary preparation desired. The publication of an article is guaranteed if the preparation is advertised in the journal, and the enterprising association is "in touch" with almost every medical publication worthy of notice in the United States. Manufacturers will be furnished with reprints of the articles on their products written by "eminent practitioners." The membership fee for the manufacturer is $10, but physicians are welcomed to membership free. The last move of the association is to publish its own journal with "pages of special reading notices," to be inserted free of charge. Strangely enough, if one may believe the letters and names quoted, several manufacturers have accepted membership who should have had more business cunning, even if the question of morality and decent journalism were left out of the count. When they realize the true nature of the plan they will doubtless withdraw, because, of course, advertising in this way will do any honorable manufacturer far more harm than good. Association with firms who pursue such business methods at once stigmatizes the character of the preparation and of the advertiser who stoops to such methods. A schemer who claims that 26,000 American physicians have adopted such slimy methods of drug-puffery and reading-notice journalism surely knows as little of the profession as of manufacturers. The "M.D., M.E., Ph.D.," "Specialists," "Professors," "Presidents," etc., etc., describe themselves also as "Physio Medicals," one as professor in a "Chem. Electic," another simply in an "Eclectic" Medical College. Will some one instruct us as to what "Physio Medicalism" is?

Arsenic as a Poison.—Arsenic is a pentad element which, like antimony, destroys life by causing violent internal inflammation. Its most frequently used compound is the trioxid or "white arsenic" which is well known in the form of a white powder. This powder possesses a very peculiar physical property. When sprinkled on water it floats, although its weight is about three-and-a-half times that of the corresponding bulk of the fluid on which it rests. This unique property has been brought under notice in medicolegal investigation. A number of persons had been poisoned by tea made with water from a kettle into which arsenic had been introduced. Those who drank of the tea made

with the water first poured from the kettle died; those who partook of that made with the later pourings from the same kettle escaped. Counsel for the accused pointed out that, as arsenic was a heavy substance, it would have sunk to the bottom of the kettle at once; and that, accordingly, if the accusation were grounded on fact, those who partook of the tea last made should necessarily have been the victims. However, the chemical expert for the prosecution satisfied the jury by making, in their presence, the experiment of sprinkling white arsenic on water. But arsenic is neither a subtle, nor a rapidly-acting poison. Accordingly, the mysterious powers attributed to the famous "Aqua Toffana," of which arsenic is now well known to have formed the active principle, must be forever relegated to the domain of emotional mythology. To a corresponding fate must be consigned the preposterous story of Cæsar Borgia's ring; the subtle sting of which, we have been invited to believe, caused the gradual and inevitable death of the victim whose cuticle it was made to penetrate in the (apparently) friendly operation of shaking hands. Although we have been truly told that a scientist should on no occasion use the dogmatic terms "always" or "never," we must, in this connection, point out that everything revealed by the advances of modern science goes to show that such a result as that attributed to the use of Cæsar Borgia's ring is utterly unattainable. It most assuredly could not be produced by any means known to twentieth century science. Accordingly, we feel some pleasure in being able to contribute to the removal of one foul blot on the history of the human race in connection with the "romance of poisoning."

The Life-work of a Great Physician.—In two handsome volumes, making in all nearly 1,000 pages, Dr. Austin Flint has gathered his lesser contributions to medical literature and science. These republications do not include the larger works, "The Physiology of Man" in five volumes of about 500 pages each, issued first 1866–1874, the second edition in 1875; the "Manual of Chemical Examination of the Urine in Disease," running to the sixth edition in 1884; the "Textbook of Human Physiology," the fourth edition in 1888. Dr. Flint's contributions began in 1855, and in this collection all are again reprinted as an offering to "those to whom he is bound by ties of relationship and friendship." But not, we add, to those alone, but to all those who are interested in Dr. Flint's profession and in medical science itself. We are all his brethren! For, what a noble and useful life in the service of our progressive science is shown in these sixty-three admirable articles. "May his pulse ever beat as his heart would wish!"

Foundling Hospital.—The annual report of the Washington Hospital for Foundlings, prepared by its president, Dr. Z. T. Sowers, has been submitted to the secretary of the interior. The report shows that the number remaining in the hospital June 30, 1902, was 29; received during the year, 64; readmitted, 2; total, 95. Adoptions during the year, 12; deaths, 36; total 48. The number remaining June 30, 1903, were 46, and the daily average during the year was 364. The report says that since the hospital was opened in 1887 there have been 211 little ones adopted into happy homes, where they will be trained to become useful men and women.

BOOK REVIEWS

Nothnagel's Encyclopedia of Practical Medicine: Diseases of the Liver, Pancreas, and Suprarenal Capsules. By LEOPOLD OSER, M.D., and EDMUNND NEUSSER, M.D., Professors of Internal Medicine, University of Vienna; and HEINRICH QUINCKE, M.D., and G. HOPPE SEYLER, M.D., Professors of Internal Medicine, University of Kiel. Edited with Additions by REGINALD H. FITZ, M.D., Hersey Professor of the Theory and Practice of Physic, Harvard University, and FREDERICK A. PACKARD, M. D., Late Physician to the Pennsylvania Hospital and to the Children's Hospital, Philadelphia. Authorized Translation from the German Under the Editorial Supervision of ALFRED STENGEL, M.D., Professor of Clinical Medicine in the University of Pennsylvania. Philadelphia, New York, and London: W. B. Saunders & Co., 1903.

In the entire domain of medicine there are at the present time scarcely any subjects claiming more attention than diseases of the liver and the pancreas. A volume, therefore, which contains in addition to a full discussion of these a discussion also of diseases of the adrenals is certain to receive immediate attention. That Professor Fitz, a pioneer in diseases of the pancreas, should consider the section on diseases of the pancreas by Professor Oser, and that on diseases of the adrenals by Professor Neusser, worthy of his editorial attention, is sufficient commendation for most of us. As a matter of fact, the section devoted to the diseases of the pancreas as it now is, is the best exposition of this intricate and more or less obscure, although extremely interesting subject extant—in any language. Professor Fitz has availed himself of much important work that has appeared since the original German text, more especially the work by Körte, Mayo Robson, Flexner, and Opie, and in consequence the entire section devoted to diseases of the pancreas has been much improved. Especial attention has been directed to the demonstration by Opie and others of the etiologic relationship of the islands of Langerhans to certain cases of diabetes, and the important subject of fat necrosis has been brought up to date—the results of the work of Opie, Flexner, and others, being incorporated. Dr. Fitz has also added to the excellent and comprehensive article on diseases of the adrenal by Professor Neusser, the results of more recent work on the active principles of the adrenal by Abel and Crawford, v. Fürth, Takamine, and others, and the discoveries concerning the therapeutic properties of adrenal extract. The section on diseases of the liver by Professors Quincke and Hoppe-Seyler may well be admitted to "have no equal in our language" or in any language. Excellent as was the original text, in its English dress it has been very much increased in value by the critical remarks and additions by the late Dr. Packard, whose prominence as a painstaking clinician would lead one to expect that he would direct special attention to the subjects of diagnosis and treatment—an expectation fulfilled by the reading of the section. The statements concerning the surgical procedures so much in vogue in the treatment of diseases of the liver and bile passages during the last few years are eminently sane, moderate in tone, and trustworthy. Taking into account then the present tendencies of medicine, particularly the special interest in diseases of the liver and the pancreas, this volume may be looked upon as the best of the series; certainly it is the most opportune, and withal merits what it here receives—a hearty commendation.

How to Keep Well.—By FLOYD M. CRANDALL, M.D., New York. Doubleday, Page & Co., 1903. Pp. 500. Price, $1.50, net.

There is a rapidly growing demand among intelligent persons for authoritative information relative to the causes and prevention of disease. The country has been deluged *ad nauseam* with the harmful and misleading effusions of charlatans, nostrum venders, pseudoscientists and fanatics, but there has been a conspicuous silence among representative physicians. Occasionally, a reliable physiology or hygiene for lay readers has appeared, but broadly speaking, the medical profession has persistently discountenanced public discussion of medical matters. It is for this reason principally that the world at large is unaware of the advanced state of modern medicine and remains unappreciative of its great service to

humanity. Persons well informed in general science and literature are often hopelessly ignorant of the very elemental truths of applied physiology. In view of this condition of affairs we welcome Dr. Crandall's book, and bespeak for it a hearty endorsement from our readers. Dr. Crandall has set forth in plain but forcible language the history of the gradual evolution of modern medicine through the ages of mysticism, and pictured it emerging from the thraldom of astrology and theology to its present distinguished position among the sciences. He shows how much more worthy of acceptance it is than the crude systems of quackery and pseudoscience, such as Christian science and osteopathy, that have such short but violent vogue in the present day. Proper education is the only antitoxin for these silly and often vicious facts. In another section the author explains the principles of preventive medicine, and gives a valuable exposition of the laws of health. The whole work is conceived in a highly professional spirit, and it is not marred by advice as to self-treatment in the minor and chronic ailments. While realizing the difficulties of considering all the causes of illness met in special practice we regret the striking omission of any reference to the pernicious effects of eyestrain, and we urge the inclusion of this very important subject in the inevitable second edition.

Practical Points in Nursing for Nurses in Private Practice.—By EMILY A. M. STONEY, late Superintendent of Training School for Nurses, Carney Hospital, South Boston, Massachusetts. W. B. Saunders & Co., 1903.

This popular book for nurses has been thoroughly revised and made to represent the latest advances in the profession of nursing. The lamented death of the author necessitated a revision by other persons. This has been done, the publishers state, under the supervision of a physician, who has been active in the instructing and training of nurses. The revision has been extensive, but the book still retains much of the originality of the earlier editions. More than one-fourth of the 438 pages are devoted to an appendix containing rules for feeding the sick, recipes for invalid foods and beverages, weights and measures, dose list, and a glossary of medical terms and nursing treatment. The book is a valuable one, and there can be no hesitation in recommending it to nurses. Many of the statements in a work of this character are necessarily elementary and do not detract from its real value, but we see no necessity of juggling actual facts. This remark is incited by expressions such as "an abscess may be acute or chronic ("cold,") "phlegmasia dolens," and the statement that "the *lower extremity* consists of the thighs, the legs, and the feet." These are minor points to be sure, but why not state them correctly? The publishers have done their part of the work exceedingly well.

A Textbook of Legal Medicine and Toxicology.—Edited by FREDERICK PETERSON, M.D., President of the New York State Commission in Lunacy; Chief of Clinic, Department for Nervous Diseases, Columbia University, etc., and WALTER S. HAINES, M.D., Professor of Chemistry, Pharmacy and Toxicology in Rush Medical College, Chicago; Professional Lecturer on Toxicology in the University of Chicago. In two volumes containing about 1,500 pages, fully illustrated. Vol. I. W. B. Saunders & Co., 1903, Philadelphia, New York, and London.

There are 16 contributors to this first volume, including a number of wellknown neurologists and pathologists. In Vol. I the technic of postmortem examination is fully described. The editors have prepared a chapter on "Expert Evidence," which all physicians who are called upon to testify as experts would do well to study. There are on the other hand many valuable suggestions to members of the legal profession. The chapter on "Railway Injuries," by J. Chalmers DaCosta, and "Injuries and Disorders of the Nervous System Following Railway and Allied Accidents," by Pearce Bailey, are especially valuable and have been carefully prepared. The Medical Jurisprudence of Life Insurance is a subject of ever-increasing importance both to medical examiners for insurance companies and the laity. Nowhere will this subject be found presented in as careful, as exhaustive or as competent a manner. Every physician should read this chapter thoroughly and carefully. This chapter alone makes the work a valuable one. It is to be regretted that the chapter on "Mental Perversion of the Sexual Instinct" is not a trifle less graphic. On the whole, the work is well printed, fully illustrated, carefully edited, and sufficiently complete.

A Manual of Medical Jurisprudence, Insanity and Toxicology.—By HENRY C. CHAPMAN, M.D., Professor of Institute of Medicine and Medical Jurisprudence in the Jefferson Medical College of Philadelphia; Chairman of the Board of Curators of the Academy of Natural Sciences; Corresponding Secretary of the Zoological Society, etc. Third edition, thoroughly revised, with 64 illustrations and four plates in colors. Philadelphia, New York, and London: W. B. Saunders & Co., 1903.

In this manual of 317 pages Dr. Chapman has presented the subject of medicolegal medicine tersely and clearly if not fully. In a volume of this size there must be many omissions, and here and there important subjects are treated too generally. But for the general practitioner, and the undergraduate especially, it is an excellent medium of gaining a rapid survey of the entire subject. Dr. Chapman bases his manual upon the practical experience of coroner's physician of the city of Philadelphia extending over a period of six years.

A Manual of Diseases of the Eye for Students and General Practitioners.—By CLARENCE A. VEASEY, A.M., M.D., Demonstrator of Ophthalmology in the Jefferson Medical College; Assistant Ophthalmic Surgeon to the Jefferson Medical College Hospital; Ophthalmic Surgeon to the Methodist Episcopal Hospital; Consulting Ophthalmologist to the Philadelphia Lying-in Charity. Illustrated with 194 engravings and 10 colored plates. Lea Brothers & Co., Philadelphia and New York, 1903. 8 vo, pp. x, 412. Price, $2.00 net.

The author is prepared, by his extensive experience in instructing medical students, to appreciate their needs, which after all differ very little from those of the general practitioner. The work is more descriptive than the ordinary compend, especially in regard to the details of operative technic. Within its modest limits it contains most of the important facts in practical ophthalmology, systematically arranged, sufficiently illustrated, concisely stated in plain language, and well indexed. It is hoped that the sale of this admirable work will justify the publishers in arranging for more new cuts in the next edition.

Diseases of the Skin: A Manual for Students and Practitioners.—By ALFRED SCHALEK, M.D., Instructor of Dermatology, Genitourinary, and Venereal Diseases, Rush Medical College (in affiliation with the University of Chicago) Chicago, Ill. Lea Brothers & Co., Philadelphia and New York, 1902.

This little book of 225 pages is an attempt to present the most important facts of dermatology as they are understood today, in the briefest possible compass. It contains a brief outline of the symptoms, pathology, etiology and treatment of the various diseases of the skin, which are taken up in alphabetical order. For convenience in quizzing a series of questions on the points of greatest importance are arranged at the end of each section. The definitions of the diseases considered are accurate and the description of their symptoms clear. The book will probably be found useful by the student.

The Röntgen Rays in Medicine and Surgery.—By FRANCES H. WILLIAMS, M.D. Macmillan Company, New York.

That a third edition of this valuable work is demanded within two years after the appearance of the second edition indicates not only the popularity it has achieved, but likewise the intent of the author to keep the publication thoroughly abreast of a rapidly developing subject. The essential change made for the present edition consists in a more extended consideration of the therapeutic uses of the Röntgen rays. The method of treating diseases of the skin and of newgrowths is described, and a table of 150 of the author's cases of the latter is given and discussed. The latter part of the book is devoted to Röntgen ray therapeutics and Röntgen ray dermatitis. With the revised and much enlarged appendix the work now comprises a volume of more than 750 pages, with 428 illustrations. The author's extensive experience has enabled him to prepare a work thoroughly scientific and up to date.

A Practical Treatise on Materia Medica and Therapeutics.—By ROBERTS BARTHOLOW, M.A., M.D., LL.D. D. Appleton & Co., New York and London.

A work which for years has been a popular and standard textbook in the various medical colleges throughout the United States, and which has been the trusted source of information for physicians numbered by thousands, needs no introduction to the profession and no comment from the reviewer further than to call attention to the appearance of the eleventh edition, revised, enlarged, and fully up to date. The present edition contains all the valuable storehouse of knowledge of former editions, together with such additional matter as the author deemed worthy of a place in the literature of the subject. The original classification of drugs has been retained, the results of late investigations recorded, and the numerous practical features of the work continued in the present edition.

The Surgical Diseases of the Genitourinary Organs.—By E. L. KEYES and E. L. KEYES, JR. D. Appleton & Co., New York and London.

This is a volume of more than 800 pages, with numerous illustrations. As the title indicates, the predominant feature of the work has to do with the surgical diseases of the genitourinary tract, venereal diseases being relegated to a secondary position. Syphilis has been entirely eliminated since it is a genital disease only in its method of approach. The sexual psychoses have been left to the venereal specialist. Gonorrhea is given much consideration, since it has much to do with the surgical aspect of genitourinary diseases. All the surgical maladies connected in any important way with the genitourinary apparatus are discussed intelligently, and the treatment recommended is conservative, and appeals to the common sense. Surgery of the prostate gland has been treated fully in conformity to recent increased interest in this distressing condition. The book is well written and will be favorably received by the profession.

A Pocket Book of Infant and Childhood Dietetics, with Directions for the Home Modification of Milk. By A. B. SPÄCH, A.M., M.D. Chicago: E. H. Colegrove.

This book is put up in the form of a stenographer's notebook with perforated leaves for detaching. Each leaf contains on one side directions for the modification of milk, food formulas, etc., and on the opposite side directions for the care of the baby, these being printed or a blank space left for the physician to insert personal directions. Blank lines are left for the date, name of the patient, and the physician's signature, thus making each leaf of the book a prescription. The use of this book will save the physician considerable time in giving directions for the feeding of children and will certainly increase the accuracy of their fulfilment.

Anatomy of the Brain and Spinal Cord: With Special Reference to the Grouping of Neurones into Conduction Paths. —By HARRIS E. SANTEE. E. H Colegrove, Chicago.

The third edition of this valuable book is enlarged and up to date. The author's extensive experience as a teacher of anatomy enables him to speak with authority on this important subject. A commendable plan which the author follows is the association of anatomic features with physiologic function of the part. A comprehensive exposition of the conduction paths is a valuable feature of the work. As a work for both students and practitioners, however, we cannot but feel that illustrations would have added value to a book on so intricate a subject. The volume is well written and the development of the brain and cord from the embryo to the adult form is entertainingly discussed.

Hygiene and Public Health.—By LOUIS PARKES, M.D., and HENRY KENWOOD, M.B. Illustrated. P. Blakiston's Son & Co., Philadelphia.

This is the second edition of this work which was demanded within a year of its first appearance. The well-deserved popularity has thus enabled the authors to bring it down to date, this being practically the only change made. A minor criticism is that the book is too thick in proportion to its other dimensions.

AMERICAN NEWS AND NOTES.

GENERAL.

Smallpox, as officially reported in the United States from June 27 to July 17, amounts to 2,474 cases and 66 deaths, as against 1,569 cases and 109 deaths during the corresponding period of the previous year.

Dengue Fever in Hawaii.—News from Honolulu, under date of July 16, states that an epidemic of dengue appears to be sweeping over the island. More than 1,500 cases have been reported, but there have been no deaths directly attributable to the disease. The Board of Health is convinced that the germ of dengue is spread by mosquitos.

Philippine Opium Bills Tabled.—The Philippine Commission has tabled both the opium bills. The first bill provides for the creation of an opium monopoly in the archipelago and its sale to the highest bidder. The second bill, introduced by the commission, makes the importation of opium unlawful, except by pharmacists, and permits the disposal of the drug on a physician's certificate. Governor Taft has championed the theory of regulation.

Bullet Extracted after Forty-one Years.—At the battle of Antietam, on September 17, 1862, Captain Henry R. Jones, now past department commander of the Connecticut G. A. R., and editor of the *Weekly Tribune*, published in New Hartford, was wounded in the right shoulder by a musket ball, which imbedded itself in the clavicle. Surgeons were never able to remove it. During the past six months the wound has been unusually aggressive and painful. Recently, as Captain Jones was dressing the wound, he felt something hard, and with a pair of pincers he extracted the Confederate bullet that had been in his body 41 years. The ball, which is nearly round, is the size of a large marble and weighs one ounce.

Women's Work.—An exchange states that according to statistics just published in London there are 352 women physicians in all England; there are 548 in Chicago. In England, however, there are 7,000 women serving as chemists, 64,000 as nurses, and 300 as druggists. There are 324 women undertakers in the United States and 300 in England. England has 4,000 women employed as butchers; the United States has 378. Among English business women there are 58 bill discounters, 392 commercial travelers, and 86 auctioneers. Among American business women there are 261 wholesale merchants, 34,162 retail merchants, 298 bankers and brokers, 4,861 restaurant proprietors, 8,545 hotel managers, and 307,788 farmers.

Mothers and Their Babies.—The Philadelphia *Public Ledger* says: While women, on the average, bear fewer children than formerly, a still smaller proportion of the children born are nourished in the natural manner. The human species is at the head of the order of mammalia, but the function which distinguishes the mammals is seldom performed by the female of this species. It is quite within the memory of older people, especially if their early life was passed in the country, when a mother nursed her child quite as a matter of course, and an infant brought up "by hand" was an exception. At the present time the mother who nurses her child is exceptional. Many, no doubt are unwilling; but more are unable. The abounding animal life that belonged to simpler physiologic conditions is no longer theirs.

Miscellaneous.—BALTIMORE, MD.: Dr. John C. Hemmeter has been elected to the professorship of physiology in the University of Maryland. He has also been elected regent of the University.—PHILADELPHIA: Dr. R. M. Pearce has been appointed a director of the Bender Hygienic Laboratory and assistant professor of pathology and bacteriology in the Albany Medical College.—CHICAGO: Dr. Frederick Mueller, at one time assistant to Dr. Adolf Lorenz, of Vienna, has been elected professor of orthopedic surgery in the Milwaukee Medical College.—Dr. Albert C. Eyclesheimer, of this city, has accepted the professorship of anatomy in the University of St. Louis.—NASHVILLE, TENN.: Dr. Samuel S. Briggs has been elected professor of anatomy and Dr. George C. Savage, secretary of the faculty of the medical department of Vanderbilt University.

Recent Decisions in Regard to Insane Criminals.—An important decision has been handed down by Justice Lambert of the Supreme Court, Brooklyn, in relation to the incarceration of the criminally insane. The case was on the application of Alexander Gray for his discharge from the Matteawan asylum. The writ to test the constitutionality of the statute, which provides, that when the defendant charged with a crime is acquitted by a jury on the ground of insanity the trial court may if it deem it best for public safety and peace commit the acquitted defendant to the State asylum until he is discharged as cured. Gray was tried in the Court of General Sessions in New York county for assault in 1901 and acquitted by that jury on the ground of insanity and sent to Matteawan. Counsel for Gray claimed that the Court of General Sessions had no

authority to pass upon the question of Gray's alleged insanity, and that exclusive jurisdiction in such cases rested in the Supreme Court. Justice Lambert says: "The writ so far as raised presents the questions: First, that the Supreme Court has exclusive jurisdiction of insane criminals. The commitment is authority for the detention of the relator only during the period of his insanity. If he has recovered he is entitled to a discharge."

Hospital Benefactions.—BALTIMORE, MD.: The late Mrs. Harriet Lane Johnston, of this city, bequeathed $1,500 to the National Homeopathic Hospital, $2,000 to the Church Home Infirmary, and a reversionary amount for the Home for Invalid Children. She also provided $90,000 for three free scholarships for the Johns Hopkins Hospital. BUFFALO, N. Y.: Under the will of the late Mrs. Agnes Ethel Tracy, of this city, the Buffalo General Hospital will receive $100,000. PHILADELPHIA: Among the institutions which will receive charitable bequests from the estate of Mary M. Johnson are Pennsylvania Hospital, Insane Department of the Pennsylvania Hospital for free beds, Asylum for the Relief of Persons Deprived of the Use of Their Reason, University Hospital, Woman's Hospital, of Philadelphia, each $10,000, and the Howard Hospital, Pennsylvania Training School for Feeble Minded Children, Orthopedic Hospital, each $5,000.—The St. Joseph's Hospital will receive $500 and the St. Mary's Hospital $14,734 from the estate of the late Owen Lamb.—The late Mrs. Sarah Billough bequeathed $5,000 to the Children's Homeopathic Hospital and $4,000 for a free bed to the Home of the Merciful Saviour for Crippled Children.—According to the will of Katharine Gibson the University Hospital will receive $1,000 toward the endowment of a free bed. ATLANTIC CITY, N. J.: Miss Catharine A. Warner, a former Philadelphian, who died recently in Atlantic City, left a reversionary bequest of $2,000 each to the Home of the Merciful Saviour for Crippled Children and the Howard Hospital and Infirmary for Incurables. WILKESBARRE, PA.: Miss Martha Bennett, of this city, who died recently, left the bulk of her fortune to local charitable institutions in Wilkesbarre. Over $100,000 is to be used for building and maintaining a home for children.

EASTERN STATES.

Boston's Mortality Rate.—The number of deaths reported to the Board of Health for the week ended July 18 is 215, as against 189 the corresponding week last year, showing an increase of 26 deaths, and making the deathrate for the week 18.58.

State of Quarantine Raised in Massachusetts.—The Executive Council has adopted an order from Dr. Peters, chief of the Cattle Bureau, raising the cattle embargo in the State of Massachusetts. The order is in part as follows: "By virtue of the power and authority vested by law in the Cattle Bureau of the State Board of Agriculture, you are hereby notified that foot-and-mouth disease, which is a contagious disease and is so recognized under the laws of this Commonwealth, is no longer known to exist in this State, and it is believed that it has been entirely eradicated. Therefore, the orders of the chief of the Cattle Bureau, approved by the governor and council, closing the Brighton market, forbidding auctions and public sales, and the transportation of meat, cattle, sheep, other ruminants and swine, hay, straw, grain bags, cattle hides, calf skins, horns, hoofs, bones, and manure in certain cities and towns and sections of this Commonwealth, and restricting the use of certain premises where the disease has existed, are hereby revoked."

NEW YORK.

Cattle Having Rabies.—The State Department of Agriculture has received information from Dr. H. B. Ambler, veterinary surgeon of the department, of an outbreak of rabies in the town of Montgomery, Orange county. The disease has been more or less prevalent there for several months. A great many dogs and a number of cattle have died of it. Some two dozen cattle have already been afflicted.

Salvation Army Cares for City's Poor.—Another summer retreat for ailing children and their mothers who live in the crowded districts of New York has been established in the country near Spring Valley, N. Y. Commander Booth Tucker has purchased a farm of more than 70 acres for the Salvation Army, which will maintain the institution and see to it that as many of the needy as may be accommodated are taken there during the hot weather. There is a large building, containing over 30 rooms, and a fresh air camp will be built on the shore of a small lake, where about 150 persons may be cared for. Each will remain a week, then their places will be taken by others from the city. The farm cost $13,000 and $2,000 will be spent for improvements.

Prospective Sanitarium for Tuberculosis.—Commissioner Falkes, of the Department of Public Charities, has recommended to the Board of Estimate that the sum of $400,000 be appropriated for the construction of a municipal sanitarium for tuberculosis. In his report to the mayor, Mr. Falkes told of the long investigation of the conditions that made the establishment of such an institution necessary, and of sites, etc., for its erection. He said that a desirable location within 50 miles of New York, and at an elevation of about 800 feet, could be secured, and with the sum named a hospital that would accommodate 500 patients could be erected. The small estimate of cost was due in large part to the fact that many of the buildings could be built of light wood, and also many tents could be used.

No Typhoid at Ithaca.—Under date of July 18 comes the following from Dr. Geooge A. Soper: There is no epidemic of typhoid fever in Ithaca. The total number of known cases is 9. Of these 3 are more than 2 weeks old. Careful watch has been kept for new cases since the epidemic of last spring, and all illnesses which might later prove to be typhoid have been prudently regarded as suspicious. There are less than half a dozen suspicious cases at the present time. The general health conditions of the city have been satisfactory, except for the public water supply. The attention of the local Board of Health has been called to this subject, and energetic steps are now being taken to remove the sources of pollution. There is nothing in the situation which need cause alarm to residents of the city or intending visitors.

PHILADELPHIA, PENNSYLVANIA, ETC.

Deaths From Lockjaw in Pennsylvania.—Not fewer than 41 deaths from tetanus as a result of accidents from the Fourth of July celebration have occurred within the State of Pennsylvania.

Further War on Smallpox.—In the Twenty-eighth ward where smallpox is still a source of great danger, the chief of the Street Cleaning Bureau, acting in accordance with a request of the Bureau of Health, is flushing all street-gutters and streets, as an aid to the cleanliness of this portion of the city and to prevent, as far as possible, smallpox from this source.

Unreported Births.—As a result of the work of the summer corps of nurses and physicians sent out by the Health Board, it is learned that fully 3% of the births in this city are not recorded. The dereliction is chiefly in the tenement house districts. In one locality of the lower East Side, where 20,000 births are recorded, 650 were found that had not been registered.

Smallpox Decreasing Throughout the State.—The total number of cases reported throughout the State in May and June was 1,092, with 66 deaths, as against 1,416 cases and 61 deaths in March and April. Philadelphia again led with the greatest number of cases, 235. Twenty-seven deaths occurred in this city during the last two months. Pittsburg comes next with 119 cases and 22 deaths.

Crozer Hospital Opened.—The J. Lewis Crozer Hospital of Chester was formally opened on July 17, the anniversary of the birth of the philanthropist whose name the institution bears. All the details of the construction of the hospital and the purchase of the equipments have been under the personal supervision of Mrs. Crozer, who has seen that the wishes of her husband have been carried out in each particular.

The one hundred and fifty-second annual report of the Pennsylvania Hospital shows that venerable institution, in spite of extensive competition, maintains its position as one of the largest and most active hospitals in Philadelphia. The large number of patients, the high price of provisions, and the increase in the cost of coal during the last year have caused a deficit of $37,155.00, which the friends of the hospital will no doubt make good. Of the patients admitted to the hospital, more than half were of foreign birth, the largest number coming from Italy, the next from Russia, and the third from Ireland. As an illustration of the work of the institution, and as a sad commentary upon sanitation in this city, we may take the cases of typhoid fever treated here during the year between May, 1902, and May, 1903; these number 749, with a mortality of about 8.5%. The report of Dr. John B. Chapin, physician in chief and superintendent of the department of the insane, containing much interesting material, is also comprised within the volume.

SOUTHERN STATES.

Sheppard and Enoch Pratt Hospital.—The "Medical Reports" of the Sheppard and Enoch Pratt Hospital, of Baltimore, have appeared in a neatly bound paper covered volume under the denomination Volume I, No. 1. It contains a number of interesting articles having to do with nervous affections, with various illustrations which elucidate the conditions presented.

Infant Mortality in Washington, D. C.—The number of deaths of infants under 2 years of age from diarrheal diseases during the week just ended was but 18—a decrease of 14 when compared with the number of deaths during the preceding week. As has been uniformly shown in the recent investigations which have been made by the health department relative to the diet of infants dying from such diseases, a large majority were on a diet of cow's milk in some form when they were taken sick. Fifteen of the 18 decedents who died during the past week were fed on a diet of this character prior to the onset of their illness. Ten were fed on cow's milk supposed to be fresh and clean and 5 were fed on condensed milk of various brands.

WESTERN STATES.

Smallpox in Chicago.—The Bulletin of the Chicago Health Department says: Of the 310 cases of smallpox which have come under observation and treatment in Chicago this year, only 39 showed any evidence of vaccination whatever, and not one of these had a recent, protective vaccinal mark; they were all adults who either showed marks of vaccination in childhood, never revaccinated, or doubtful, noncharacteristic scars, as of burns or other injuries. No properly vaccinated person can contract smallpox.

A New Plan to Aid Charity.—In Cincinnati, a man by the name of Deen has arranged with certain shoe-shining places to honor his tickets, and he has employed a number of young women to canvass the city, selling these tickets at 10 cents each, with the statement that the proceeds are to be used to give an excursion to crippled children and other children recommended by local charity institutions. Enormous numbers of these tickets have been sold, and, of course, comparatively few are ever presented at the shoe-shining establishments and the "shine" claimed, and even if they were a handsome profit is made by the scheming individual. Even though the excursions are given it is undeniable that the man is making a handsome profit out of his proposed plan to aid charity. He frankly admits that he is "in it for the money he can make out of it" and purposes extending his operations to other cities. The associated charities are endeavoring to make the situation uncomfortable for him in Cincinnati and wish to put other cities on their guard.

FOREIGN NEWS AND NOTES

GENERAL.

Insanity's Enormous Increase in Ireland.—The enormous increase of insanity in Ireland (28,187 cases in 1881, 44,884 in 1901) is believed to be due largely to the fact that the large emigration of young and healthy persons leaves behind a stock more prone to all diseases, including insanity, than formerly.

The Effect of Becquerel Rays on the Sight.—The *Lancet* states that Dr. London, of St. Petersburg, has published some interesting observations relative to the action of the Becquerel rays on the nervous system and on the eye. He found that when a box containing radium bromid was placed in a cage in which mice were kept, the animals became paralyzed and comatose, and died in five days. He also found that persons who are either totally blind, or have only the feeblest possible perception of light, are peculiarly sensitive to the Becquerel rays, and are able to form visual conceptions of the contour of objects, the shadows of which are shown on a screen by means of the rays.

Medical Statistics of the Italian Army.—The *Army and Navy Register*, July 18, says: "The medical statistics of the Italiam army for the year 1900, which were published a little time ago, attracted a good deal of attention. The report, covering 171 pages, with diagrams and charts, and having 149 pages of tables, relates exclusively to the rank and file. The effective which served as the basis of the calculations was 198,813 men, being the mean of the year. The total number treated in hospitals or regimental infirmaries was not less than 802 in every 1,000 of the effective. This was a very considerable increase on the returns of the previous quinquennial period, in which 1,897 marked the minimum. The increase of sickness is attributed mostly to influenza and tuberculous disease. The deaths were 43 per 1,000, which was less than in the previous year. Typhoid was responsible for 1,228 cases, with 210 deaths, being almost a quarter of the whole. In the class of venereal diseases the proportion was 90 per 1,000, being a notable decrease.

GREAT BRITAIN.

To Lecture at Bellevue.—W. D. Halliburton, M.D., F.R.S., professor of physiology, King's College, London, has accepted an invitation extended by the faculty of the University and Bellevue Hospital Medical College to deliver a course of 12 lectures on pathologic chemistry, beginning on Monday, January 4, and continuing daily until January 16, 1904. The funds are provided from an endowment given by the retiring professor of pathologic chemistry, Dr. Christian A. Herter. Dr. Herter has also endowed a research fellowship in pathologic chemistry. Mr. Louis C. Tiffany has furnished a fund for a research fellow in physiology for the ensuing year.

OBITUARIES.

John E. Stanton, of Philadelphia, died of smallpox at the Municipal Hospital, July 11. He was a graduate of the University of Pennsylvania. A peculiar circumstance of the case of Dr. Stanton was that he had made repeated efforts during the year to render himself immune to smallpox through vaccination. During that time he had been vaccinated no fewer than 24 times without the virus taking. He had considered himself immune because of his inability to be vaccinated successfully.

William H. Parrish, of Philadelphia, died at Bisley Lodge, in the Adirondacks, July 20, aged 58. He was a graduate of Jefferson Hospital, and at the time of his death was chief medical director of St. Agnes Hospital. He also occupied the chair of Anatomy at the Woman's Medical College, Philadelphia.

Julian Harmon, of Warren, O., July 1, aged 79. He was graduated from the Cleveland Medical College, in 1849, and was an active member of the Trumbull County, Northeast Ohio, and Ohio State Medical Societies. He had served as an assistant surgeon during the Civil war.

Daniel W. Lassiter, of Petersburg, Va., July 3, aged 76. He was graduated from the University of Pennsylvania, in 1851, and was president of the Petersburg Medical faculty.

Charles Blodgett, of Holyoke, Mass., died at Grass Valley, Cal. June 25, aged 75. He was graduated from the Berkshire Medical College, Pittsfield, Mass., in 1859.

James A. Levengood, in Honeybrook, Pa., July 16, aged 76. He had practised medicine in Honeybrook for 50 years and had filled numerous township offices.

Robert Douglas, of Stronghurst, Ill., died at Galesburg, Ill., June 25. He was graduated from the Northwestern University Medical School, Chicago, in 1902.

Newton J. Rice, at Newton Falls, Ohio, June 29, aged 74. He was graduated from the Eclectic Medical College of Pennsylvania, Philadelphia, in 1857.

Thomas C. Walton, of Stroudsburg, Pa., July 20, aged 49. He was graduated from the medical department of the University of Pennsylvania, in 1878.

Isaac N. Beegle, at Ocean Grove, N. J., July 20, aged 55. He was graduated from the Bellevue Hospital Medical College, New York City, in 1870.

George C. Parmiter, in Syracuse, N. Y., June 29, aged 82. He was graduated from the Philadelphia University of Medicine and Surgery, in 1868.

John R. Kimerer, in Danville, Pa., July 1, aged 43. He was graduated from the College of Physicians and Surgeons, Baltimore, Md., in 1885.

James H. McNett, of Hornellsville, N. Y., July 1, aged 49. He was graduated from the New York University, New York City, in 1880.

L. T. Hayward, at Cottage City, Mass., June 22, aged 54. He was graduated from the Boston University School of Medicine, in 1874.

A. F. Voorhees, in Basking Ridge, N. J., June 26, aged 79. He was graduated from the New York University, New York City, in 1852.

Franklin G. Armstrong, in Camden, Ohio, June 24, aged 81. He was graduated from the Cleveland (Ohio) Medical College, in 1849.

James Dickson, in Canal Dover, Ohio, July 2. He was graduated from the Homeopathic Hospital College, Cleveland, Ohio, in 1875.

W. S. Dickson, in Portsmouth, Ohio, June 30, aged 64. He was graduated from the Pulte Medical College, Cincinnati, in 1886.

Asa V. Hutchins, in Chicago, Ill., July 6, aged 59. He was graduated from the Hahnemann Medical College, Chicago, in 1883.

A. M. Cary, at Chattanooga, Tenn., June 27, aged 57. He was graduated from the Medical College of Ohio, Cincinnati, in 1876.

H. C. Van Noy, in Kansas City, Mo., July 2, aged 71. He was graduated from the University of Michigan, Ann Arbor, in 1862.

John Patterson, in Auburndale, Fla., June 27. He was graduated from the Transylvania University, Lexington, Ky., in 1841.

A. S. Cook, in Oakland, Cal., July 1, aged 72. He was graduated from the California Medical College, San Francisco, in 1881.

William Knight Adams, of Berwyn, Pa., July 17, aged 23. He was graduated from the Hahnemann Medical College, in 1902.

Daniel W. Crittenden, in Gordensville, Ky., June 29, aged 70. He was graduated from the University of Nashville, in 1859.

Robert E. Gatlin, in Summit, Miss., July 1, aged 41. He was graduated from the Tulane University, New Orleans, in 1891.

D. A. Fox, in Clinton, Conn., July 1, aged 74. He was graduated from the New York University, New York City, in 1852.

Robert F. Henry, in Princeville, Ill., July 1, aged 80. He was graduated from the Rush Medical College, Chicago, in 1853.

Frederick W. Payne, of Newton, Mass., July 17. He was graduated from the Harvard Medical School, in 1866.

David Ellis, of Augusta, Ill., July 5, aged 80. He was graduated from the University of Louisville, Ky., in 1852.

E. S. Fiske, in Towner, N. D., June 28. He was graduated from the New York University, New York City, in 1884.

Eugene Hodson, at Vienna, Md., July 10, aged 71. He was graduated from the University of Maryland, in 1856.

David H. Bullard, at Glens Falls, N. Y., July 1, aged 90.

W. C. Gordon, at Gordonsville, Tex., June 28, aged 35.

Simeon W. Blaun, of Oswego, N. Y., July 14, aged 70.

P. M. Minster, of Langhorne, Pa., July 19, aged 69.

L. C. Means, at Dallas, Tex., July 3, aged 78.

C. M. Clayton, in Warsaw, Ind., June 29.

CLINICAL NOTES AND CORRESPONDENCE

[Communications are invited for this Department. The Editor is not responsible for the views advanced by any contributor.]

A CASE OF ACUTE ASCENDING PARALYSIS: DEATH IN 17 HOURS.

BY

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of Charleston, S. C.,

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Although the following case of acute ascending paralysis was insufficiently studied clinically, and an autopsy was not obtainable, the remarkably rapid course of not more than 17 hours from beginning to end, makes it worthy of record. I am not aware that another case terminating so speedily has been reported. It is probable that a constitutional feebleness resulting from repeated attacks of malarial fever determined the severity of this case; but, that the malarial parasite was more than a predisposing factor I am not inclined to believe. It would seem to be more consistent with the facts which have been gathered thus far to regard the symptom-complex as the result of some form of bacterial toxemia.

For the details of the case prior to the development of the paralysis, I am indebted to Dr. R. S. Kirk, physician to the Porter Military Academy, Charleston, S. C.

Mr. W., aged 18, a cadet at the Porter Military Academy, lives in a malarious district. His father and mother are living. Two brothers died of hemorrhagic malarial fever. One sister is living and in good health. The patient had an attack of hemorrhagic malarial fever three years ago. During the school session of 1901-1902 he reported at the hospital several times with intermittent fever, which each time yielded promptly to calomel and iron and quinin. During the holiday season he remained at home, returning to the Academy in October, 1902. In November he again reported at the hospital with intermittent fever, and was relieved by the same treatment as before. On December 19 he entered the hospital suffering with a severe chill, which lasted several hours. After the chill his temperature was 104.5°. He was given calomel and soda followed by a small dose of phenacetin combined with caffein every third hour. Quinin in doses of .65 gram (10 grains) each was given at intervals of four or five hours during the night. When seen in the morning the calomel had acted well, the urine was clear, though highly colored, and the temperature was normal. The skin and conjunctivas were markedly jaundiced. Calomel and soda were again given, and quinin in .32 gram (5 grains) doses continued every four hours. At 1 p.m. he had another severe chill. About the same time there was a large watery action containing some clear blood, which clotted after standing a little while. Shortly afterward he passed about four ounces of urine, which apparently contained blood. Temperature was now 103° and pulse 130. Strychnin sulfate 1 mg. ($\frac{1}{60}$ grain) was given every three hours, and .65 gram (10 grains) of quinin every four hours until 3.89 grams (60 grains) had been taken. Nausea and vomiting were marked, but easily controlled by 5 drops of Lugal's sal. Morphin, 8 mg. ($\frac{1}{8}$ grain) was also administered hypodermically in order to secure rest. At 9 p.m. four more ounces of urine was voided. This specimen was very dark, but on microscopic examination no blood corpuscles were found. The coloring matter was, therefore, presumed to be hemoglobin. Digitalis and nitroglycerin were now given every four hours. On the following morning the temperature had dropped to 100°, and the urine had cleared to some extent, but was still very scanty. The jaundiced condition had also cleared up considerably. A poultice of digitalis leaves was placed over the region of the kidneys, and the amount of quinin reduced to 1 gram (15 grains) a day. By evening the temperature was again normal. A bedside examination of the blood was made at this time, five or six specimens being taken, but no plasmodiums were found. Leukocytes were very numerous, among which there appeared to be several myelocytes, but it was impracticable to make a differential count. Unfortunately no further examination was made. From now until the twenty-sixth improvement was steady; the temperature continuing normal, the heart action being good, the patient bright and taking his nourishment with apparent relish. The urine, however, remained scanty, although it cleared up to a great extent. During this time tr. fer. chloridi was added to the other treatment. On the morning of the twenty-seventh, on assuming charge in the absence of Dr. Kirk, I found the patient complaining of not feeling very well, but no more definite expression could be elicited. Temperature was normal, pulse of good volume and not rapid, the tongue slightly coated. No urine had been voided since the previous evening. At 1 p.m., when I next saw him, a marked change had occurred, the first signs of which had appeared, as well as I could judge from the account given me, at about 11 a.m. He was complaining of severe pain in the back and a feeling of numbness which affected chiefly the lower extremities, where it was first noticed, but to some extent also the arms. On examination I found the feet and legs paralyzed, the thigh could be very slightly moved; in the upper extremities the hands were paralyzed, wrist-drop being pronounced, but the arms and forearms could be freely moved. The paralysis was flaccid. Temperature and pulse as before. Bowels constipated. No urine had been passed. Three hours later paralysis was absolute in both extremities, and the pain in the back of unremitting severity. The tongue was somewhat more coated. Two hours later this coating had blackened down the middle, and the tongue was dry. Shortly afterward speech, which had so far been unaffected, became a little thick, and the temperature rose to 100°. The mind was perfectly clear, and the unfortunate sufferer begged unceasingly for relief, as he lay with his head, the only part of the body that could be moved, tossing restlessly from side to side. About 10 or 12 ounces of turbid urine was drawn by catheter, and the bowels relieved by enema. At 2 a.m. a tablet of morphin and atropin was given hypodermically, which secured sleep for about an hour and a half. On awaking he still complained of the pain in the back, and again asked to be relieved. A moment later he fell back dead, the result of paralysis of the heart.

TETANY.

BY

FRANK E. NABERS, PH.G., M.D.,

of Charlottesville, Va.

To the Editor of American Medicine:—Owing to the comparatively rare occurrence of tetany, the accompanying photograph of a recent case may prove of interest.

The patient, a well-nourished negro girl aged 2, with physical evidence of rickets, had been unusually healthy, having escaped all the acute diseases of childhood as well as the constitutional disturbances incident to rickets. For eight days prior to the onset of tetany the child had been suffering from a slight gastrointestinal trouble which was not, in the mother's opinion, of sufficient severity to demand medical aid. The physician was not called until the onset of tetany.



The onset was sudden and accompanied by no symptoms other than the tonic muscular spasm characteristic of the condition.

There was a temperature of 101° F. due no doubt to the gastrointestinal catarrh which was the exciting cause of the tetany in this instance.

The position of the child conformed faithfully to the classic description of tetany; both hands were strongly flexed from the wrists, rotated slightly to the ulnar side with the thumbs adducted until they almost touched the little fingers; in fact, in the right hand the thumb and little finger were in contact. The feet were extended, the terminal phalanges being flexed. The plantar arch was high, the instep showing a corresponding convexity which was puffy and the overlying skin stretched so tightly as to be glossy, the tendon achilles strutting.

No other joints were involved. Both the deep and superficial reflexes were increased, but no other physical findings of interest were noticed. As the onset of the condition had been doubtless due to the gastrointestinal irritation, the proper dietetic measures were taken at once to restore the integrity of this tract, and upon its return to a normal condition the tonic spasm relaxed, and on the fourth day after its appearance the tetany had entirely disappeared.

ATROPIN IN CHOLERA INFANTUM.

BY

WILLIAM F. WAUGH, M.D.,

of Chicago.

About 15 years ago Dr. Harkin, of the English service in India, called attention to the value of atropin in the treatment of Asiatic cholera. His view was that the phenomena of this malady indicate a tremendous hyperexcitation of the pneumogastric nerve. The vomiting and purging may be brought about by the comma bacillus, but they do not act directly by their physical presence in the alimentary canal, but by the production of a toxin that thus powerfully stimulates the gastroenteric branches of the pneumogastric.

While this does not invalidate the application of germicidal remedies to break up the toxin factory, we have at our disposal the most admirable of antitoxins, one that directly antagonizes the action of this toxin, and that acts as powerfully as it. Indeed, since there is a substance sometimes generated in the alimentary canal that exerts all the powers known to be possessed by atropin, it seems probable that when the true antitoxin of the comma bacillus will have been discovered it will prove to be practically identical with atropin.

In this alkaloid we have an ideal representative of the virtues of its class; uniform, certain, and speedy in its action, its properties accurately defined by scientific observations, and a power not exceeded by any antagonizing force, toxicologic or pathologic.

Since Harkin first recommended it, atropin has been administered many times in each form of cholera, Asiatic, European, and infantile, and the correctness of his deduction fully demonstrated. Take a child in the worst stage of cholera infantum and give it a hypodermic of atropin .1 mg. (about $\frac{1}{500}$ gr.) and upward, for children bear larger doses of this agent proportionally to their age than adults. First the blood comes back to the brain, the face flushes, the pin-point pupils relax, the vomiting and purging subside, and the pulse can once more be felt.

As a stimulant in collapse atropin has no equal. In fact, every element of the disease, every symptom that threatens life, is antagonized by this many sided remedy. Do not, we beg of you, spoil it by adding morphin. The child is too sick. Atropin checks the excited peristalsis quite effectively, and morphin is not needed for that purpose.

The patient may be kept slightly under the influence of atropin continuously while the alimentary canal is being flushed and disinfected, and the cycle of the attack is completed. The application of ice or of any rubefacient to the neck over the pneumogastric aids materially in sedating this irritable portion of our anatomy. It is a beautiful lesson in scientific therapeutics to see the spasm of asthma unlock, or irritable vomiting subside, when a strip of mustard is applied from beneath the right ear to the right sternoclavicular articulation.

PATULOUS URACHUS IN A CHILD OF NINE MONTHS.

BY

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CASE.—A negress recently applied to me for treatment for her 9 months old baby, saying that there was "something wrong with its navel."

Examination showed a female child, well developed, stout, cheerful, and apparently healthy and approximately about the age given. The child showed no fretfulness or other sign of ill-health. The mother gave the following history: The child was born at full term and the cord was dressed in the usual manner, the stump separating at the usual time. The umbilicus, however, had never healed, although treated by several physicians. The mother's account of the methods of treatment was unsatisfactory, but so far as could be gathered dusting powders and ointments had been the main resort. An umbilical truss had also been prescribed, but having wrought no improvement had after a time been cast aside. There had always been a thin watery discharge, but never any pus or hemorrhage.

Examination of the umbilicus showed a protruding mass of granulation tissue depressed in the center. The surface of the mass was elevated about $\frac{1}{16}$ inch above the surrounding skin, but did not extend beyond the normal boundaries of the umbilicus. The granulations did not appear to be especially tender and the surrounding skin was healthy. There was no evidence of hernia. The dressings which had been over the area were saturated with a discharge which had a decidedly urinous odor. A probe was sterilized and introduced gently into the central depression and passed without difficulty some distance downward and inward, but further progress being deemed inadvisable on account of risk of infection the instrument was withdrawn before encountering an obstacle to its passage. The probing gave some little pain, as evidenced by the restlessness of the patient, which was deemed a further counter-indication to deep probing.

The foregoing history and signs led to a diagnosis of patulous urachus. Unable to recall similar cases in practice or textbooks it seemed best to adopt a plan of treatment which had been used with some success in a case of postoperative vesicoventral fistula. The surrounding skin, the granulating area, and the mouth of the patulous duct were carefully cleansed with soap, carbolic acid solution (1–40), and sterile water, particular attention being paid to the granulations and patulous duct. The granulations were then lightly touched with the silver nitrate stick, the mouth of the urachus being somewhat dilated with the conical end of the caustic pencil, and with its immediate neighborhood receiving a double application. The pain from this procedure did not seem to be nearly so great as one would expect. The ulcer was then powdered with a little aristol and a small square of gauze applied. This was fastened in place with adhesive strips applied transversely and drawn tight enough to cause a folding in of the skin of the abdomen, in this way forcing to a certain extent the ulcer inward and below the skin level and by the pressure bringing the walls of the duct into contact with each other. This last I regard as of prime importance as tending to cause adhesion, thus obliterating the lumen of the duct. An abdominal binder was then applied. On the second day inspection showed the dressings again wet, the discharge having the same urinous characteristics. There was some sloughing where the caustic had been applied. The whole area was again cleansed, the caustic again applied, and the same dressing used, except that in place of the abdominal binder an umbilical truss was put in place over all. The same procedure was followed at frequent intervals for a period of five or six weeks. After the first ten days there began to be apparent a growth of new skin at the edges of the ulcer and the condition of the dressings showed a steady diminution in the quantity of the discharge, until finally it ceased entirely. At this time an attempt to introduce the probe as at the first examination met an impassable obstruction and was a failure.

After the cessation of the discharge the course of convalescence was rapid, a very few days sufficing to produce healing.

The drugs used were the antiseptic solutions used in cleansing, the nitrate of silver caustic pencil, and the dusting powder. The dressings were always carefully applied in such a manner as to cause considerable pressure.

So far as could be learned from the history and observation there was no specific taint and an older sister appeared healthy. The child was seen again about a month after discharge and the umbilicus exhibited no unusual features and was perfectly healthy.

RUBEOLA NIGRA, WITH REPORT OF A CASE.

BY

H. E. MONROE, M.D.,

of Shelbyville, Ill.

Owing to the comparative infrequency of this fatal form of measles I am led to report a recent case. A careful search of later medical publications gives but little information. It seems as if the disease has occurred but rarely of late years, owing probably to improved sanitation and better personal hygiene. My case is a sporadic one. I have neither seen nor heard of others in this community.

O. L., a lad of 15, with a good personal and family history, was suddenly taken with malaise, rigors, and fever of the continuous hyperpyretic type. There were great sacral and lumbar pains, and as the family thought he had had the measles a few years before I looked upon the case as probably beginning smallpox. However, on the third day the eyes were reddened, face swollen, tongue and throat thickened and inflamed; the tongue had assumed the characteristic bluish color, and enanthema was now apparent. The fever and backache continued, and the patient appeared overwhelmed with poisonous toxins.

On the morning of the fourth day the rash of measles laggishly appeared upon the arms, thighs, legs, and abdomen. The fever now subsided. Ecchymoses were numerous under the skin, subconjunctival hemorrhage, and bleeding from the mouth and nose were observed. Coma now began, which gradually deepened, and death occurred in four hours. The entire cutaneous surface was discolored soon after death, the pendent parts being especially livid.

ORIGINAL ARTICLES

MYCOTIC ENZYMES.

BY

B. H. BUXTON, M.D.,

of New York.

In dealing with ferments, a distinction is usually drawn between unorganized soluble ferments—enzymes secreted by multicellular plants and animals and organized living ferments, the mycetes (molds, yeasts, and bacteria)—which were supposed at one time to effect changes in organic matter by direct protoplasmic action only.

This, however, is a distinction without a difference, since it has more recently been shown that those nutritive substances which are not directly assimilable by higher organisms cannot be directly assimilated by the mycetes either, and that these latter also convert non-assimilable into assimilable substances by means of enzymes. The only difference is that among the higher organisms certain cells are specialized for the production of enzymes, while with the mycetes each cell has to do all its own work.

Taking the carbohydrates and proteids as examples, we find that these must be simplified to precisely the same stage, both for multicellular and unicellular organisms, before they are directly assimilable.

The more complex carbohydrates, the polysaccharids $(C_{12}H_{20}O_{10})$ n., such as starch, glycogen, and inulin, and the disaccharids $(C_{12}H_{22}O_{11})$, such as cane sugar, lactose, and maltose must be converted into monosaccharids $(C_6H_{12}O_6)$, such as glucose and fructose, while the proteids, both insoluble, and such as enter into colloidal solution, as for example albumin, must be converted into peptones which enter into true solution.

The monosaccharids and peptones alone then among these two classes of substances can be directly assimilated by the protoplasm of living cells whether the cells lead an independent existence or form a part of a complex.

Any further breaking down of these substances by the direct action of the protoplasm may be called catalysis, though it seems quite possible that even the catalytic action may in reality be effected by means of enzymes working intracellularly, since Buchner has shown this to be the case with yeast, which effects the conversion of glucose into alcohol and carbon dioxid by means of an enzyme (zymase), existing in such close connection with the protoplasm of the cell that it can only be extracted by literally tearing the cell to pieces, and after extraction, *i. e.*, separation from the protoplasm, very quickly loses its activity.

Zymase, then, unlike the enzymes known hitherto, is not naturally diffusible, and it seems quite probable that in intracellular juices other nondiffusible enzymes, which cannot be extracted by simple maceration, may be demonstrated.

Nondiffusible enzymes, such as zymase, may be designated as intracellular, but the diffusible enzymes may act intracellularly, as, for example, the amylase of the liver.

In connection with intracellular ferment action may be mentioned certain diffusible enzymes—oxidases—which have the power of oxidizing various substances less complex than monosaccharids and peptones. For example Spitzer demonstrated an oxidase in liver and spleen pulp, which oxidized hypoxanthin (oxypurin) to xanthin (dioxypurin), and finally to uric acid (trioxypurin).

The oxidases are very widely distributed both in the animal and vegetable kingdoms, and in one form or another are probably a constant accompaniment of living protoplasm. It may be then that protoplasm never exerts a direct catalytic action, but effects all its breaking down by means of enzymes which it secretes, reserving for itself a synthetic action only. Oppenheimer (p. 249) remarks, "A ferment can indeed split or oxidize, but can never effect syntheses."

Even this assertion, however, may have to be modified since Croft Hill and others have recently shown for a few hydrolyzing enzymes that they can exert a reversing action, under certain circumstances, and hydrate or dehydrate (synthesis), according to the nature of their environment. Hanriot, indeed, goes so far as to suggest that diffusible enzymes acting intracellularly, as lipase in fat cells, and amylase in liver cells, play the part of regulators, keeping certain constituents of the cells in constant proportion by splitting or synthesising as occasion arises.

However, in the present state of our knowledge we must allow to protoplasm the power of catalytic action, beginning where accurate knowledge of enzymes leaves off, and for all practical purposes this knowledge ceases with monosaccharids and peptones so far as the carbohydrates and proteids are concerned.

The action of the enzymes on the more complex carbohydrates is one of hydration:

$$\underset{\text{Polysaccharid}}{(C_{12}H_{20}O_{10})n.} + nH_2O = \underset{\text{Disaccharid}}{nC_{12}H_{22}O_{11}}$$

$$\underset{\text{Disaccharid}}{C_{12}H_{22}O_{11}} + H_2O = \underset{\text{Monosaccharid}}{2C_6H_{12}O_6}$$

Amylase.—The enzymes acting on the polysaccharids, starch and glycogen, are called collectively amylase. Whether they are identical, from whatever source they may be derived is still uncertain, but their action on starch and glycogen appears to be practically similar in all cases. The first step is to change the insoluble into soluble starch, the soluble starch being then hydrated to maltose (disaccharid); certain intermediate substances, the dextrins, being formed at the same time. It is supposed by Brown and Morris,[7] although Brown[8] appears to have more recently modified his views, that there are numerous varieties of dextrines, but however this may be, they can at any rate be divided into two distinct groups, the erythrodextrins which turn red, and the achroodextrins or leukodextrins, which remain colorless on the addition of iodin in the shape of diluted Lugol solution. The steps then in the process are:

		Solution.*	With iodin.
1	Starch	Insoluble.	Blue.
2	Soluble starch	Colloidal.	Blue.
3	(a) Erythrodextrins	Slightly colloidal.	Red.
	(b) Leukodextrin		No change.
4	Maltose	True.	No change.

*In true solution each molecule of the dissolved substance lies separate in the dissolving medium, while in colloidal solution the individual molecules are not entirely separated from each other but occur in minute groups—solution aggregates as they are called by Moore and Parker. Substances in true solution will dialyze, but those in colloidal solution with difficulty or not at all according to the size of the aggregates. Substances in colloidal solution therefore are practically in suspension and the only difference between these and insoluble substances is in the size of the suspended particles.

The changes in glycogen conversion are analogous to, though perhaps not absolutely identical with, those of starch.

According to Duclaux, amylase contains two distinct enzymes: (1) Amylase which liquefies the starch, *i. e.*, reduces the solution aggregates without affecting the individual molecules, bringing it down to the dextrine stage, and (2) dextrinase, which hydrates the molecule of dextrine to one of maltose. He supposes then that the differences between starch and dextrin are physical, not chemical, and one of his arguments in favor of their identity is that they both rotate the plane of polarized light to the same degree (a) d+202.0, while maltose rotates (a) d+138.0.

Beijerinck†[1] is of a different opinion, although he also

†I have altered Beijerinck's terminology a little to bring into line with that used here.

considers that amylase is a mixture of two different enzymes, both of which act upon starch; one forming erythrodextrin and maltose, which he calls erythrodextrinase, and the other forming leukodextrin and maltose, which he calls leukodextrinase.

Leukodextrinase can also hydrate erythrodextrin to maltose, but erythrodextrinase has no effect upon leukodextrin. By prolonged action the leukodextrins also are converted into maltose.

Whether amylase is composed of two or more different enzymes or not for the present remains an open question, but it undoubtedly is possessed of two distinct properties; first liquefying starch and then converting it into maltose.

It has been found impossible to obtain amylase or, indeed, any enzyme in a pure state, so that their constitutions are not known, but it is probable that they are of a proteid nature for the most part.

Amylase is secreted by Aspergillus niger, penicillium, glaucum, and several other molds. In European and American breweries the agent made use of for converting malt starch into sugar, as a preliminary to alcoholic fermentation by yeast, is the diastase (amylase) contained in the malt itself.

In China and Japan there are native beers and other alcoholic drinks made from cooked rice, and since any amylase present in the rice must have been destroyed in the cooking, the amylase secreting powers of certain molds are called into action. The active principle used in brewing the Japanese saké is called koji, and consists of a mass of *Aspergillus oryzæ* and yeast with a certain proportion of rice.

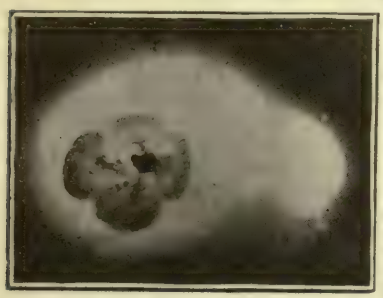


Fig. 1.—(Natural size.) Aspergillus oryzæ on starch agar plate treated with iodin. Transmitted light. White background. A clear ring surrounds the central growth.

On introducing the mixture into thin rice starch paste the aspergillus rapidly attacks the starch, converting it into maltose, and the process is continued by the yeast.

The accompanying table is given for comparison:

Drink.	Starch.	Converted into sugar by	Alcoholic fermentation by yeast.
European beer.	Malt.	Amylase secreted by germinating barley.	Saccharomyces cerevisia.
Japanese beer (saké).	Rice.	Amylase secreted by *Aspergillus oryzæ* (mold).	Saccharomyces.(?)
Chinese beer.	Rice.	Amylase secreted by *Amylomyces rouxii* (mold).	Saccharomyces rastorianus.

Bacillus lactis aerogenes and some others found in sewage, water, and soil secrete amylase under favorable conditions, *i. e.*, presence of starch and scarcity of directly assimilable carbohydrates.

To demonstrate the formation of amylase by bacteria an ingenious experiment has been devised by Wysman.

To sugar free broth gelatin .5% or 1% soluble starch is added and after sterilization is allowed to set in a Petri dish, diluted sewage being poured over the surface and poured off again. After 48 hours or so the plate is flooded with diluted Lugol solution, the gelatin quickly turning blue except around those colonies which have formed amylase. Such colonies appear surrounded by a white ring, owing to the conversion of the starch into dextrin and maltose. Sometimes there is an outer ring of a reddish color, showing the presence of erythrodextrin.

Since many bacteria produce alkali, in the presence of which starch does not turn blue with iodin because of the formation of an iodid, it is necessary first to flood the plate with a 4% or 5% solution of HCl, leaving it on for half a minute or so to neutralize the alkalies. If this is not done the alkali producers will show a clear ring around them, not necessarily due to amylase.

Eijckman by means of starch agar plates has shown that anthrax and the spirilla of cholera and Metchnikoff secrete amylase, a clear ring forming around the colonies. *B. coli communis*, typhoid, diphtheria, and some others showed no clear ring or only a trace. He considers the clear ring sufficient evidence and finds it unnecessary to treat with iodin.

I have confirmed Eijckman's observations on starch agar plates and have also demonstrated conversion of starch by cholera and anthrax bacilli in another way.

To sugar free broth ½% of corn starch is added and a number of tubes filled, each with 5 cc. Ten tubes are then inoculated with the organism and each day one taken out and boiled. At the end of ten days all are filtered, 1 cc. of each tested with Fehling's solution and the remaining 3 or 4 cc. after boiling is put into a fermentation tube, together with sufficient sugar free broth to fill it up. The fermentation tubes are then inoculated with *B. coli communis* and the amount of gas formation noted in 48 hours. *B. coli communis* will form gas if sugar is present but not otherwise.

It was found in this way that anthrax began to convert the starch in 48 hours and cholera in three days. Both showed progressive increase in the amount of sugar for seven or eight days, after which there was progressive decrease on the ninth and tenth days, no doubt owing to the utilization of the sugar already formed.

In both cases the amount of starch converted is small, though anthrax shows a somewhat more vigorous action than cholera. Controls were, of course, taken in each instance.

The foregoing experiments, however, only show that certain living bacteria can convert starch into sugar, and this might be taken to be due to vital action, although it would entail the supposition that the starch solution aggregates can be absorbed by the bacterial cell. But if some of the agar on which an old culture of a starch converter has been growing is smeared over the surface of a starch agar plate, to which a little thymol has been added, conversion of the starch can be demonstrated by treatment with iodin after two or three days.

Here there can have been no growth of the organism and the conversion must have been due to a diffusible enzyme previously secreted.

Maltase.—Since amylase only converts starch as far as maltose—a disaccharid—it is necessary for this to be still further hydrated to a monosaccharid, and this is done by means of another enzyme, maltase, which in nature almost always accompanies amylase, converting a molecule of maltose into two of glucose. Maltase has been found by Bourquelot[7] and others in Aspergillus niger, penicillium glaucum, and in most of the yeasts. Little has been done in this direction with bacteria, but it may sometimes be detected in colonies of *B. coli communis* by the following auxanographic method of Beijerinck[1] of great value for the detection of small quantities of enzyme.

Take gelatin 10% in water, KNO 3.1%, KH_2 Po_4 .05%, maltose 2%. Boil and then filter off the precipitate of Ca_3 $(Po_4)_2$.

In this make a suspension of saccharomyces mycoderma,* and allow to set in a Petri dish. Saccharomyces mycoderma does not attack maltose, produces no maltase in fact, so grows very slightly in this medium. If now streaks of *B. coli communis* are made on the surface mal-

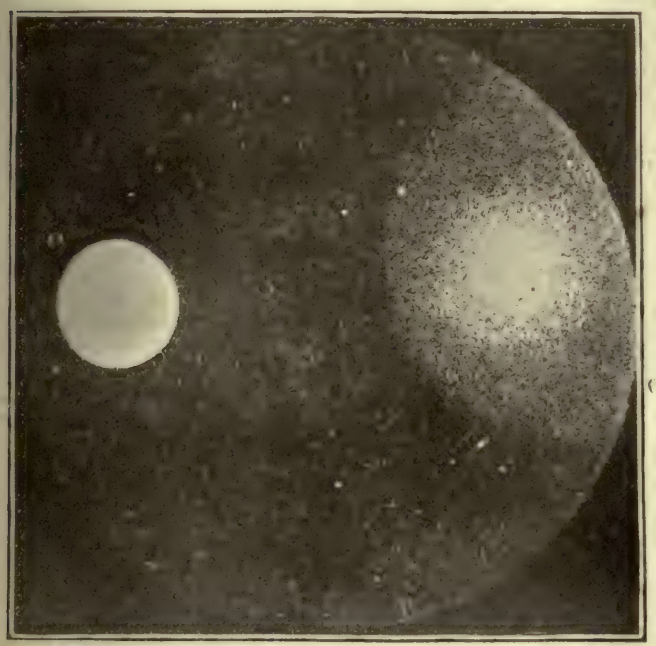
* To obtain saccharomyces mycoderma, expose a glass of beer for a few days. A film forms on the surface consisting chiefly of mycoderma, which can be isolated by plating out on gelatin made up with brewer's wort.

tase is secreted and diffused into the medium, converting the maltose into glucose, which can be assimilated by the saccharomyces mycoderma. This at once begins to grow and colonies of it can be seen springing up in those parts of the gelatin lying below and around the streaks.

The auxanographic experiments with maltase, however, are not always successful, since maltase is very slightly diffusible as compared with amylase. The physiologic reason for this appears to be that starch being insoluble or in colloidal solution, it cannot be taken into the bacterial cell as such, but must first be converted extracellularly. Maltose, on the contrary, can be absorbed by the cell so that the conversion can take place intracellularly, and there is not the same necessity for diffusion into the surrounding medium.

Invertase converts the disaccharid cane sugar into one molecule of glucose and one of fructose.

Invertase occurs in large quantities in yeast and can be easily extracted from this by maceration for some hours in chloroform water and filtering till clear. Its activity can be tested by adding 1 cc. of the extract to 5 cc. or 10 cc. of 10% solution of cane sugar and testing at intervals with Fehling's solution for the presence of glucose.



Left. Right.

Fig. 2.—Auxanographic plate. 2% cane sugar with suspension of Sacch. mycoderma. Transmitted light black background. Right—Colony secreting invertase colonies of mycoderma all around. Left—Colony not secreting invertase; no visible colonies of mycoderma.

Several molds have been found to secrete invertase, among them Aspergillus niger, from which, however, it is difficult of extraction until actual growth has ceased and the cells begun to lose their vitality.

Duclaux, therefore, grew Aspergillus niger on a large surface of a mineral solution (Raulin's) containing cane sugar for four days, at the end of which time he withdrew the medium and replaced it by sterilized distilled water. The enzyme was then discharged into the water, and after filtration from the mycelium the extract was found to invert cane sugar very readily. Probably this afforded about as pure a solution of an enzyme as has been obtained, although Malfitano finds that a tryptic enzyme is also discharged at the same time.

On repeating this experiment I found the extract contained no tryptic enzyme,* but there was an appreciable amount of amylase. Invertase, however, greatly predominated. On boiling the extract there was no coagulation, showing an absence of ordinary proteid material. Nor did the biuret test reveal the presence of peptones, so that there was probably little dissolved matter in the extract outside of the enzymes.

Although it is generally held that enzymes are of a proteid nature it is a fact that solutions can be obtained which afford no proteid reactions and yet contain active enzymes. It has been pointed out by Nencki and Sieber that reactions for proteids have their limitations, the biuret test not being reliable below one in ten thousand, the xanthoproteic below one in a million, and so on, while enzymes can show great activity even when present in infinitesimally small amounts.

Another suggested explanation is, that an enzyme is a proteid molecule plus something else, the additional molecule preventing the proteid from giving the usual reactions.

As is well known to the bacteriologist, some varieties of *B. coli communis* will form acid and gas in cane sugar media (*Coli communis communior*), while others will not (*Coli communis verus*). That the gas-forming cultures secrete invertase may be shown by the experiment with saccharomyces mycoderma already described, substituting cane sugar for maltose. Around streaks of *B. coli communis* cultures, which form gas in cane sugar media, a growth of saccharomyces mycoderma will appear, no such growth being visible around streaks of cultures which do not form gas in cane sugar.

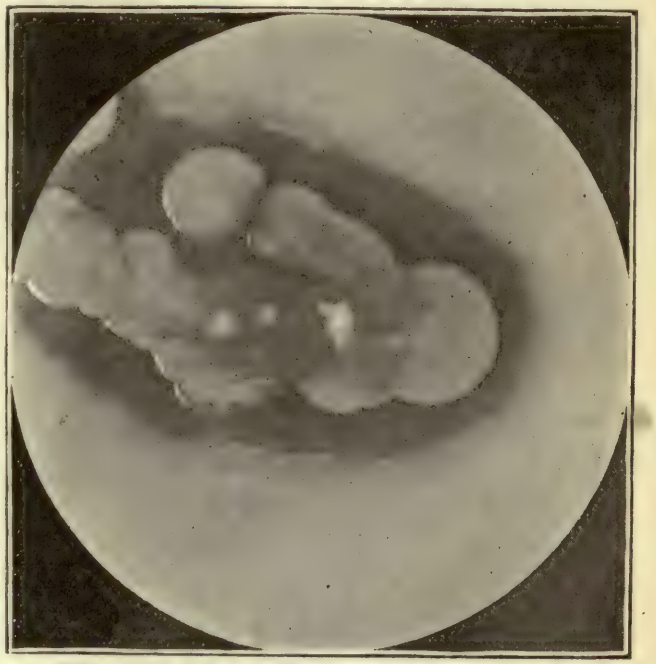


Fig. 3.—Milk agar plate. Anthrax digested around growth. The outer ring of coagulation does not show on the photograph.

Lactase.—Another disaccharid lactose is converted into glucose and galactose by lactase, first demonstrated by Beijerinck,[2] an enzyme which is secreted by all varieties of *B. coli communis*, but not by typhoid. The paracolons and paratyphoids, which are intermediate between *B. coli communis* and typhoid, form gas in maltose and glucose, but not in cane sugar or lactose media. By means of the saccharomyces mycoderma test it can be shown that these secrete maltase, but not invertase or lactase.

By this method it also appears that Aspergillus niger and Aspergillus oryzæ do not secrete lactase, although both are great producers of amylase and invertase.

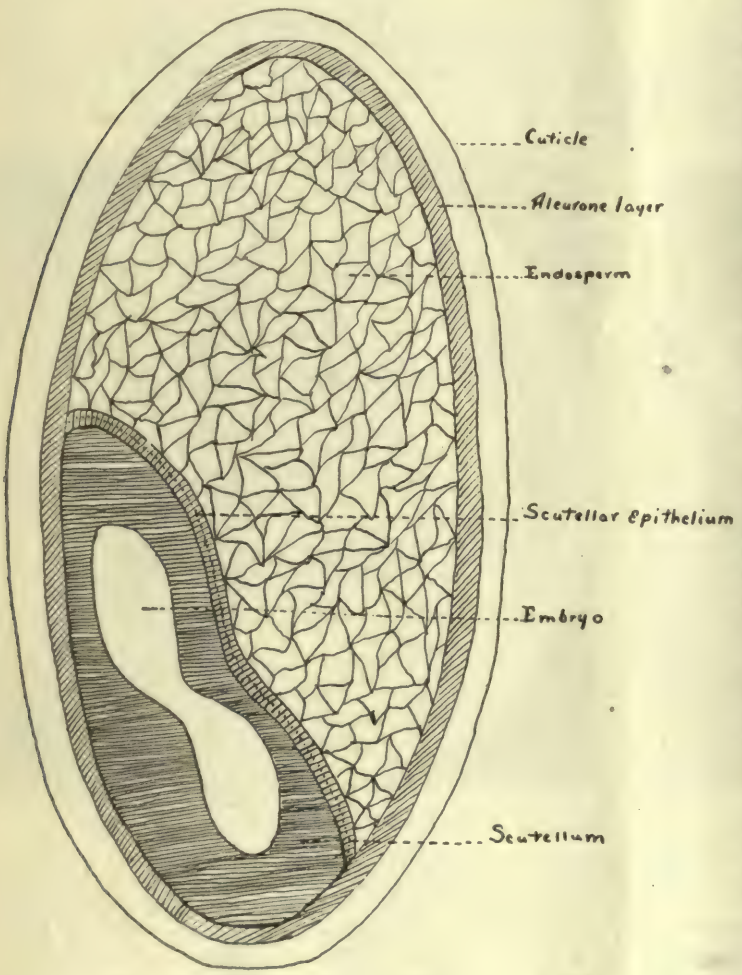
A red bacillus isolated from the air, forming a thick, glutinous growth on potato, was found to convert lactose very readily, but had no effect on starch or cane sugar. The bacillus could not be identified with any of those described in the textbooks.

* My culture of Aspergillus niger does not appear to denote any proteolytic enzyme. (See Table.)

Inulase.—In addition to starch the polysaccharid inulin occurs as a reserve material in most if not all tuberous roots, and can be converted into fructose by inulase, an enzyme first demonstrated by Green in 1886 in the germinating tubers of the artichoke.

Bourquelot[8] showed that Aspergillus niger, that unfailing resource of the enzyme hunter, secretes inulase when grown in a medium containing inulin, and I find this to be the case if inulin is substituted for cane sugar in the Duclaux experiment already described. Aspergillus oryzœ, under these circumstances, secreted no inulase, nor could it be demonstrated with any bacteria by means of inulin auxanographic plates.

Cytase.—Cellulose can be liquefied and hydrated to sugars by means of the enzyme, cytase, which has been



Grain of Barley

Longitudinal Section [diagrammatic]

Endosperm—Composed of cells containing reserve starch.
Aleurone layer—Where the cytase is chiefly secreted.
Scutellar epithelium—Where the amylase is chiefly secreted.

shown to be secreted in the aleurone layer of germinating grains, softening the cell walls so that the starch contained in the cells of the endosperm becomes more readily attainable by the amylase secreted by and diffused out from the scutellar epithelium. The accompanying diagram will explain the meaning of this.

Many molds which are parasitic in plants secrete cytase, softening and breaking down the cell walls, by which means they are enabled to force their way into the plant tissues on which they feed. De Bary in 1886 first demonstrated the action of cytase in reziza sclerotiorum, a mold parasitic on the roots of carrots and turnips.

Among the bacteria the only ones which secrete cytase in appreciable amounts, and can, therefore, attack cellulose, are certain of the obligate anaerobics, and among these *Bacillus butyricus* plays a prominent part. This fact is taken advantage of in places where sewage is purified by biologic methods before discharging it into the water-courses.

The purification is effected by running the sewage through tanks and coke beds where bacteria multiply and break down organic substances, partly by means of enzymes and partly by catalysis.

The first tank, the septic tank, is so arranged that the action is strictly anaerobic, and here the cellulose is liquefied and hydrated to such an extent by the enzymes of *B. butyricus* and other anaerobics that in the subsequent coke beds which are conducted under aerobic conditions the process of further reduction to organic compounds can be easily continued by the facultatives and aerobics. If it were not for the preliminary anaerobic action the cellulose contained in paper, rags, etc., would remain indefinitely unchanged and soon choke up the coke beds.

The rotting of flax is due to the action of certain bacteria. In this case, however, it is not the cellulose of the fibers, but the intercellular cement substances, the socalled pectic bodies closely allied to cellulose, which are attacked, being softened and gelatinized by the enzyme pectase, so that the individual fibers of the flax stalks become easily separable and available for the manufacture of linen.

Proteolytic Enzymes.—In the vegetable kingdom and among the lower animals the proteolytic enzymes secreted appear to be more closely allied to trypsin than pepsin, in that they all are able, by prolonged action, to carry the digestion of proteids beyond the peptone stage—purin derivatives, leucin, tyrosin, and other amido bodies being formed.

Certain of the vegetable trypsins have been named after the plants in which they occur, as bromelin from pineapple (Chittenden) and papain from the papaw tree, but as a group the proteolytic enzymes may conveniently be called proteases.

Insoluble and colloidal proteids are probably converted into soluble peptones by hydration, although, as Green points out, there can be no certainty of this since we are entirely ignorant of the constitution of the proteids.

During the purification of sewage the insoluble proteid matter is all reduced to gases, water, and nitrates, and since the action here is purely bacterial it is obvious that the bacteria must secrete proteases in order to start the process. In artificial purification of sewage the preliminary liquefaction of the insoluble proteids takes place chiefly under anaerobic conditions in the septic tank, and it is known to all bacteriologists that the commoner anaerobics liquefy gelatin and blood-serum.

Of the facultative anaerobics many liquefy gelatin. On taking an old liquefied gelatin culture, killing the bacteria by the addition of a little thymol or chloroform, and pouring into a tube containing fresh gelatin, the latter becomes liquefied more or less rapidly. In this case, since the bacteria have been killed, the liquefaction must be due to a diffusible protease.

That there must be some differences between the proteases secreted by bacteria is shown by the fact that some of those which liquefy gelatin will also liquefy blood-serum, while others will not.

Others again, such as *Streptococcus pyogenes*, do not liquefy either gelatin or serum but can exercise a hemolytic action on red blood-corpuscles.

The ordinary liquefaction of gelatin and serum need not be dilated upon, but demonstration of proteases by means of milk and blood agar plates may be described. Eijckman has worked this out very thoroughly.

Milk Plates.—Ordinary broth agar, 75%, and skim milk, 25%, are separately sterilized, mixed at a temperature of 50° C., poured into Petri dishes and, as soon as set, are streaked with various bacteria. As the latter grow the streak may at first become surrounded by a thickened ring, due to curdling by rennet secreted by the bacteria, and later an inner clear ring appears showing that the casein is being digested. By using litmus milk it can be shown that the process is entirely independent of any acid formation.

Eijckman found that the bacteria which digest casein are precisely those which liquefy gelatin, the nonliquefiers having no effect upon it.

My observations coincide with his, and I find that the agar from old cultures of anthrax and cholera smeared on thymol milk agar plates will produce the same results.

Blood Plates for Hemolysis.—A flask of ordinary agar containing say 100 cc. is melted and cooled to 40° C. To this a little defibrinated blood is added, rapidly mixed, and the agar poured into Petri dishes. The blood-corpuscles remain intact so long as the agar is moist. On the surface streaks are made as with milk plates.

Eijckman found that destruction of the blood-corpuscles did not proceed *pari passu* with liquefaction of the gelatin. On smearing a thin sheet of gelatin over the agar, contiguous to the streak, it was observed that anthrax would begin to destroy the blood-corpuscles before the gelatin became liquefied, while with cholera the reverse obtained. From these and other similar observations he concluded that the tryptic and hemolytic enzymes are not identical.

Among those bacteria which do not liquefy gelatin I find that *B. coli communis*, typhoid, and *Streptococcus pyogenes* will destroy human and rabbit blood-corpuscles suspended in agar. The action of the two former seems a little uncertain, but the streptococcus always exerts a hemolytic action, though rather slowly. It is usually 48 hours before the clear ring around the growth appears, but from then on is steadily progressive, attaining a width of 4–5 mm. in four or five days. That some bacteria which do not liquefy gelatin at all can exercise a hemolytic action is another argument in favor of the nonidentity of bacterial hemolysins and ordinary proteases.

Streptococcus pyogenes appears even to have some hemolytic power *in vivo*. Both Bordet and Besredka have observed that in rabbits injected with a virulent culture there is laking of the blood just before death. Other bacteria which can be shown to exert a hemolytic action *in vitro* do not appear to have this power *in vivo*.

The hemolytic principle is diffused out from the bacterial cells into the culture media and in fluid media can be separated from the cells by filtration. In this way staphylolysin (Neisser and Wechsberg), tetanolysin (Ehrlich), typholysin (Levy and Levy), and other lysins have been isolated. Streptolysin, however, does not appear to be so diffusible, and Besredka was only able to separate it by special methods.

Special Methods.—It is a question, however, how far the hemolytic power of bacterial filtrates and cultures is in reality due to ferment action. Levaditi has quite recently shown that extracts of animal tissues quickly made possess very slight or no hemolytic power. This power when it exists is due to a thermolabile (*i. e.*, nonresistant to 60° C.) ferment-like hemolysin. If the process of extraction be prolonged the hemolytic power is greatly increased, but this additional hemolytic principle is thermostable, cannot be destroyed even by boiling, and is due to the presence of amido acids, etc., products of autodigestion, which destroy the blood cells by simple chemical action.

On reading the various reports of experiments on bacterial lysins with this idea in view it strikes one that in many instances their action might be explained in a similar way.

Our blood agar plates then will show us which bacteria can destroy blood cells, but they will not tell us whether the destruction is due to a hemolytic enzyme secreted by the bacteria or to certain of their simple crystallizable by-products.

In all probability further investigation will show that the hemolytic properties of the nonliquefying bacteria are due to the latter, and it is significant that colilysin and typholysin are said to be thermostable, while tetanolysin and staphylolysin are thermolabile (Kayser).

Egg Albumen.—On dissolving 4% or 5% of white of egg in agar cooled to a temperature below that at which the egg albumen coagulates and plating out the medium appears slightly opalescent. If the surface is streaked with various bacteria, some will clear up the agar for several millimeters beyond the growth, and on heating the plates over a flame the egg albumen will coagulate and become quite opaque, except where it has been digested. Fibrin rubbed down fine and suspended in agar is digested by most of the liquefiers.

The accompanying tables have been compiled from my own observations, principally on agar plates:

ENZYMES HYDRATING CARBOHYDRATES.

		Amylase.	Maltase.	Invertase.	Lactase.	Inulase.
1	Anthrax	+	+	—	—	—
2	Cholera	+	+	—	—	—
3	Coli communis	—	+	—	+	—
4	Typhoid	—	+	—	—	—
5	Diphtheria	—	—	—	—	—
6	Staph. pyogenes aureus	—	+	—	—	—
7	Lactis aerogenes	—	+	+	+	—
8	Pyocyaneus	—	—	—	—	—
9	Violaceus	—	—	—	—	—
10	Mycoides	+	+	—	—	—
11	Prodigiosus	—	+	—	—	—
12	Saccharomyces niger	—	+	+	—	—
13	Saccharomyces neoformans	—	+	+	—	—
14	Aspergillus niger	+	+	+	—	+
15	Aspergillus oryzæ	+	—	+	—	—

PROTEOLYTIC ENZYMES DIGESTING

		Milk.		Gelatin.	Serum.	Egg albumen.	Fibrin.	Red blood-corpuscles.
		Coagul.	Digestion.					
1	Anthrax	+	+	+	—	+	+	+
2	Cholera	+	+	+	+	+	+	+
3	Coli communis	—	—	—	—	—	—	+
4	Staph. pyogenes aureus	+	+	+	—	—	—	+
5	Streptococcus pyogenes	—	—	—	—	—	—	+
6	Pyocyaneus	+	+	+	+	+	—	?
7	Violaceus	—	—	+	—	—	—	+
8	Mycoides	+	+	+	—	+	+	+
9	Prodigiosus	.....	+	+	—	+	+	+
10	Aspergillus niger	+	+	+	—	+	—	+
11	Aspergillus oryzæ	+	+	+	+	+	—	—

Photographs.—1 (natural size). Aspergillus oryzæ on starch agar plate treated with iodin. Transmitted light. White background. A clear ring surrounds the central growth.

2. Auxanographic plate, 2% of cane sugar with suspension of saccharomyces mycoderma. Transmitted light. Black background.

Right: Colony secreting invertase. Colonies of mycoderma all around.

Left: Colony not secreting invertase. No visible colonies of mycoderma.

3. Milk agar plate. Anthrax. Digested around growth. There is not sufficient contrast in milk agar plates to enable a clear photograph to be taken.

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SOME PRACTICAL CONSIDERATIONS ON THE TUMEFACTIONS OF THE CLIMACTERIC BREAST.[1]

BY

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For many years I advised my students to operate at once in all cases of tumefactions of doubtful character occurring in the breasts of women over 30. I was led to give this advice by the melancholy experience, which every surgical specialist has to encounter, of large numbers of cancers which were brought first to my notice when they had become hopelessly incurable. I found practitioners all over the State advising patients to postpone remedial measures in the early stages of mammary cancer until the disease had advanced so far as to be obvious even to the lay mind. The reason of this was the difficulty of diagnosis in the early and curable stage of the disorder. The physician shrank from alarming his patient so long as he himself felt uncertain as to the character of the painless and obscure induration, hardly perceptible, perhaps, in the depth of a large breast, and while he was comforting his patient with false hopes and awaiting events, the malignant growth scattered its seed far and wide over the adjacent area and through the lymphatic channels.

The impressions made upon the minds of practical surgeons by such neglected cases are exceedingly painful. A woman comes for an opinion as to the character of a swelling which has caused her some anxiety. She hopes to learn from the surgeon what she has, perhaps, been told again and again by her family physician, that there is no reason for alarm, and she is shocked beyond measure when she discovers not only that she has had cancer, but also that the time for its possible cure has passed by forever. Her invariable and urgent question—a question which is exceedingly difficult to parry—is whether anything could have been done for her relief if she had come 6, or 12, or 18 months sooner, when she first consulted her doctor. The surgeon is then in a dilemma, for he wishes on the one hand to protect his colleague from blame, while on the other he feels it his duty to make every woman in the land know that a lump in her breast has possibilities of danger which demand immediate action.

The consideration of such cases, of which I had very many, made it seem to me more humane and more rational to extirpate ruthlessly all tumorous breasts than to suffer patients who might have cancer to drift into a hopeless doom. The occasional amputation of an organ which might have been saved did not seem to me to compare in evil with the failure to act when the danger to life urgently demanded operative measures. A further reason for the advice which I gave was the tendency of many innocent maladies to develop in time into malignant diseases, or if not that, to offer a soil favorable to such growths. Scars and inflammatory indurations of long standing, syphilitic ulcers, and cystic swellings all are found, in many cases, to precede or accompany the development of cancer. With this experience as a guide, it did not appear unwise to extirpate all breasts thus affected and thus obviate a possible danger.

I believe that this policy worked for good in very many cases, and that women now living have owed their lives to it, and yet I have become convinced of late years that for certain reasons which I shall state it ought to be materially modified. It is, in the first place, an opprobrium of our art if we sacrifice unnecessarily any organ, even though it has passed the period of its usefulness. A woman who has lost a breast always feels that she is deformed, nor will it take away from the bitterness of her reproach if told afterward that the operation was not rendered necessary by the character of the disease—and yet if after a breast is amputated the subsequent examination proves the disease to have been benign, it is only just that the patient should receive the benefit of a knowledge which will relieve her from a constant apprehension and anxiety. I can testify from a long experience that the occurrence of benign swellings in the female breast, even in the climacteric period, is much more common than is usually supposed. Indeed, of late years the experience of my earlier professional life has been so reversed that whereas then I had to mourn over lives lost from delay, I am now more often obliged to dissent from the advice of physicians who have sent to me for operation inflammatory swellings which could be cured by pressure or massage, or cysts which would disappear after puncture. This experience, though vastly more pleasant to the patient, has nevertheless a most disagreeable phase, as the outcome must necessarily reflect on the skill of the attending physician.

I have thus many times been put in the awkward position of disagreeing with opinions which had been given in accordance with my own advice, and yet I could not sacrifice my patient and amputate a breast which could be saved, in order to be consistent. Besides, I have become cognizant of another evil, which may follow and has followed, upon the expression of a too unfavorable opinion in cases of doubtful diagnosis of mammary tumors.

The country is infested with a great number of cancer quacks, who plunder their victims while subjecting them to horrible and unnecessary tortures by the applications of caustic pastes. I feel warranted in asserting positively that no true cancer of the female breast was ever cured by this method of treatment. My experience in operating on such patients is very large and, as it is my custom to operate at the very earliest possible period, I know positively that the glands of the axilla are always involved at the time when the cancer first manifests itself as a perceptible abnormal change in the gland. I have never found an exception to this rule, although the glands may not become perceptible to the touch until the axillary space has been opened and laid bare. Now the destruction of these infected glands by caustic applications is impossible, as they lie close to the large blood-vessels, which would be eroded by the caustic. In such an event the death of the patient from hemorrhage would be only a question of a little time. Even the most reckless of these charlatans do not dare to invade this territory with their applications. But, while they do not cure cancers of the breast, they do destroy many breasts containing innocent swellings, which pass among the laity as cancerous, and from these cases they gain a popular reputation. I have seen many sad cases of the dreadful and unwarranted destruction of tissue for innocent swellings which could have been removed by a single incision.

[1] Read before the Michigan State Medical Society.

One patient whom I have treated within a year, a girl of 26, told me that she had had at the age of 16 a "hard cancer" of the breast which had been "cured" by one of these charlatans. She had come to me to be cured of the results of his operations. I found, on examination, that the whole breast had been destroyed, together with a wide area of integument, and that the pleural cavity had been opened. The lung had collapsed and a fistulous opening led into the still suppurating pleural cavity. Now hard cancers do not occur in girls of 16. She had doubtless had a fibrous tumor which could have been removed through a small incision, but she had faith yet in the miscreant who had destroyed her breast and lung and ruined her health.

When we pronounce as cancerous, enlargements of an innocent nature, or when we lead our patients to believe them to be such by a too vigorous assertion of danger, we play into the hands of these quacks, for when breasts so affected are removed by caustics and the patients recover, the opinions of the regular physicians are quoted as proofs positive of the malignant nature of the tumors.

For these reasons it becomes incumbent on us all, family physicians as well as surgeons, to perfect ourselves in the diagnosis of affections of the female breast. We should learn to distinguish, when possible, the benign from the malignant, in order to be able to counsel our patients correctly, neither permitting them to drift into an incurable condition from a disastrous delay, nor resorting to measures of severity not warranted by the character of the disease. In studying the diagnosis of the malignant from the nonmalignant swellings of the female breast we may first note that enlargements of a benign or semibenign character, which are liable to be mistaken for cancer or sarcoma, are of two kinds. They may be true neoplasms, fibrous or fibrocystic tumors, or adenomas, or more rarely, vascular, fatty, cartilaginous or bony tumors, or they may be accidental swellings such as inflammations, gummy tumors, and the like, which may simulate true tumors. We may further note that these accidental swellings form the vast majority of all those which render diagnosis doubtful and obscure. The true tumors of benign character, which develop in the breast after the age of 30, are comparatively few in number. Of those which are actually met in practice in older women, the greater number, too, have begun their growth at an earlier age. Of the benign tumors which occur at any age in the mammary gland the great majority again are fibrous in character. After these come the fibrocystic and the fibroadenomas. True adenomas are rare, and the other tumors occasionally met are so uncommon as to be of little account in this question.

The diagnosis of a fibrous tumor is usually easy. Its firmness, its circumscribed form, the absence of all secondary knots and all evidences of infection make its recognition feasible even before operation, and when cut into, its bulging, glistening surface is so different from the concave, dull-hued and mottled look of the cut scirrhus that the microscope need rarely be used to decide upon its nature. The fibrocysts and fibroadenomas could be confounded with the cystic sarcoma and scirrhus, but nevertheless decidedly differ from them in their simpler and less variegated structure. In fact, as regards the diagnosis of one neoplasm of the mammary gland from another, we may say in general that difficulty is experienced in distinguishing the benign from the malignant on microscopic examination only when the one is undergoing a degenerative change and is beginning to assume the characteristics of the other. The accidental enlargements on the other hand, usually either cystic or inflammatory, are not only exceedingly common but are also sometimes most perplexing in their resemblance to scirrhus or sarcoma.

If I were to judge from my own experience I should say that cysts of one kind or another, not including cystic sarcoma or those arising from the disintegration of cancerous or other tumors, are the most common of all tumefactions of the breast.

Those arising during the childbearing period, and sometimes afterward, are often milky cysts coming from obstruction of the lacteal ducts. These obstructions may be caused either by imperfect formation of the ducts or by inflammatory changes. They present symptoms which differ according to their location and size and may appear either as large, globular tumors or as small, illy-defined and obscure swellings under the nipple or deep in the breast structure. They contain milk more or less altered in consistency. The exploring needle will reveal their contents either in the form of fluid milk or milk thickened to resemble pus, or finally, a paste-like residuum. The microscope will show the milk globules and fat.

I have at the present time one under treatment, which will illustrate one form in which they appear. A lady was sent to me for operation on account of a doughy thickening under the nipple, which was thought to be cancerous. It lay deep in the breast and felt not unlike a moderately soft cancerous infiltration. On puncture it yielded a white paste, which was found to consist of milk globules without any admixture whatever of cellular elements. After evacuation of its contents all induration and abnormal swelling disappeared, but in a short time a reaccumulation took place of precisely the same character, the milk globules presenting themselves under the microscope with very little interglobular fluid, showing that the character of the secretion was not caused by its long continuance in the tissues. Should it collect again I will make a free incision and may possibly remove the affected area.

The occurrence of fluctuation in these cysts will depend upon the more or less fluidity of their contents, and sometimes upon their location. When the contents are thick and pasty, the fluctuation is absent. I have never seen any tendency in these cysts toward malignant degenerations, but nevertheless think it best to subject them to operative measures when they do not yield to puncture, for they are, after all, only another phase of chronic irritation, and chronic irritations may lead to dangerous changes.

Much more common than the milky cysts are the so-called involution cysts which, in my experience, give rise more than any other form of tumefactions to diagnostic and prognostic errors. These cysts are formed by the accumulation of a serous exudate in the acini and lacteal ducts, in which there occurs broken down epithelium from the lining membrane. Their etiology is not altogether understood, and they probably arise from irritations of various origins. They differ somewhat in their gross characteristics, some having no wall but that of the lining membrane of the ducts, while others are surrounded by an inflammatory wall. For these reasons they react differently to puncture. When exploring needles are inserted into these cysts the greater number will collapse so completely that after the evacuation of their contents no abnormality can be detected by the closest examination. The seat of the collapsed cyst will then feel exactly like the rest of the breast. In a minority of cases there can be felt, after evacuation, a decided hardness or swelling. I meet these cases usually in office consultations. Women come in great alarm on account of one or more firm, small swellings deep in the breast. As a rule, they feel much more like solid than like cystic tumors, and are often irregular in outline. The difficulty of the diagnosis may be increased by a location deep in the gland and by the occurrence of several cysts in one or both organs. When such a patient comes to me I invariably insert an exploring needle, when a cyst, if present, will reveal itself by the discharge of a dark colored fluid.

Will any one tell me why physicians so rarely use an exploring needle? In just this class of cases I should

feel lost without the aid which I get from this little instrument, and yet from the great numbers of patients who come to me with a mistaken diagnosis of cancer, I have been forced to the conclusion that it is practically unknown to a large number of practitioners.

The result of the puncture will determine the diagnosis and indicate the treatment. When all the tumefaction disappears with the evacuation of the cyst's contents, we may reassure our patients positively as to a favorable outcome for, with rare exceptions, it is the rule that the trouble will entirely disappear with a few punctures of the needle. I have, however, seen one or two cases in which cysts with this history have been the forerunners of cancer.

A woman once came to me with large cysts in both breasts, which so entirely collapsed on puncture that I could feel, after the evacuation of the fluid, no induration whatever. The glands presented then an absolutely normal appearance. She was directed to call again and keep herself under observation, but I did not see her again for more than two years, and when I then had the opportunity of examining her, both organs were hopelessly involved in scirrhus growth.

Sometimes an inflammatory tumor of chronic character will develop in the location of a cured cyst. I operated on such a patient this year. A lady who had had a small uterine fibroid came to me six years ago with a cyst of the left breast. It was cured by puncture. On presenting herself again last winter I found a cyst of the right breast (which I cured by puncture) and a hard well-defined tumor of the left breast at the place where she had previously had a cyst. This tumor had been several months in developing, but in the absence of all symptoms of neighborhood infection, such as adherence of the overlying skin, retraction of nipple, etc., was diagnosed as inflammatory. As an incision into its substance confirmed this view, I contented myself with removing the affected lobe. A subsequent pathologic examination at the Detroit Clinical Laboratory established the correctness of the diagnosis.

When the evacuation of the cyst contents does not cause an entire disappearance of the swelling, when it leaves behind a perceptible thickening or an induration, we have to deal with pathologic conditions which will cause more anxiety and trouble. The remaining tumefaction may be due either to an inflammation of the wall of the duct or of the outlying connective tissue, or to the presence of a neoplasm, which complicates, if it has not actually caused the development of the cyst. A microscopic examination of the exuded fluid may or may not throw light on the nature of the malady. If inflammatory, it may possibly subside under massage and pressure; if neoplastic, it demands imperatively operative relief. I do not think that the surgeon should delay action very long in these cases if treatment produces no benefit. It is then a proper case for exploratory incision, thorough examination and radical measures. I had a case a year ago with Dr. Campau, of Harrow, Ontario, which illustrated this matter, and which caused me considerable chagrin. I punctured a cyst in the breast of one of his patients, and evacuated a thin, dark-colored serum. There remained a very small, indurated spot, hardly bigger than a small bean. I gave a good prognosis, but it was only a few months after that she came to me with a rapidly growing cancer and an evident glandular infection, which necessitated a very extensive operation. It is possible that the growth in this case preceded the exudation of fluid in the duct, and by producing an irritation caused it. However that may be, I have learned, by many cases, that cysts in which tumefaction persists after puncture, demand a watchful attention and prompt treatment. I hardly need to call attention in this connection to those cavities in morbid growths which result from the breaking down of cancerous tissue. The contents of such cavities resemble those of certain abscesses, but under the microscope are found to consist of cells, more or less degenerated granular matter, fat globules, and pus. They should never deceive the practitioner nor render him doubtful of their true nature, and yet I have seen them more than once mistaken for phlegmonous abscesses.

If puncture and the microscopic examination of exuded fluids leave the surgeon in doubt as to the character of any given tumefaction, the question arises whether he should then proceed without further ado to treat the breast as cancerous and to remove it thoroughly, together with the surrounding tissues and glands. For many years I acted on this principle as the only one which could promise good practical results, for reasons which I have already stated. I have found it best of late years to alter my practice by extending the examination still further by means of an exploratory incision. A cut made deep and wide into the tumor will often relieve doubts by its macroscopic semblance alone, exposing cavities which may have escaped the exploring needle, and showing the gross outlines of structure in the more solid tissues. If we see the cut surface of a hard tumor of uniform color and consistency and of bulging convex form and strictly defined from the surrounding parts, we might not be able to diagnosticate it as a fibroid or adenoma or inflammatory mass, but we should feel certain that it was not a scirrhus. If further, we could find no evidences of infection anywhere, we should conclude that it was innocent, and content ourselves with excising the affected lobe, sparing the rest of the gland, the overlying skin and underlying fascia and muscle. If, on the contrary, we discover on incising a doubtful swelling, a surface concave and retracted, with mottled color and a vague outline melting insensibly into neighboring tissues, if it is attached to the adjoining structures and draws them into itself, and if secondary nodules or enlarged glands indicate a process of infection, we should not hesitate to sacrifice breast, skin, fascia, muscles, and glands far and wide, with the hope of saving life.

In hospital practice many surgeons delay the completion of an operation in order to have a rapid examination of frozen sections of portions of the tumor which they have excised for the purpose. I have not much faith in the efficacy of this kind of investigation, for while the method may yield definite results in cases which give the surgeon little doubt, it fails to give us certain information in those which are most perplexing. We rarely are at a loss, after cutting into a tumor, to recognize a typical fibroid or a scirrhus. The cases of doubt are those in which malignant elements are thought to be growing among others of a benign nature, as when a fibroid or adenoma or inflammatory product has formed the nucleus for the development of cancer. A casual hasty examination of segments of such a growth will rarely yield the desired information, though a careful investigation of sections cut from many places in the extirpated organ might throw valuable light on the process.

When in operating we delay the completion of the procedure while awaiting the result of microscopic examination, we should not forget that the reason of so doing is to save as much tissue as may be possible if the examination should warrant less radical procedures than thorough extirpation. This caution might seem unnecessary, but it was only last summer that I saw an operation in one of the largest eastern hospitals in which this principle seemed to have been lost sight of. A woman was brought into the clinic with some kind of a lump in the breast. The organ was small and covered so tightly with its integument that the excision of any great portion of the skin would mean either healing by granulation or an extensive plastic operation. The surgeon made at once an oval incision and removed the gland, together with its covering of skin, and then sent the patient out of the room to wait for the microscopic examination before having the operation finished. I waited in the clinic a full half hour but did not see her

again nor hear the result. Now if the tumor was benign all of the integument, at least, should have been saved; if malignant, the underlying muscle, fascia and lymphatic glands should have been removed; if of doubtful nature, as I assumed, the integument should not have been removed until that doubt had been settled by the microscopic examination, as long as the surgeon relied upon that as a criterion on which to base his action. It was evident to me that the operator was following a routine and had lost all idea of the purpose of the pathologic examination.

Certain inflammatory tumors can with difficulty be distinguished from scirrhus by microscopic examination. In fact, their clinical symptoms are of more value in diagnosis than the minute structure. They are all marked by a uniform caking of the whole breast, so that the gland has a feel of even hardness. The skin, however, is not adherent, nor the nipple retracted, nor the axillary glands swollen, but the new inflammatory tissue surrounding the ducts and acini will strangle them, leaving here and there islands of epithelial cells. Sometimes a portion only of the mammary gland is involved, and the diagnosis may become difficult.

In conclusion I will say that no breast ought to be adjudged cancerous without the most thorough examination by all possible methods, but when the surgeon, using his best judgment after full investigation, has come to the conclusion that he has to deal with a tumor of dangerous tendencies he should then operate on it so thoroughly as to destroy if possible every secondary growth, whether in fascia or muscle, skin or gland. He should assume that the skin above it, the fascia and muscle below, and all of the neighboring lymphatic vessels and glands are already infected and should make the operation wide enough and deep enough to take in all of the suspected territory.

We cannot as yet say that we can in this way cure all patients with the disease, nor even a majority of them, but we may truthfully claim to have had a success in a very large minority—which our predecessors in surgery never achieved.

I have now many patients who are living without recurrences after three, five, and ten years, and feel justified therefore, in spite of many discouraging failures, in recommending the operation as the only treatment which as yet has shown a fair measure of success.

Above all things, we should try to keep our patients out of the hands of the charlatans, who inflict upon them indescribable tortures which in the very nature of things cannot possibly be of service.

THE PATHOLOGY OF LATENT MALARIAL INFECTION AS OBSERVED AT AUTOPSY.*

BY

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The subject of the pathology of malaria has been very thoroughly investigated by various observers and the conditions found in acute and chronic infections are well known. The pathology of latent infections, however, has not been by any means thoroughly investigated. By latent infections I mean malarial infection which is not manifested by any symptoms, and in which an examination of the blood does not necessarily show the presence of malarial parasites.

In previous communications[1 2 3] I have described somewhat briefly the pathology of some of these cases, and it is my intention in this paper to give the pathologic changes found in the various organs in patients dying from other diseases, but in whom a latent malarial infection was discovered.

If we confine the term "latent malarial infection" only to those cases in which no symptoms are present and no parasites are found upon repeated examination of the blood, it will be at once seen why the pathology of this condition has not been thoroughly investigated. Such cases of malarial infection will only be discovered at autopsy, the patient having perished from some other disease process. Outside of the tropics and the more malarial regions of our own country such cases will necessarily be very rare. There would be little value in describing the conditions found in a latent infection in which the parasites are easily demonstrable in the blood, as in such cases we should expect to find the same pathologic changes as are found in acute infections, but to a less degree. Therefore in this paper I shall touch only upon those cases in which no parasites were observed in the blood and no clinical symptoms of malaria were detected before death.

During the last three years of service at this hospital seven cases have been observed in which the autopsy showed latent malarial infection unaccompanied by clinical symptoms or the presence of parasites in the blood before death. Three of these cases have been benign tertian infections, and four estivoautumnal infections of the tertian type. In describing the pathology of these cases I shall first speak of the tertian cases.

PATHOLOGY OF LATENT TERTIAN INFECTIONS.

The pathologic lesions found were confined entirely to the spleen and liver. These local pathologic changes are peculiar, as they were also shown to be present in the estivoautumnal latent infections. In numerous cases coming to autopsy from other disease processes, accompanied by a latent malarial infection in which the parasites were found in the blood, but in which no definite symptoms were produced, it was noticed that the chief pathologic lesions were also found in the liver and spleen, and that other organs showed them to some extent. It is well known that in an acute malarial infection almost every organ of the body is more or less involved. Thus it will be seen that from the mildest latent infections to the acute infections there is a gradual progress in pathologic lesions, first manifested in the spleen and liver and spreading, according to the extent of the infection and the severity of it, to other organs.

Spleen.—The most marked pathologic lesions were always present in the spleen. The organ in the tertian infections was considerably enlarged and dark bluish-gray in color externally, the capsule being, as a rule, smooth and tense, the notches distinct, the organ decreased somewhat in consistency. Upon section the color was a dark brownish-red, but did not present that intense brownish or black color found in well-marked acute infections; this, of course, is easily understood, from the fact that the parasites present were comparatively few and that little pigment was therefore formed. Microscopically, the sections of the spleen showed intense congestion of the splenic sinuses, together with pigmentation, especially marked along the edges of the Malpighian bodies and along the fibrous trabeculæ. The connective tissue of the organ was not increased. The cells of the splenic pulp were evidently greatly increased in number and many of the cells showed marked division of the nucleus. Many also were pigmented and distorted in shape.

The foregoing are the chief pathologic conditions found aside from the parasitology. The splenic sinuses and capillaries showed the presence of numerous parasite-infected red cells and pigmented leukocytes. While these infected red cells were not nearly as numerous as in acute infections or as in more advanced latent infections, still they were sufficiently numerous to be very noticeable. The parasites were in about the same stage

* Read at the annual meeting of the Association of American Military Surgeons, Boston, U. S. A. Published with permission of the Surgeon-General of the U. S. Army.

of development in each case, but it so happened that the patients had died at such a period that the entire cycle of the tertian parasite within the human body could be worked out from the examination of sections of spleen from these cases. As far as could be ascertained the parasites presented no essential difference in their appearance from those found in the red cells in the peripheral blood during an acute infection. The segmenting bodies were numerous in one case, the segments appearing, however, slightly more refractive and more clearly outlined than when found in the peripheral blood. In fact, it may be said that as a general rule, the parasites in these infected corpuscles in the spleen were more distinct and more easily recognized than the same parasites in the peripheral blood. Their staining reactions were exactly the same and it could not be ascertained that they stained more easily or more deeply than when present in the peripheral blood.

The chief point of importance in the pathology of the latent infections as observed in these cases is that the entire cycle of the parasite can be completed within the spleen when no parasites are demonstrable elsewhere in the body, thus proving conclusively that the seat of the initial malarial infection is in the spleen. While this has been the opinion of nearly all authorities for years few observations are on record in which, as in these cases, no malarial symptoms or parasites could be determined while the patient was alive, but the entire human life cycle of the parasite was found in the sections of the spleen.

Beside the infected red cells numerous leukocytes were observed containing pigment in the form of large and small granules and a few containing malarial parasites, some of the parasites being evidently but just engulfed and typical in appearance. There were also present very large white cells (macrophages) containing much pigment in large blocks, and often one or more half-grown to nearly full-grown parasites. A small amount of free pigment was observed lying within the splenic sinuses and collected around the malpighian corpuscles and the trabeculæ.

Liver.—Macroscopically the liver did not differ in appearance from that of a normal organ, so far as the pathology of malaria is concerned. One patient with latent tertian infection was suffering from cirrhosis of the liver, which presented the ordinary appearances of that disease. The organ did not appear pigmented, and upon section the only thing observable was marked congestion, venous in character. The sections of the liver in these cases showed a few pigmented leukocytes within the capillaries, some of the leukocytes containing what appeared to be degenerated malarial parasites. There was but little pigment present in the organ, most of it being within the leukocytes mentioned. No large phagocytes were observed, most of the pigmented leukocytes being of the ordinary polymorphonuclear variety. A very careful search was made in the sections of the liver for infected red corpuscles but in no one of the cases was an infected red cell seen.

The pathology of latent tertian infections as shown by the findings given, is confined almost entirely to the spleen, the liver being but slightly involved. The changes in the spleen consist chiefly in an engorgement of the splenic sinuses with red cells and leukocytes, the presence of infected red cells and of phagocytes and melaniferous leukocytes, an increase in the cells of the splenic pulp with more or less degeneration and karyokinesis and pigmentation of the organ confined to the edges of the malpighian corpuscles and the splenic sinuses and trabeculæ. In the liver the chief changes consist in slight pigmentation, more or less venous congestion, and the presence of melaniferous leukocytes.

PATHOLOGY OF LATENT ESTIVOAUTUMNAL INFECTIONS.

The pathology of latent estivoautumnal infections differed but slightly from that of the tertian infections, and chiefly in the character of the parasites present.

Spleen.—The spleen, macroscopically, appeared much as the spleen in the tertian infections, save that in all cases it was not as large nor as much pigmented. Upon section the consistency was decreased, the malpighian corpuscles were nearly invisible, the color a dark mahogany red—in one case brown—the substance of the spleen being almost diffluent in two of the cases. Upon microscopic examination the same changes were found as in the tertian latent infections, the splenic sinuses being congested, the cells of the splenic pulp increased in number and showing marked division of the nucleus, considerable pigmentation present, especially observable around the malpighian corpuscles and the edges of the trabeculæ, and the presence of infected red cells and of melaniferous leukocytes. The infected red cells were not as numerous as in the tertian latent infections. The parasites observed within the red cells were almost uniformly in one stage of growth, but the four patients observed showed all stages of the life cycle of the parasite, no single one of them, however, showing the entire life cycle. The younger forms of the estivoautumnal parasite were similar in appearance to the young forms found in the peripheral blood, being small, hyalin rings, well defined and presenting, in the fresh smear, marked ameboid motion of limited extent. The older parasites were round or ring-like, and contained more or less pigment in the form of very fine reddish-brown granules, this pigment being very slightly motile. In one case numerous segmenting bodies were observed, the segmentation always taking place within the red cell. The segments varied in number, the largest number counted being 24, the smallest 12. A peculiarity about the segments observed in this case was that each segment appeared to present the ring form which is usually found in the red cell at the earliest stage of infection. This appearance was so distinct that the red blood cell containing the segments seemed to be filled with small ring-formed estivoautumnal parasites. The pigment in the segmenting bodies was collected either at the center or at one side, but none of the segments contained any pigment.

Another peculiarity noticed in the sections of the spleen was that no crescents could be found. As is well known, in cases of acute and chronic estivoautumnal infection, the spleen generally presents, in sections, numerous crescents. The only explanation of the absence of crescents in these latent infections would seem to be that the parasites had not advanced, as yet, to the stage in which crescent formation was possible. Numerous pigmented leukocytes were observed containing the pigment in the form of minute grains and larger granules and clumps, together with a few nearly full-grown parasites. Very large white cells were observed, containing much pigment, and sometimes two or even more well-formed parasites. Considerable free pigment was present in the same localities as noted in the tertian infections.

From the foregoing description it will be seen that the estivoautumnal parasite is capable of undergoing its entire human life cycle within the spleen in such numbers as not to be found in the peripheral blood upon repeated examinations.

Liver.—The pathologic changes present in the liver were similar to those found in the same organ in the tertian infections in every respect. No infected red cells were found, although a considerable number of melaniferous leukocytes were observed, together with some free pigment. The liver did not present macroscopically any change which would be indicative of a malarial infection.

The question at once arises, in studying the sections of the organs in these latent infections, as to the reason for the nonappearance of the infected red cells in the peripheral blood. There was no difficulty in finding such cells in the sections of the spleen, and it would appear at first sight that it would be impossible for the

number of infected red cells which were found in the spleen to be present there only, as apparently there is no reason why the red blood-corpuscles containing the parasites should not circulate freely in the blood which passes through the spleen to other portions of the body. In considering this question it must be remembered that the number of infected red cells in the spleen was very markedly less than in more advanced latent cases, and immensely less than in the acute malarial infections. It is obvious, therefore, that there is no reason why the infected red cells could not be present in the blood, but on account of their small number be very difficult to demonstrate even after a large number of examinations. It is a wellknown fact, that even in acute malarial infections, presenting marked symptoms of the disease, repeated examinations are often necessary, especially in the estivoautumnal forms, to demonstrate a single parasite, and I have often spent a half-hour upon an examination in which the symptoms were perfectly typical without finding a single parasite, and only found them after a number of careful examinations. Thus it will be seen that the infected red corpuscles are, in all probability, not in any way confined to the spleen, but are actually in circulation in the blood as in acute infections.

This is true also of the melaniferous leukocytes, which were markedly in very much less number in these cases than they usually are in acute infections. Sections were made of all the other viscera in these latent infections, but in none of them could any trace of malaria be discovered, except for very slight evidences of deposition of pigment.

The reason for the intensity of the malarial infection in the spleen is not hard to understand, but it is much more difficult to understand why the liver rather than any of the other organs in the abdominal cavity should show marked traces of the infection.

The chief point of value in the pathology of these cases is the fact that the malarial parasites, either tertian or estivoautumnal, do undergo their entire normal human life cycle within the spleen, and that the time-honored theory that the spleen is the seat of malarial infection is borne out by these examinations.

I have discussed elsewhere the proportion of cases of latent malaria and the diseases which are apt to mask malarial infection, and will not touch upon this subject here. These observations show that a malarial infection may exist in the human being, the parasites undergoing their normal evolution without producing any symptoms, and without an examination of the blood proving positive.

Most of these cases were present in the hospital for several weeks; repeated blood examinations were made; they were carefully studied clinically, and in none of them was malarial infection suspected. How long this latency could exist is, of course, a question, but that it can exist for a considerable period of time is conclusively proved by many instances occurring here of prolonged latent infection.

It is obvious that puncture of the spleen in the cases described would have resulted without doubt in the discovery of the malarial infection. This procedure, however, is dangerous even in experienced hands, and is certainly not advisable as a routine measure, or in cases such as these in which no malarial symptoms are present.

In conclusion I would draw attention again to the fact that these observations prove conclusively that the malarial parasites may be present in the human body, may undergo their normal life cycle, and that they are practically localized in the spleen.

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FOWLER'S POSITION IN ABDOMINAL SURGERY.[1]

BY

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Since the publication, in 1900, by Dr. George R. Fowler, of Brooklyn, of the article describing his postural treatment of diffuse septic peritonitis, I have found many opportunities for demonstrating its utility and have seen the field of its applicability grow steadily broader. The article mentioned marked a new era in the history of general septic peritonitis, supported, as it was, by the records of nine consecutive cases of recovery. Never before had anyone been able to report such a series of successes in the treatment of this dread disorder, and in fact it is questionable whether so many recoveries from diffuse septic peritonitis had, up to this time, occurred in the life practice of any one man. Furthermore, the article was notable, in that it was directly opposed to the plan shortly before set forth by Clark, namely, the elevation of the foot of the bed, and drainage of the peritoneal cavity through the diaphragmatic lymphatics.

To most of us the description of the elevated head and trunk posture came with telling force. We had so long and patiently tried the various exploited methods of combating general septic peritonitis, with such distressingly fatal results, that the vista thus suddenly opened before us seemed too good to be true. Up to this time, I had never seen a patient with undisputed, diffuse, septic peritonitis recover, and but few scattered, successful cases had been reported. Actuated by a sense of duty, I had operated upon such patients as were not moribund, had employed as well as I was able the accepted methods for their relief, and then watched them die from the steady and relentless advance of the process.

Some time before reading Dr. Fowler's article, I had abandoned the use of Clark's position, as I noticed that in those cases which experience had led me to regard as fatal, from the extent of the septic process as revealed by operation, the patients did not live as long as similar patients treated in the same manner, *i. e.*, by removal of the source of infection, cleansing of the peritoneal cavity, and free drainage without elevation of the pelvis. We can readily see why this should be true. It will probably not be contradicted that the large number of cases of diffuse, septic peritonitis coming under our observation originate from a focus of infection within the lower abdomen or pelvis, especially the region of the appendix or the fallopian tubes.

As has been shown by Robinson, Fowler, Clark, and others, absorption takes place most rapidly from the diaphragmatic peritoneum, particularly around the central tendon of the diaphragm, and the absorptive qualities of the membrane steadily diminish from this point downward until in the lower pelvis we find that a local septic process may exist for many days without exciting much constitutional disturbance. In fact, the disparity between the local and the general symptoms, made evident by operation, is often such as to excite our wonder.

These facts being admitted, what do we accomplish by placing these unfortunates in Clark's position? We simply drain the dependent and comparatively immune area of the peritoneal cavity into the upper and particularly susceptible portion, and in many cases overwhelm the patient with a volume of septic material, thus rapidly absorbed, who might have successfully resisted the poison had it been introduced less rapidly.

I fully agree with Dr. Fowler when he says that patients of the character under discussion who have recovered after treatment by Clark's method have done so in spite of the treatment and not because of it.

[1] Read before the Western Surgical and Gynecological Association December 26–27, 1902.

In view of the fact that the position advocated by Fowler accomplishes what common sense should dictate in the light of our knowledge of the physiology of the peritoneum we wonder that its employment was not sooner urged. In our work involving the treatment of septic processes we strive unceasingly to accomplish as completely as possible their localization to the part first attacked and to provide for the products of infection the freest external drainage. The treatment of peritoneal infections offers no exception to the above general rule, and in my judgment the greatest advance yet made in the furtherance of this treatment is the elevation of the head and trunk, thereby draining the high and extremely dangerous area of the cavity with its numerous mouths, large, wide open, and hungry for septic material into the lower and safer area, where absorption through lymph channels will not take place more rapidly than will the escape of the poison through well placed external drains. Again, referring to the fact that the origin of the larger number of diffuse peritoneal infections is in the lower portion of the sac we may readily see that by this position we secure the benefit of gravity in retaining within the neighborhood of the region first involved the resulting septic products, and I believe that in many cases the force of gravity thus exercised will effectually counteract the tendency of the peritoneal fluids to move constantly in a direction toward the diaphragm and diminish the danger of the infection becoming widespread. It is not within the province of this paper to deal exhaustively with the treatment of diffuse septic peritonitis; it is simply my purpose to testify to the value of this position as an adjunct to the methods of operative treatment commonly employed.

I cannot report such a brilliant series of successes as did Fowler, who supplemented his original article, describing nine, with one reporting three more, thus giving him 12 consecutive successful cases. Since it was brought to my notice I have employed this position in every case of this character in which I have operated, and while many of the patients died I am able to report five recoveries. These successes were not consecutive, however, no two of them having occurred without an intervening failure. With the fatal cases we have no particular concern, as the course pursued by these resembled very closely that observed in similar cases in the management of which this position had not been employed. To this latter statement must be made one exception, namely, death did not occur so soon as former experience with like cases had led me to expect it, showing that in those instances in which the method had failed to save life it had at least prolonged it, and furnishing another link in the chain of evidence concerning its ability to control or at least, inhibit the tendency of the process to become rapidly fatal.

Brief histories of the five successful cases are here given.

CASE I.—John G., a male, aged 46, was seen at the Samaritan Hospital shortly after his arrival. The patient presented all the symptoms of general peritonitis; distended abdomen; leaky skin; frequent vomiting of dark, offensive fluid; pulse 130; temperature 103° F. Patient stated that he had for years suffered from gallstones, and that he had been in bed with one of his usual attacks for three days before admission to the hospital. Some time during the previous afternoon he had a most excruciating attack of pain, and thought he "felt something give way" within the abdomen, since which all his symptoms had rapidly become worse.

A vertical incision external to the right rectus disclosed a ruptured gallbladder, the large jagged rent being in the fundus of the organ, and the abdominal cavity full of bile and purulent fluid. Everywhere were present the signs of a violent, septic peritonitis; the coils of the small intestine were distended, dark red in color, and spotted here and there with large patches of coagulated lymph.

The cavity was freely flushed with gallons of hot salt solution, and those coils of intestine which could be reached without eventrating were carefully sponged. During the cleansing two large gallstones, about the size of hickorynuts, were removed from the lower abdomen, having escaped from the gallbladder through the tear. No stones were found in the gallbladder or ducts, and the fundus was sutured to the peritoneum in the wound, and drained as in the usual cholecystostomy. A stab wound was made in each loin for drainage, and a large tube carried through the one upon the right side up toward the liver, while through the one upon the other side a similar tube was passed to the bottom of the pelvis. The patient was then placed in bed, the head of which had been raised 30 inches from the floor. Drainage was profuse for the first few hours, but rapidly diminished in amount. He did not vomit once after the operation, and was allowed water in a few hours. Gas was freely passed after 12 hours, and the bowels moved in 24. The elevated position was maintained for six days, after which the pulse and temperature being normal, it was discontinued, and the drainage removed. The gallbladder fistula closed the twentieth day, and the man was discharged well the twenty-eighth day.

CASE II.—Mrs. B., aged 38, was seen at her home in a small farmhouse in western Nebraska. She presented every symptom of diffuse septic peritonitis, evidently due to perforative appendicitis. This was the fourth day of the illness. The operation, made at night, amid most unfavorable surroundings, revealed a ruptured, gangrenous appendix, with no protecting adhesions, the bowel everywhere distended, darkened in color, and spotted with lymph patches. A large quantity of purulent fluid was present in the peritoneal cavity. The appendix was ligated and removed, and the abdomen cleansed as in the preceding case. Free vaginal drainage was established by gauze wicks, leading into either flank, and gauze strips were also passed in all directions through the operative wound. The head of the bed was elevated about 30 inches. Vomiting continued until the stomach was washed out, then it ceased. The gauze strips were removed, one at a time, the last one being out the tenth day, at which time the head was lowered. The patient recovered.

CASE III.—John H., a farmer, aged 49, was seen at his home in Nebraska the fifteenth day of his illness with appendicitis. This patient was practically moribund. Vomiting of dark brown fluid was almost constant, abdomen enormously distended, and pulse almost imperceptible. I considered the case a hopeless one, and refused at first to operate, but finally yielding to the entreaties of the family, did so, operating in the kitchen of a two-roomed house. The appendix was found floating free in a large abscess cavity which communicated with the general cavity of the peritoneum through an opening which admitted two fingers between the elsewhere adherent coils of intestine. The infection had evidently been circumscribed, but finally yielding to the constantly increasing pressure of the pus, had ruptured into the general peritoneal cavity, and a violent diffuse, septic peritonitis was present. The base of the appendix was marked by a large ragged hole in the cecum through which fecal matter was escaping. This was closed with a pursestring suture. The bowel was very dark, distended, and covered with numerous lymph deposits. The quantity of pus in the peritoneal sac was by far the largest I have ever seen, and was exceedingly offensive. Thorough cleansing was carried out as in the foregoing cases, and gauze strips passed in all directions through the wound and also through a stab in each flank. The patient was given an intravenous injection of salt solution and returned to bed, the head of which was elevated about 30 inches. He was in a most desperate condition for several days, but under free stimulation and most faithful and skilful nursing, gradually improved. The vomiting ceased for several hours after the operation, to recur at frequent intervals for four days. Gas was passed the second day and the bowels moved the third day. The gauze strips were out by the eleventh day and from this time on the recovery was rapid and became complete.

CASE IV.—Mr. M., aged 24. Operation at Samaritan Hospital for general septic peritonitis due to perforation of a gastric ulcer. Two large perforations about the size of a nickel were found upon the greater curvature of the stomach, one about two inches above the pylorus, and the other two inches higher through which constant leakage of the gastric contents was occurring. The ragged edges were trimmed, and the rents closed by Czerny-Lembert sutures. The entire ulcerated area was then infolded with another row of Lembert sutures. The peritoneal cavity was full of the extravasated material from the stomach, and seropurulent fluid; the peritoneum was everywhere congested and red, and covered with flakes of lymph. Thorough flushing and sponging were carried out, as in the other cases, and strands of gauze carried from all directions out through the wound which was left almost entirely open, and the patient returned to bed with the head elevated 30 inches. The operation was made 16 hours after perforation, and I might add that as the history was very indefinite, I was not certain at the time of operating as to the cause of the peritonitis, and as the greatest tenderness on deep pressure was in the region of the gallbladder, I made the incision just outside the right rectus. Through this incision the region of the stomach involved could be reached with ease. The patient had a surprisingly easy and rapid convalescence. Enemas of six ounces of salt solution were ordered every four hours, as it was the intention to allow nothing by mouth for 48 hours. Ten hours after the operation, during the absence of the nurse, he drank several ounces of water from the hot water bag, and gravely assured me the next morning that it had saved his life. As no ill effects were noticed, he was allowed water from this time. He never vomited, and 48 hours later was given liquid nourishment.

The gauze was removed the fourth day and the wound closed. Recovery was perfect.

CASE V.—George W., aged 26. Operation at Samaritan Hospital on the second day of a fulminating attack of appendicitis, which revealed a perforated appendix and diffuse septic peritonitis. There were no adhesions present. The peritoneal cavity contained much seropurulent fluid, and the bowel presented the usual appearance. The appendix was removed and the toilet of the peritoneum made as usual. Gauze strips were carried down to the bottom of the pelvis, and in all directions through the wound which was left open. The head of the bed was elevated 30 inches. There was no vomiting after the operation. Flatus was expelled in six hours, and the bowels moved the second day. The gauze strips were removed one by one, all being out the fifth day, and the bed at this time was lowered. Recovery was uneventful.

Having considered the Fowler position as a curative agent in diffuse septic peritonitis, we may briefly investigate its value in preventing this much dreaded accident.

In our intraabdominal and pelvic work we are often compelled to deal with conditions in which, as the result of the pathology present and the manipulation necessary to its removal, we expose the patient to the danger of general peritoneal infection. As instances may be mentioned circumscribed appendicular abscess, pyosalpinx, suppurating ovarian cysts, operations upon the intestinal tract necessitating the opening of its lumen, etc. In spite of the most scrupulous and painstaking care during the performance of these operations, septic matter may escape beyond the barriers set up by us to prevent such an accident. If, at the time of such an accident, the contaminated area is thoroughly cleansed and during the first few days of the after-treatment the patient is placed in the elevated head and trunk posture, with or without drainage, as the case may demand, the tendency of the infection to become general will be in many cases overcome, and in many others inhibited sufficiently, that radical measures for its relief may be instituted with some prospect of success.

I believe that postoperative peritonitis will soon be considered in a more hopeful light, because of the assistance thus afforded, as the diverting of septic material into the safe region of the lower pelvis, and the consequent check put upon its baneful influence may permit the recognition of the process, while it is more or less so confined, and thus increase the chance of operative relief.

The use of this position, however, must not be restricted to septic inflammations of the peritoneum. Struck by the relief from nausea which it seemed to furnish, I have for the past two years employed it after every laparotomy, regardless of its nature. There is a standing order at the hospital that the bed of every patient who is undergoing an abdominal operation shall be elevated 30 inches before he returns from the operating-room. The relief afforded by this simple measure is very marked. The majority of these patients escape the discomfort and danger of postoperative vomiting entirely, and those who do not entirely escape, as a general rule, only vomit once or twice. Of course, some patients have, in spite of the taking of this precaution, the usual amount of nausea and vomiting, which must be relieved by gastric lavage, withholding alimentation by the mouth, etc.

The number of celiotomies for all causes in which the Fowler position has been employed as a part of the after-treatment during the past two years is 326, and I can say that the comfort afforded because of it can scarcely be estimated. The relaxation accompanying and persisting after general anesthesia predisposes to nausea and vomiting, and before reestablishment of the normal peristalsis, if the patient is in a horizontal position, or in one with the head lower than the feet, the relaxed pylorus will almost certainly allow the entrance of the duodenal contents into the stomach. With the head and trunk elevated the benefit of gravity is secured, and drainage of the stomach and the upper bowel facilitated. Again, many of these patients have been operated upon in the Trendelenburg position, which produces more or less displacement of the abdominal contents. The change to Fowler's position permits the more rapid readjustment of the hollow viscera, hastening the restoration of function.

In the foregoing series of cases I have never seen any indication which demanded the abandoning of the position. Theoretically, it would appear that in debilitated patients, or those weakened by an unusually prolonged operation, the elevated head position might be pernicious. Practically, this has been demonstrated not to be the case, as no instance of cardiac embarrassment or any other complication which might be attributed to the position was noticed. To the contrary, many times have patients requested that the head of the bed be again raised after it had been decided unnecessary to maintain the position longer, declaring that they felt more comfortable in the elevated posture. It has also been noticed that flatus is passed much earlier and more freely in patients so treated, and the suffering due to socalled "gas-pains" thereby much relieved. I have noticed no increased tendency to phlebitis in these cases, although Fowler mentions it as a possible consequence. The position has been maintained for 24 hours, unless some special reason for continuing it is present. The head of the bed should be raised from 24 to 30 inches from the floor. This can be readily done by placing under it a small table, a chair with stout arms, or a box. An elevation of 20 inches is much better than one of 12.

It is my hope in presenting this paper that those who have neglected to employ this simple expedient in their everyday work may be induced to make use of it, for I believe that it can do no harm, and in many cases will prove of much value.

NOTE.—Since writing the above, three consecutive cases of diffuse septic peritonitis, due to perforative appendicitis, have been successfully operated upon.

THE DIAGNOSIS AND TREATMENT OF INFLAMMATION OF THE ACCESSORY NASAL SINUSES.[1]

BY

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The query is frequently made, Why is it so much is heard of inflammation of the nasal sinuses in recent years? That it is true much has been written of sinus disease within a few years past admits of no doubt. The apparent frequency of these troubles is susceptible of easy explanation. Very rapid strides have been made in the department of rhinology in the past quarter of a century, and much that is known today has been learned within that period, and all that has been contributed to our knowledge of sinus disease is contained in a much briefer period of time. This in a measure answers the query, but a much more potent answer is that there has been a substantial increase in the number of cases of this disease within recent years, due to the advent in our midst of epidemic influenza. In America, previous to the year 1889, the present and perhaps the preceding generation of physicians knew little of this scourge. Since this year we have had annual visitations, more or less severe, of these epidemics.

It is a fact patent to all practitioners that many cases of influenza, perhaps all in which head symptoms are present, have involvement, more or less severe, of the accessory sinuses.

These two conditions seem to me to explain wherein lies the frequency of sinus inflammation of recent years. It seemed to me appropriate to refer to this by way of introduction to a subject which has assumed much importance to the rhinologist, and should be one of interest to the general practitioner.

[1] Read at a stated meeting of the Northern Medical Association of Philadelphia, April 24, 1903.

That many of these cases are overlooked is abundantly proved by the case books of our hospitals, and that an early recognition of the disease with appropriate treatment would obviate much suffering and annoyance, is equally true. The subject is a comprehensive one, and in the time at my disposal little more can be accomplished than a cursory review of the more important features of the diagnosis and treatment. An attempt will be made to simplify the diagnosis and to enunciate guides to treatment.

Two very distinct types of inflammation of accessory sinuses are met, namely, an acute form in which the symptoms are sudden in onset and attended by severe suffering; and a chronic form in which the symptoms are insidious in approach, and pain is not always a constant nor a prominent symptom. The latter form is frequently a sequel of the former, but not always so.

Any one or all the sinuses may be involved in the inflammatory process. Experience varies as to the sinus most frequently attacked. My own experience leads me to the belief that in the acute forms the sinus which suffers the most frequently is the ethmoid, the next in frequency being the frontal. In the chronic forms by far the larger number of cases occur in the maxillary sinus, the next in frequency being the frontal. The sinus which seems to be the least frequently attacked is the sphenoid; as to this, however, it is quite probable that the comparatively inaccessible location of this sinus and the difficulty of reaching it, and therefore the uncertainty of the diagnosis, may in a measure account for the apparent infrequency.

Because of the frequency with which several of the sinuses are involved many rhinologists believe that in the chronic forms of sinusitis all the sinuses are affected. The anatomic position of the frontal, ethmoid and maxillary sinuses makes it extremely likely that when one sinus becomes the seat of an infectious process the others follow sooner or later.

Acute Sinusitis.—We will first inquire into the acute forms of sinus inflammation. As with all acute processes it varies in its intensity to a remarkable degree. We are all familiar with the frontal headache and impeded nasal respiration of an acute coryza which is an expression of retained secretion within and congestion of the ethmoid and frontal sinuses. This is indicative of a mild and usually transient inflammation of these sinuses. In those cases of influenzal infection, however, these symptoms become intensified and are persistent, often giving rise to most severe suffering. In many the inflammation does not pass beyond the stage of excessive mucous secretion, or perhaps serous effusion. In a few the symptoms continue for many days and are attended by a true empyema, which persists for a longer or shorter period, depending on the severity of the inflammation and on the virulence of the initial involvement.

Acute sinusitis is usually unilateral, therefore the presence of a unilateral purulent discharge in the nose, attended by frontal pains and impeded nasal respiration, should excite suspicion of the existence of this disease. But these symptoms alone do not indicate the particular sinus involved. It is necessary to inspect carefully the nasal chambers to determine this point, and as it is my purpose to consider the differential diagnosis of the sinus inflammation in the chronic forms, it will be unnecessary to dwell on it at this time, especially as in this form it is not so important to determine the exact location of the inflammatory action as in the chronic forms. The idea intended to be conveyed by this is not that accurate diagnosis is not necessary in the acute forms, but that for purposes of treatment, which rarely need extend to surgical interference, a careful scientific localization of an infected sinus is not essential. In chronic sinusitis it is most essential.

It is in this form of sinus disease that early recognition and prompt treatment will save much suffering and distress. A large number of these patients will obtain much relief and sooner or later be entirely relieved by careful local treatment, without recourse to the more severe operative procedures; and this treatment any practitioner can carry out in his office or at the bedside.

The object sought in the treatment of acute sinusitis is to secure a free unobstructed vent for the purulent accumulation, in other words free drainage. Acute sinusitis is usually a self-limiting process, and if free drainage is secured the natural tendency of the disease is toward recovery. To effect proper drainage in the nasal chambers we must keep the natural outlets of the sinuses free. Since the introduction of those drugs which by their vasoconstrictor action have the power of reducing the size of the cavernous tissue of the turbinate and mucous membrane of the nose, we have at our command most efficient means of keeping patulous the various natural outlets. The free use of antiseptic sprays, combined with applications to the mucous surfaces of cocain, eucain, and in some cases adrenalin, is most effective in the local management of these cases.

It is not denied that a certain number of the more severe types will resist this plan, and will require a careful diagnosis of the sinus or sinuses involved, and a prompt and thorough evacuation of the purulent collection.

Chronic Sinusitis.—The chronic form of sinusitis is seen most frequently in the maxillary sinus; next in the frontal. It is quite common to have both these sinuses, including often the ethmoid, affected at the same time, which is not remarkable when we remember that the outlets of both sinuses in the nasal chambers are in close proximity, for which reason the one may readily become infected from the other; especially is this the case from the frontal to the maxillary. The anterior and the posterior ethmoid cells and the sphenoid cells are affected about in the order named.

For the proper treatment of chronic sinus inflammation it is absolutely necessary that a careful diagnosis be made of the particular sinus or sinuses at fault. While this is not always easy there are certain methods which will guide us to accurate diagnosis in the greater number of cases.

Maxillary Sinusitis.—There are two well recognized causative agencies in the production of empyema of the maxillary sinus, to wit, by means of infection carried through the nasal chambers and through the floor of the antrum by breaking down of carious teeth and the adjoining alveolus.

There is some difference of opinion among rhinologists as to which of these two agencies exercises the most influence in the production of the disease. My own belief is that infection of the sinus through the influence of influenza gives us by far the greater number of cases, though infection from carious teeth should not be ignored. There is one symptom common to all sinus disease, namely, unilateral discharge of a purulent character; this, however, indicates only that a sinus is probably involved; it gives no clue whatever as to which particular sinus is the offender.

The amount of discharge appearing in the nasal chamber varies greatly. In the more recent cases the discharge is apt to be fluid and appears freely, while in the older cases it becomes inspissated and appears sparsely, or perhaps not at all, in the nasal chambers. The amount of discharge therefore furnishes no criterion as to the severity of the disease. This symptom—unilateral discharge—is an important one, because it directs our suspicion to the sinuses as the seat of disease. Those cases are most difficult to diagnose in which the discharge is absent or only periodically present.

In maxillary sinusitis there is not often acute pain nor is it always referred to the site of the sinus affected when present. A dull ache in the frontal region over the bridge of the nose or some distress in the nasal chamber or sensitiveness of the upper teeth on the side affected are common symptoms. There is often tenderness over

the sinus elicited by firm pressure. The sensation of a dull pain in the nasal chamber, which may be located by the probe at the position of the middle turbinate body, is a symptom more or less constant.

None of these symptoms, however, is in any way pathognomonic, the most that can be said is that they point the way to the site of the disease. Given one or all of the symptoms enumerated and suspicion points strongly toward the maxillary sinus.

Carefully drying out the nasal chamber and placing the head of the patient in a dependent position, *e. g.*, sitting in a chair with the head well down below the knee, may give us additional information. Should the discharge *pour* over the middle turbinate, after the head has been held in this position for awhile, it is quite likely the source is in the antrum. A *small* amount of pus might indicate either that the frontal sinus is the source, or that inspissated pus fills the antrum.

Transillumination has given us a very valuable diagnostic aid, but it is by no means infallible. The room used for transillumination should be dark. When there is a positive umbra over one antrum and good transillumination over the other, there can be no doubt of the presence of some obstructing body in the antrum.

Zuckerkandl has shown, however, that the diameter of the antrum varies greatly. In some cases it is reduced to a mere slit, with walls very thick. Of course in such a case there would be no transillumination on either side, and the test would be of no avail. Failing to clear up the diagnosis by the means enumerated, we still have a measure which should always be left until the last, but which may combine both a diagnostic and therapeutic recourse. I refer to puncture of the antrum through the inferior meatus. In justification of such a measure, when in doubt, we need only to point to the exploratory abdominal incision of the gynecologist. At a point midway between the anterior and posterior ends of the inferior turbinate the bony nasal wall of the antrum is the most easy of penetration. It is often as simple a measure as would be the penetration of a paper-shelled almond with a pin, and then again it may be so dense as to require several blows of the leaden hammer to effect penetration.

A trocar and canula properly curved is thrust into the antrum after first thoroughly cocainizing the mucous membrane to minimize the pain. When the point of the trocar is felt to move freely within the antrum it is withdrawn and the canula remains. Should the pus contained within the antrum be fluid, it will quickly appear through the canula. More frequently, however, only a few drops of blood appear, the contained pus being too inspissated to run through the canula. A properly fitting syringe is now adjusted to the end of the canula, and a stream of sterile water, medicated to suit the desire of the surgeon, is gently thrown into the antrum. Thick, often foul smelling pus will by this means be forced through the natural opening at the hiatus semilunaris in the nasal chamber, and the diagnosis is complete.

The treatment of empyema of the maxillary sinus is entirely surgical. It is a waste of time and useless to attempt to wash out this sinus through the natural opening. In by far the greater number of cases it is anatomically impossible to pass a cannula into the sinus through the natural opening in the hiatus semilunaris, and even in those cases in which it is possible to so introduce a canula, the injection of a few ounces of medicated fluids is rarely sufficient to cure the patient. The relief of a case of maxillary empyema does not depend alone upon the evacuation of the contained pus. The long continued inflammatory action induces changes in the lining mucous membrane, so that we have thickening, and very frequently polypi and vascular granulation tissue within the antrum. It becomes necessary to remove all these adventitious products before we can expect permanent relief.

I have seen many patients with empyema of the maxillary sinus make perfect recovery after puncture and evacuation of pus through the inferior meatus followed by careful cleansing of the cavity.

In those cases in which it has become necessary to make the exploratory diagnostic puncture, it is very easy to continue the treatment. All sorts of medication have been employed in irrigation of this sinus. The simpler the treatment, however, the better, in my judgment. For many years I have used for this purpose either a sterile normal salt solution or plain sterile water. Boracic acid, 10 to 20 grains to the ounce, or carbolic acid, resorcin or any antiseptic which suits the fancy of the individual operator, may be used. So long as granulations, polypi and hypertrophied mucous membrane do not exist in the cavity of the antrum, and care is taken not to introduce fluids which will carry infection, it really makes very little difference as to the medication—the principle is thorough irrigation and asepsis.

Should the suppuration continue after a few weeks of treatment by the plan outlined, it is quite likely granulation tissue and hypertrophied mucous membrane are present in the antrum, in which case it is necessary to adopt a plan of treatment whereby we may obtain access to the sinus and employ more radical measures. Two ways are open to us to reach the sinus, namely, through an alveolus or by perforation of the canine fossa. The latter is preferable, because it does not entail the sacrifice of a sound tooth, but more especially for the reason that a larger opening may be secured, and hence more thorough inspection made of the antrum.

In making this opening through the canine fossa one sufficiently large should be secured to enable us to get a good view of the interior, and for the free use of curets or other necessary instruments. This work is much facilitated, when possible, by the use of the electric headlight.

There are a number of views as to the treatment of the sinus after an opening has been secured. The most radical is that of the school of Jansen, of Berlin. Jansen believes that when one sinus is affected all the others are apt to be involved in the suppuration—therefore he first secures a large opening in the canine fossa, often an inch in diameter; after the antrum is thoroughly cureted and irrigated he makes a flap of the nasal wall of the sinus, which is turned up and subsequently stitched and readjusted. This secures an opening into the nasal chamber. The ethmoid cells are cureted, and an opening made into the sphenoid and this sinus thoroughly cureted. This is a crude and imperfect description of this brilliant surgical work, but it is sufficient to illustrate the advanced position taken by its author. It is a formidable surgical procedure, and one that probably will not find favor in this country.

It was my privilege to witness Jansen perform a number of these operations, and while greatly impressed with the anatomic knowledge, the technic, and the wonderful surgical skill of the operator, it did not appeal to me as an operation necessary or justifiable for the disease which it was intended to relieve, nor was this feeling lessened or dissipated when shown the unsightly and disfiguring scars of the cured patients. Luc advocates a counter opening in the nasal chamber after thorough curetment of the sinus through the canine opening, followed by drainage through the nose, permitting the wound in the canine fossa to close.

Without further taking up space by reference to the various operations designed, I will close this part of the subject by briefly outlining a plan of treatment which has yielded me a fair amount of success. First secure a good-sized opening in the canine fossa, then thoroughly curet the same and irrigate; after which either pack the sinus with antiseptic gauze, or perhaps what is better, introduce a good-sized drainage tube. This permits of frequent and careful cleansing of the sinus; if a drainage tube is used the patient can easily be taught to irrigate

his sinus himself. This irrigation must be continued until the returning fluids indicate an entire disappearance of all evidences of suppuration, nor must we be impatient, but prepare both our patient and ourselves for a long-continued siege. I have found patients very willing to undergo this prolonged course for the relief and comfort which they obtained and continue to receive.

Frontal Sinusitis.—Inflammation with empyema of the frontal sinuses has many symptoms in common with those of the maxillary, *e. g.*, unilateral purulent nasal discharge, frontal headache, intranasal pain and tenderness. It is by no means easy in all cases to make a differential diagnosis. Transillumination gives some assistance, but it is not so valuable in this region as over the antrum, for the reason that there is very great disparity in the size and dimensions of the frontal sinuses in different subjects, and hence much difference in thickness of the overlying osseous wall.

In those cases in which the sinus lights up, showing an umbra upon one side, the aid to diagnosis is distinct, but in many cases the walls of the frontal sinus are so thick as to prevent the passage of the rays of light on either side, in which case this means of diagnosis is valueless.

Valuable aid to diagnosis may be obtained by the use of the probe. When this instrument is passed through the frontal duct into the sinus, upon its withdrawal should pus be present it will appear over the middle turbinate body. It is not always an easy matter to pass a probe along this canal, indeed I believe in the larger number of cases it is impossible. The reason for this is an anatomic one. The orifice of the sinus in the middle meatus is hidden by the overhanging middle turbinate bone, thus preventing the admission of the probe. This is readily overcome, however, by removing the anterior end of the middle turbinate body, after which the entrance and passage of the sound is easy.

Since in many cases of sinus disease the middle turbinate is hypertrophied, and in the event of the frontal sinus being the seat of suppuration in the case before us, it would be necessary to remove this body to employ the proper treatment, the removal of the body for diagnostic purposes cannot be considered a harsh or unnecessary measure. This operation should not be undertaken until other means of diagnosis have failed to enlighten us.

By one or other of the foregoing symptoms, or rather by combination of them, it is possible to locate a frontal sinusitis. As the radical treatment of frontal sinusitis is attended by more or less facial disfigurement, it is imperative we should exhaust every means of treatment at our command before resorting to it.

The cardinal principles of treatment are free drainage and thorough irrigation. If it is possible to pass an irrigation canula along the frontal duct to the sinus, removal of the anterior end of the middle turbinate body is not necessary; but as this is rarely possible the first step in the treatment is thorough removal by the snare of the body. The canula is then introduced into the sinus, which is irrigated with plain sterile water, normal salt solution or any antiseptic solution.

Care must be exercised that no solution is used in the frontal sinus that is in the least irritating. The frontal canal is of small caliber, barely admitting a small probe, and should irritation and swelling occur the lumen is diminished and the difficulty increased.

In addition to free irrigation of the sinus the mucous membrane should be rendered ischemic by the employment of cocain, eucain, or adrenalin. Many patients, perhaps the greater number, will improve by the careful employment of this method of treatment. The improvement is not rapid and the patient should be so informed.

Failing to relieve the symptoms by the treatment outlined there is but one recourse, namely, to gain access to the purulent collection by means of an external opening. As there are a number of operations for opening and the treatment of the frontal sinuses, it is necessary only to refer to two. The preliminary steps of each are identical; it is in the method of treatment of the sinuses in which they differ; the one may be called the closed, the other the open method.

An incision is made along the superciliary ridge down to the bone; a button of bone is removed over the sinus and the latter thoroughly cureted. At this point the operations differ. The closed method consists in enlarging the frontal canal, introducing a specially constructed drainage-tube from the sinus into the nose, and then closing the external wound. The sinus is subsequently irrigated by means of the drainage-tube in the nose. The open method consists also in enlarging the frontal canal, but no drainage-tube is used in the nasal chamber. The external wound is allowed to remain open and the sinus packed with iodoform gauze. This gauze is removed at stated intervals and the sinus irrigated.

Each method has its advantages; the chief advantage of the closed method is that no unsightly external scar remains. The advantages of the open method are that the sinus may be kept open for an indefinite time, and by prolonged treatment we may hope for cicatrization and obliteration of the sinus.

Ethmoid Sinusitis.—The location of the ethmoid cells, especially the anterior, renders them of comparatively easy access and in favorable position for drainage, hence uncomplicated ethmoid sinusitis is more amenable to treatment than either of the other varieties of sinusitis considered.

The position of these cells in close proximity above to the frontal, behind to the sphenoid, and in close relationship to the natural outlet of the maxillary sinus, renders them peculiarly liable to infection, therefore few of the cases of ethmoiditis are uncomplicated. With this knowledge in view, failing to obtain improvement in a case of ethmoid sinusitis we should look to the other sinuses. The symptoms of ethmoid disease are similar in many respects to those of disease of the other sinuses—namely, unilateral purulent nasal discharge, supraorbital or nasal discomfort, and general catarrhal symptoms, *e. g.*, impeded nasal respiration, postpharyngeal catarrh, alteration of voice, etc.

Nasal obstruction and pain are symptoms usually much more pronounced than in the other forms considered. The presence of polypi in and around the middle turbinate body is very suggestive of ethmoid disease. To confirm the diagnosis it is necessary to pass a probe up to the sinus.

Long standing cases are attended by necrosis of the delicate walls of the sinus, so that frequently by means of the probe we are able to detect the familiar grating which contact of the probe with dead bone communicates. However, this is not always the case, so that the absence of this sign does by no means negative the existence of ethmoid disease. The probe will reveal the presence of disease also by the gush of pus over the middle turbinate upon its withdrawal from the sinus.

There is a form of ethmoiditis which, though not common, presents itself from time to time in which the inflammatory action is largely confined to the middle turbinate body. Grünwald calls this the closed variety because it is unattended by suppuration in the nasal chambers, and to distinguish it from the more common form which he terms the open form. In this form of the disease the middle turbinate slowly enlarges. This increase in size is caused by distention of the interior of the bone with pus, mucus, or polypi. The walls become much attenuated. Sometimes the turbinate assumes huge dimensions. In several instances of this variety of ethmoiditis I have removed a mass which completely

filled the nasal chamber. The contents of these cyst-like growths vary. They may contain pus, mucus, or polypi, and sometimes are empty.

It is a question whether this form of "ethmoiditis," which Woakes described years ago as "necrosing," belongs to the type of disease under discussion, or is a local expression of a constitutional dyscrasia, *e. g.*, syphilis, struma, or tuberculosis.

The treatment of the chronic forms of ethmoiditis is largely surgical. At the outset all polypi must be removed by the cold wire snare. In those cases in which the probe reveals dead bone it is imperative to remove all carious tissue, and in order to obtain free access to the cells it is first necessary to remove the anterior end of the middle turbinate body. This accomplished, the cells are of easy access and may be entered by means of a burr or drill, but preferably by the punch forceps. The cells are now thoroughly cureted, all dead bone removed, and the sinus irrigated with an antiseptic solution and packed with iodoform gauze.

The treatment of the closed form consists in simply removing the hypertrophied turbinate by the cold wire snare, and treating antiseptically.

Sphenoid Sinusitis.—The inaccessible position of the sphenoid bone has rendered it a *terra incognito* in the living subject, so that the diseases which affect it have been little understood. More and more is learned each year. Obstacles are overcome one after the other so that it is not too much to hope in a few years the secrets of this region will be laid bare. In the normal subject inspection of the sphenoid through the nasal chambers is not possible.

It is claimed by Grünwald and others that in about 40% of cases it is possible to pass a probe or canula into the ostium of the sphenoid. In skilled hands this may be true, but it is certainly not so with the average operator. Removal of the anterior ends of the middle turbinate renders possible and easy the passage of a probe to the ostium.

The symptoms attending a case of sphenoid sinusitis are in many respects similar to those already detailed as occurring in other sinus inflammations. Unilateral nasal discharge is not so pronounced. The position of the sinus favors the deposition of inspissated pus at the vault of the pharynx, and if the discharge be profuse, pus will appear on the posterior pharyngeal wall, rather than in the nasal chambers. The location of the outlet of the sinus is not favorable for drainage, so that inspissated secretion is very apt to form and to be deposited at the vault of the pharynx.

Eye symptoms of various kinds may attend empyema of the sphenoid cells. These symptoms are of course vague and indeterminate, but serve as guides.

The probe is a valuable adjunct to diagnosis. This instrument should be passed into the sinus, either with or without removal of the turbinal, as the necessity of the case demands. Pus, if present, will follow the withdrawal of the probe, or if inspissation of the secretion is suspected a canula may be introduced into the sinus, when thorough irrigation will reveal the character of its contents.

The diagnosis of sphenoid sinusitis accomplished, the treatment consists of emptying the sinus of its purulent contents, curetment of the lining membrane, and thorough irrigation. The relation of this sinus to most important structures, the medulla oblongata above, the cavernous sinuses on either side, beside numerous important cranial nerves and vessels, render it very necessary that exceeding care be taken in all operative procedures. The anterior wall of the sinus may be entered and enlarged by punch forceps; those of Grünwald are especially serviceable.

The sinus is then carefully cureted with small ring curets, after which it is thoroughly irrigated with antiseptic solutions.

SPECIAL ARTICLES

MINIMUM REQUIREMENTS FOR ADMISSION TO A MEDICAL COLLEGE.[1]

BY

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In adopting a standard of minimum educational requirements for admission to the freshman year of a medical college, to govern the members of an association representing the entire country, the college being a department of a university, or in affiliation with a university, or with no university connection, it is necessary that concessions be made, so as to agree upon what is best in the interest of the greatest number of reputable medical colleges, and in obtaining the best results in the prevention and cure of disease. A standard too high may be as harmful as a standard too low, by excluding from the medical profession men of the best minds, who would be deprived of the cultural training in a large and expensive university; hence, to adopt a universal requirement of a baccalaureate degree from a college or university for admission to a professional school would be an injustice and injury to the profession and the people alike. Therefore, we must philosophically consider the conditions that underlie and control the educational system in this country leading up to the admission to the professional school, for these conditions differ radically from what pertains in other civilized countries. In England, Germany, France, and other European countries, the free public school system does not offer opportunities for an education higher than that obtained in the six or eight years of our best primary and intermediate schools, and the few who are permitted to pursue their studies in the secondary or socalled high schools, are confined to the wealthy and aristocratic class, or to the well-to-do people of the middle class who are able to pay fees. Our system offers to any one a continuous course, averaging from 10 to 12 years from entering the primary school to the college or university, while in Germany the people's schools are intended primarily for the low and middle classes, and have little connection with the high schools which prepare students for the university. In Italy the connection between the elementary and secondary school is apparently closer than in Germany, but practically the reverse is true, for 90% of the children never pass beyond the third year's course of the primary schools.

In France, because of the fees charged and the difference in organization and purpose of the two classes of schools, the graduates from the primary schools (écoles primaires élémentaires) seldom enter the high schools (lysées and colléges). The same is practically true in Switzerland, and apparently the same reasons keep down the number of secondary schools. In Zurich, where the conditions of advancement are exceptionally good, of 1,872 graduates of the primary school in 1899, only 482 entered the secondary school, and probably the majority of these were not able to complete the course. The Board Schools of England, which are for and attended by the masses, are entirely different in spirit and in purpose from the public and grammar schools which prepare students for the university. Stimulated doubtless by the privileges and results of our public system of education, England has organized higher grade elementary schools, which may have a course of four or five years longer than the lower schools; and Germany has similarly sought to supplement the work of the primary schools by establishing *real* schools and higher burgher schools, but in none of these schools is either Latin or Greek taught, and the courses do not lead up to the university; the same is true in results in the higher primary schools (écoles primaires supéreures) of France. While our system in its inception may

[1] Address delivered before the Association of American Medical Colleges, in New Orleans, May 4, 1903.

have been in a degree fashioned after foreign models, and the establishment of our system of elementary education influenced by the description of European schools by Mann, Stowe, and Barnard, the difference between the American and European schools in organization and methods is now so great that in many features we cannot and should not resemble those schools. We may in the future, as we have in the past, gain much from foreign schools and foreign literatures, but our highest ideals must result from indigenous influences truly American, and not ideals or practices found elsewhere.

The success claimed in the fixed courses in the German high schools in large cities to show the unwisdom of our elective courses is not sustained by facts, for in those cities there are several high schools whose curriculums differ as widely as the various courses in a high school with us. It must also be remembered that the lycée of France and the gymnasium of Germany are intended for the few who may obtain a liberal education, while our schools supply the needs of all.

It will thus be conceded that in European countries but few pupils can be properly educated for admission to professional schools except through colleges and universities, while in the United States they can be well prepared in our *free* public schools. But as the curriculums in our primary, intermediate, and secondary schools differ not only in various States, but even in the different schools of each State, both in time and in amount and character of work required, we should, in accepting a high school diploma as a minimum qualification for admission, correctly understand and determine the time-requirement, and in a general sense the amount and character of education given, being liberal in the allowance of electives. In view of the fact that most of our States and cities in which the public school system is encouraged and fostered require attendance upon 12 years of not less than 40 weeks each from the beginning of the primary to the completion of the secondary course, the association should *finally* expressly provide, that the diploma of no high school obtained in less time shall be accepted as a minimum requirement for admission to a medical school. The high school can never offer fixed, or even elective, courses to prepare the pupils especially for the several professional schools, nor can this be completely done in our universities, unless those studies properly belonging to the academic and scientific department be subordinated to studies that have usually been included in the professional schools, and should be retained, if we are to have any unit of measure for the baccalaureate and professional degrees.

In this process of rapid evolution in education to meet modern demands, the regulator necessary for perfect results has not worked with entire precision, having permitted the destruction or injury of many cherished precedents that time must restore, and made innovations that time must destroy. This applies especially to our wellknown universities in their desire to shorten the period of university residence, by the substitution of professional work for the time-honored purely academic work; the work of the senior year—and in the University of Chicago in the two years of the Senior College, being mainly professional, the pupil receiving the baccalaureate degree and advancing to the sophomore, or junior year of the four years' professional school, thus obtaining the baccalaureate and professional degree within six or seven years, each degree indicating that it had been obtained after attendance upon four years of academic or professional work. It is also possible for a pupil whose qualifications will admit him to the junior year of the university to obtain in five and in the University of Chicago in four years, both the baccalaureate and professional degree. This is no captious criticism, but a desire to direct attention to a heterogeneous condition, inconsistent with all classic conceptions of a university proper, and which the philosophic deductions of our most distinguished teachers and scholars will eliminate. It is especially the province of the university to teach the science and art of education, its history and methods, and create a demand for more thorough professional training; it should produce a succession of scholars in philosophy and literature, but it is not required to supply practitioners in the professions; for if the university observes its purest ideals, the professions will take care of themselves.

The degree of perfection in the work in primary and secondary schools, academies and colleges, may be measured by the perfection of the classic work done in the university, for as the sun gilds the mountain tops before its light floods the plains, so must educational progress spread from the summits, for the secondary schools receive their inspiration from the classic university, and will be what the university makes them. With the proper stimulus and encouragement of the university, the secondary schools may finally complete the work of the freshman and sophomore years, thereby reducing the university residence to six years in obtaining the baccalaureate and professional degree—thus eliminating the combined academic and professional course, and giving a unit of measure to both degrees.

In our effort to adopt the best method of education preparatory to the study of the professions, we often confound culture with instruction, and wisdom with knowledge, forgetting that culture is to quicken, strengthen, and enrich the mind, while instruction furnishes the mind with knowledge, which may be abundant, but of little value unless utilized by wisdom to obtain the most perfect results which may redound to the greatest interest of humanity. Wisdom and knowledge are not identical but related, and the latter cannot be possessed without a degree of the former. Knowledge comes from without; wisdom lies within, but by cultivation may be comprehensive and powerful. Much knowledge may be worthless unless directed by the guiding star of wisdom. Knowledge is the material out of which we construct the beautiful palace, but wisdom is the architect and builder who combines this material in harmonious relation, resulting in architectural perfection. Then while in our preparatory education leading up to the study of the professions, let us educate the mind to think rightly and wisely. We should encourage the study of the classics, English, mathematics and the sciences, but we should teach the mind how to digest, assimilate and appropriate the accumulated facts; otherwise there may be much knowledge with little wisdom, and no useful results. Teach the student the various channels and mechanisms by which knowledge may be obtained, and the mental processes by which it may be directed and utilized to attain the greatest perfection and usefulness. Teach him philosophy—embracing psychology, logic and ethics—and in a general sense the history of philosophers and philosophy, beginning with the Greek philosophy of Socrates, Plato, and Aristotle; the Pagan philosophy of Rome, and finally through the various ages to Abelard, Descartes, Kant, and others equally renowned.

The study of too much mathematics, as also some of the collateral sciences, should be discouraged, and the time may better be consumed in a careful study of English, and Greek and Roman history, and in the life and growth of language, especially of the philology of the languages that may be traced to an Aryan or Indo-European origin.

Of all languages, except our native tongue, the study of Latin is of greatest value, and excluding the commercialism of German and French, Greek should be next in order, for even an imperfect knowledge of these two languages will enable the student easily to understand the etymology of the many compound technical terms in the study of medicine, which a knowledge of no other language will do. German can never be of much value in the study of the rich scientific literature of that language, unless it can be read with ease and correctly translated, and this cannot be done by the American student of four years' study of five hours a week in our high schools. Again, in the near future all that France or Germany may discover or develop, if of real value, will be promptly given to us in a translation, by scholars educated in German or French, English and the Sciences; and even today we find many such translations in libraries throughout the country. Far be it from me to discourage the value of German and French and the great richness of their literatures, but to be of value to the student in medicine the languages must be read with ease, otherwise the meaning may not be correctly understood, for the understanding of the text must be measured by the translation. The average student in German who graduates from our high schools may read German with comparative ease in the textbooks, in prose and poetry, but he cannot read with ease books on technical and scientific subjects, and to do so at all he must

constantly refer to his lexicon and make slow progress. This is true of our high schools in Louisville, with teachers acknowledged to be equal to any in this country, the course being four years of ten months each, five hours a week. This is also true in the State of New York, as will be seen in the following extract from a recent letter from Professor Charles R. Skinner, State Superintendent of Department of Public Instruction: "Graduates from our high schools do not, as a rule, read with ease the German and French languages."

And my information from extensive correspondence indicates similar results in the various States. Of course, pupils of German parentage or of special excellence may read and write the German language with ease. It must also be remembered that German is a required study in but few of our high schools, and in many of them is taught but two years; therefore in adopting a minimum requirement for admission to medical college neither German or French should be demanded, but should be encouraged as electives. Then let us adopt but few fixed subjects in our examinations for admission to a medical college, but many electives from which selection may be made, requiring one-third, or about seven out of 21. In accepting a baccalaureate degree for admission we are forced to acknowledge that it is meaningless, has no significance, and indicates nothing if conferred by the majority of our socalled academies, colleges, and universities—and who is to sit in judgment to separate the chaff from the wheat, the bad from the good, the sinner from the saint? as all claim equal virtue. Then if this be true in accepting a baccalaureate degree for admission, the evil will be far greater in giving advanced standing or time-credits for such degree. So let us urge upon this Association to give no time-credits for work done, except in a recognized medical college, and to insist upon a discontinuance of the combined academic and professional courses. If this cannot be accomplished now, it will be in the very near future, for the evolution is rapid in that direction, as indicated in the letters I have received from the officers of the academic and arts' department and the medical department of Harvard, Johns Hopkins, Yale, Cornell, Columbia, etc. None of these universities give time-credits for a baccalaureate degeee, and Harvard and Johns Hopkins have no combined academic and professional courses, and I am sure neither Columbia, Yale nor Cornell will have after a few years, for they encourage their students to attend four years of purely medical college work. The combined course was the child of necessity, to meet the demands for a shorter university residence, the medical profession refusing to recede from the requirement of attendance upon a four years' medical course. As it is hardly possible to increase the university residence, the academic and arts' course must be finally reduced to three, and possibly to two years, which may be done without lowering the standing, by requiring applicants for admission to have done the work that has previously been included in the freshman, or both freshman and sophomore years. The secondary schools will then teach more months and more hours, with a better system and more condensed work, eliminating all that a broader experience proves to be unnecessary. The student may then graduate in medicine when he is 23, 24 or 25 years old; 10 to 12 years in the primary, intermediate and secondary departments, 2 to 3 years in the college, and 4 years in medicine.

John M. Dodson, of the Rush Medical College, writes as follows: "The clause in reference to admission to advanced standing may admit of some argument, although I am perfectly convinced that the tendency is exactly in the opposite direction from that which you think, but be that as it may, it is certain that we never could secure an amendment that would deprive the medical schools of those rights at the present time. Every student taking the medical course at the University of Chicago matriculates and registers as a student of Rush Medical College as well as a student of the University; in other words, the medical courses which are given there comprise the first two years of the four years' course of Rush Medical College. A student who enters the senior college, as we call it (junior class of the University proper), may procure both the bachelor and medical degrees in four years." Lewellys F. Barker makes the following statement: "As to the present number of students, matriculates in medicine, attending the arts or scientific department of the University proper, who are able to write German with ease, I do not know. I should think very few, although there are a large number who can read German, though most of them with considerable difficulty. I can *read* German tolerably easily myself, but would not attempt to write it. I should think that the number who can speak German, exclusive of those of German parentage, very small. After next year we will require every medical matriculate to possess a "reading knowledge of French and German." This of course will not mean that he can read these languages easily; the main thing is that he shall have had enough French and German in high school or college to permit him by himself to take advantage of German and French literature. Most men with this preparation have to use lexicons for a long time, even in ordinary reading, but the great thing is that they have the foundation. If a student who has not previously been a matriculate in the University desires to matriculate in the medical department, and at the same time in the University, and he can pass the necessary examinations for admission, say at June, 1905, when our specific requirements come with full force, the least time in which the two degrees could be obtained would be *four* years after admission to the medical school."

President Eliot of Harvard states that it is not the custom in Harvard University to count the first year in a professional school in place of the senior year in the college or academic departments; in other words, the University makes it a rule not to count the same work toward two different degrees. In his opinion, a degree in arts or sciences represents the best preparation for medical study. He thinks it desirable that a physician should know both Latin and German; if he is forced to choose between the two, however, he would advise choosing the one which was the best taught. He thinks that German should be preferred to Greek, because a knowledge of German is essential to a physician who proposes to read the German medical reports and journals. William L. Richardson informs me that a degree in arts, literature, philosophy, or science from a recognized college or scientific school is required for admission to the Harvard medical school. "We do not admit men to this school who, while working here in the first class, are working also in the senior class of a college."

Ira Remsen, of Johns Hopkins University, states that all who are admitted to our medical department must have had collegiate training, shown by the possession of the collegiate degree, and must have had, either during the college course or afterward, a one year's course in chemistry, a one year's course in physics, a one year's course in biology, and a reading knowledge of French and German. W. H. Howell, dean of the medical department, writes that there is no combined course by which students in the academic department can pursue, at the same time work as regular medical students, the attitude of the faculty being unfavorable toward these combined courses.

F. P. Keppel, secretary of Columbia University, writes as follows: At present the senior in Columbia College who has entered the college not later than the beginning of the junior year may elect as his senior year work the first year in the school of medicine, thereby obtaining the degrees of A.B. and M.D. in seven years. You will notice that the provision requiring that the student must have entered Columbia College not later than the beginning of the junior year makes it impossible for a candidate to obtain our degree of A.B. without at least one year's nonprofessional work at Columbia.

J. P. Harris, secretary to President Schurman, says that at Cornell University the student is permitted, after the completion of three years in the College of Arts and Sciences (in which all work is elective), to elect as the fourth year of his A.B. course, a year's work in the Medical College of Ithaca, which shall count both toward the A.B. degree and that of the M.D., thus making it possible to take the two degrees in seven years. W. M. Polk, dean and director of Cornell University Medical College writes that an advanced standing is not given for a baccalaureate degree the work is only recognized which is equivalent to that which we require of the students in the several years of our course. It has been claimed that some students can do their junior and senior work in the scientific or arts' department and at the same time carry on their first and second year medical courses. We have not seen such prodigies as yet, and in view of the kind of examinations which we have at the close of each year, I hardly think they are liable to appear.

A. N. Stokes, secretary of Yale University, says that there is an arrangement at Yale whereby it is possible for a student to combine the last year in the college proper with the first year in the medical school, dividing his hours between these two departments of the University. Latin is evidently considered of more vital importance than German for admission to Yale medical school, as Latin constitutes one of the required subjects of examination, while German is optional. Herbert E. Smith states that at Yale University that under the present regulations advanced standing is not given by virtue of the A.B. or B.S. degrees. Graduates of the Sheffield Scientific School, or Yale College, and other colleges, are admitted to our first year class, not to our second. They are, however, given credit for any part of the first year work which they have completed in a satisfactory manner in college. Of course this applies for the most part to the general and analytic chemistry, and in some cases to elementary physiology. The time thus saved they put upon advanced work, or on several electives which are offered. In other words, we require four years of work in a medical school. We feel that under present condi-

tions of work in medical schools and colleges this is the only attitude which we can assume.

Charles H. Frazier, acting dean of the medical department of the University of Pennsylvania, states that no change in the combined academic-medical course is contemplated at the present time. The combined course for the baccalaureate and medical degrees is conducted at the University of Pennsylvania, the student in the senior year of his collegiate course is in reality a member of the first year class of the medical department. He performs all the work required of each student in that class. In reality, therefore, the student is *not admitted* to advanced standing.

THE WORLD'S LATEST LITERATURE

Journal of the American Medical Association.

July 18, 1903. [Vol. XLI, No. 3.]

1. Neurologic Progress and Prospects: Chairman's Address. F. W. Langdon.
2. The Dental Nurse: Chairman's Address. M. L. Rhein.
3. Sunshine and Fresh Air vs. the Ultraviolet Rays and the Röntgen Rays in Tuberculosis of the Joints and Bones. De Forest Willard.
4. A Study of the Histologic Changes in Epithelioma Under the X-ray: A Preliminary Report J. Clark Stewart.
5. Varix of the Inferior Mesenteric Vein Complicated by Chronic Ulcerative Colitis: Operation. J. E. Summers.
6. Congenital Dislocations of the Radius. Charles A. Powers.
7. Necessity for More Care in the Treatment of Skull Fractures. W. H. Earles.
8. Clinical Diagnosis of Intestinal Parasites. Charles Wardell Stiles.
9. A Contribution to the Study of the Summer Diarrheas of Infancy. J. H. Mason Knox, Jr.
10. Otitis Media in Infancy. John Lovett Morse.
11. Locomotor Ataxia Complicated by Thrombosis of the Pontile Arteries, with Report of Case. S. D. Hopkins.

1.—See *American Medicine*, Vol. V, No. 20, p. 777.

2.—See *American Medicine*, Vol. V, No. 20, p. 784.

3.—See *American Medicine*, Vol. V, No. 22, p. 860.

4.—See *American Medicine*, Vol. V, No. 23, p. 900.

5, 6.—See *American Medicine*, Vol. V, No. 23, p. 901.

7.—See *American Medicine*, Vol. V, No. 24, p. 943.

8.—See *American Medicine*, Vol. V, No. 20, p. 771.

9.—See *American Medicine*, Vol. V, No. 20, p. 772.

10.—Otitis Media in Infancy.—J. L. Morse has learned to look for this trouble in all cases of doubtful diagnosis. Many with acute inflammation show no sign of pain, and others who evidently have pain somewhere do not by their actions direct attention to the ear. Tenderness over the mastoid is also unreliable. Examination with a speculum is alone satisfactory. There is usually fever. Severe convulsions are not uncommon. Primary inflammation is mistaken for pneumonia oftener than for any other condition. The writer reports a case so diagnosed and another in which the symptoms pointed to cerebral trouble. Sometimes the manifestations are simply those of confined pus. Secondary inflammations are commoner than the primary form. It follows serious disturbances of nutrition in many cases. It may develop and go on to perforation without any symptoms whatever. [H.M.]

11.—Locomotor Ataxia with Thrombosis of the Pontile Arteries.—S. D. Hopkins reports this case because of the interest attaching to the double involvement. The onset of symptoms complicating those of the locomotor ataxia was sudden, reaching its height in a few minutes. Excluding traumatism, all such cases are vascular. There was no involvement of consciousness, and hemorrhage and embolism were excluded. The diagnosis of thrombosis was made from the premonitory symptoms of headache, dizziness, numb and tingling sensations followed by sudden paralysis without loss of consciousness and with the characteristic dissociated symptoms in the affected parts. Loss of taste, smell, rapid respiratory movements and inability to swallow may be accounted for by involvement of the extreme lower portion of the pons and upper part of the medulla. The symptoms demonstrated that a number of small arteries were affected. The occlusion was probably due to specific arteritis. [H.M.]

Boston Medical and Surgical Journal.

July 16, 1903. [Vol. CXLIX, No. 3.]

1. The Shattuck Lecture Before the Massachusetts Medical Society. Theobald Smith.
2. Subparietal Injuries of the Kidney. Francis S. Watson.

1.—Malaria in Temperate Climates.—T. Smith describes the life cycle of the malaria parasite as introductory to those elusive variations due to latitude, climate, and seasons, and to racial diversities, without which measures for eradication from any given territory can have but little assurance of success. In Massachusetts only the tertian form is found, though many soldiers brought the estivoautumnal form in their blood. If these are distinct organisms we must believe either that the transmitter of estivoautumnal fever is absent, or the mean temperature is too low to mature it in the mosquito, or the differences in temperature, etc., are sufficient to suppress it in the blood while we live in this climate. Some soldiers were infected with both estivoautumnal and tertian forms on arrival, the former disappearing. Did the estivoautumnal type assume the tertian form in the northern climate? There can be little doubt of the development of immunity. It seems to be true, as with yellow fever, the further north the home of one who immigrates into an endemic region the more severe the disease. The same relation exists as to susceptibility to bovine malaria. Patients become infectious in the presence of Anopheles during and after the second week, owing to the development of gametes. The appearance of crescents is suppressed when the earliest fevers are treated with quinin. Cases relapsing the following year are more likely than fresh cases to prove infectious. In them immunity has made some progress. The most dangerous individuals are those who have lived in infected localities and possess considerable resistance. [H.M.]

2.—See *American Medicine*, Vol. V, No. 22, p. 854.

Medical Record.

July 18, 1903. [Vol. 64, No. 3.]

1. The Struggle of Science with Old Age. J. Bandaline.
2. The Clinical Importance of Albuminuria. Henry H. Schroeder.
3. The Art of Increasing and Diminishing the Bodily Weight at Will. Max Einhorn.
4. The Present Status of Subconjunctival Injections in Ophthalmic Therapeutics. Charles Stedman Bull.

1.—Struggle of Science with Old Age.—J. Bandaline reviews the efforts of the alchemists and some of the suggestions of modern science. He discusses the dependence of the organism on cell death for functional activity, and the triumph of old age through the loss of equilibrium between the mesoderm and ectoderm elements. In adolescence and manhood the noble or ectoderm cells secrete an antitoxin that neutralizes the pernicious influence of the hostile elements, when this diminishes the mononuclear macrophages destroy the polynuclear macrophages, the defenders of the noble elements, and the coarse elements quickly develop in every direction. The discovery of cytotoxins grew out of blood transfusion from mammals to man. Experimentation has led to the preparation of artificial cytotoxins specific for certain elements. This suggested to Metchnikoff the regulation of certain cellular functions during illness and old age. Small quantities of certain poisons have a stimulating effect on organs paralyzed by higher doses. The nerve cells which play so important a role in vital processes become a prey of the neuroglia cells in old age. The neuron elaborates a toxin which checks the development of the neuroglia cell and preserves nutritive equilibrium in the central nervous system. Marmisco tries to explain the atrophy of the nerve cell, not only by its struggle with the neuroglia but also on the ground of insufficient chemic synthesis. For the purpose of keeping up chemic synthesis he offers a dynamogenic substance like the serum of young animals or the juice of very young organs. [H.M.]

2.—The Clinical Importance of Albuminuria.—H. H. Schroeder writes from knowledge gleaned from 13 years' experience as a life insurance official. He reports the histories of seven illustrative cases, and concludes as follows: 1. It is impossible to determine whether albuminuria is a premonition of further trouble until the case has been kept under observation for some time. 2. Transient albuminurias are not of serious import unless they recur too freely. 3. Persistent and even cyclic albuminurias should cause anxiety on the part of the attending physician, who should endeavor to ascertain the cause and take measurrs for the removal thereof. 4. The earliest indications of Bright's disease will, as a rule be found

in the urine. 5. Careful observation of these cases means frequent examinations of 24-hour specimens of urine for the purpose of finding out the daily quantity, the amount of urea, the specific gravity, and the presence of albumin and casts. The bloodvessels and the heart should also receive attention. These observations may have to extend over a period of months or even years. 6. The most frequent causes of albuminuria are excessive eating, overindulgence in alcoholic drinks, and possibly tobacco, mental and physical stress, and the gouty diathesis. 7. The mortality among albuminuria cases is great, not only because chronic nephritis is often associated with it or may follow later on, but also on account of poor resistance offered by other diseases. [A.B.C.]

3.—Increasing and Diminishing Bodily Weight—M. Einhorn calls attention to the fact that the organism does not burn up excess of food but converts it into fat. With increased work under the same diet a person in a state of physiologic equilibrium must lose in weight; the increased consumption of calories is supplied from the body tissue. On ingestion of the same amount of food with marked diminution in work increase of weight must follow. The leanness of the healthy ought to be combated, as this is a disadvantage when the time of need arrives. To increase weight variety of diet is permitted. Coffee and tea are diluted one-half with milk and cream and sugar is added. Feedings of milk and bread and butter are given between meals. Quarter of a pound of butter should be eaten daily. Outdoor life and moderate exercise by stimulating appetite are of great value. To diminish weight we give skim milk, diminishing the quantity until the patient loses a half pound of weight daily. The patient should be kept in bed for a week or two with massage and later Swedish movements. Beef, chicken or oyster soup may also be given. When the amount of food necessary to keep the body in equilibrium has been determined muscular work may be increased. The disposition of fat is sometimes greater when subjacent muscles are not called into frequent play. [H.M.]

4.—Subconjunctival Injections.—C. S. Bull reviews the literature of the past seven years, and concludes that the efficiency of the various solutions used cannot be ascribed to acceleration of the lymph current, nor to antiseptic action of the remedies employed, since the presence of such processes cannot be demonstrated. It must be sought in their local irritating properties, causing increased transudation of albuminoid substances from the vessels, the protective substances of the blood always being found in combination with albuminoids. Careful observation has not convinced the writer that these injections bring about more rapid or favorable results than other methods in affections of the cornea, uveal tract, or retina. In orbital cellulitis sublimate solution (1–1,000) exerted an unusually rapid effect in hastening the suppurative stage, reducing infiltration, and thus restoring circulation to the strangulated parts. [H.M.]

New York Medical Journal.

July 11, 1908. [Vol. LXXVIII, No. 2.]

1. Report of a Case of Pernicious Anemia with Marked Ptosis of the Abdominal Viscera. C. BERTRAM GAY.
2. Humeroacromial Suture for Habitual Dislocation of Shoulder. CARK BECK.
3. A Device to Protect Against Infection in Operations on and Around the Rectum. J. M. LYNCH.
4. Intravascular Antisepsis. CHARLES CLIFFORD BARROWS.
5. Mental Aberration Consequent Upon Pelvic Disease—Cases. L. G. HANLEY.
6. The Source of Typhoid Fever. CHARLES E. DAVIDSON.
7. The Peculiar Case of Lam Ah Chan. J. A. GUTHRIE.
8. Radiotherapy in Enteritis and Colitis. SINCLAIR TOUSEY.
9. Some Observations on Stacke's Operation. THOMAS R. POOLEY.

1.—A case of pernicious anemia with marked ptosis of the abdominal viscera is reported in detail by C. B. Gay. The patient, a woman of 26, had for several months been troubled with a cystitis, later the symptoms were referable to the right kidney, the anemia becoming more noticeable. Pus in large amounts was passed intermittently, but at times the urine was almost clear. Physical examination pointed to pyonephrosis. Though the patient was believed to have pernicious anemia, it was considered that if a surgical kidney was present it should at least be drained for temporary relief. The mass was found to be the displaced liver and prolapsed kidney. No abscess sac was found and but small amounts of pus in the pelvis. Blood examination showed red cells 1,536,000, white cells 12,800, hemoglobin 30%. Seven days later, a few hours before death, the red cells were reduced to 696,000, leukocytes 8,000, hemoglobin 10%. The liver was prolapsed and showed marked malformation, the stomach was atrophied and had all the characteristics of an infant's stomach, accompanied by ptosis of most of the other abdominal viscera. Added to this was a cystitis and ascending pyelitis. [C.A.O.]

2.—Humeroacromial Suture for Habitual Dislocation of Shoulder.—The case reported by Carl Beck is that of a man of 22, who dislocated his shoulder at various times. There were no visible signs of any abnormity. An incision, made between the deltoid and pectoralis major muscles, exposed the acromion as well as the anterior surface of the capsule. The latter was found to be so much relaxed that a fold could be taken up and contracted by carrying a pursestring suture through it. At the same time, a hole was drilled into the head of the humerus, as well as in the acromion, and a medium-sized silver wire was carried through it. This was removed in five weeks. The final result, six months later, proved to be perfect. [C.A.O.]

3.—A device to prevent infection in operations on and around the rectum is described by J. M. Lynch. He uses two concavoconvex metal rings, a carrier, and condom. The inner ring is perforated to enable it to be sutured to the skin in operations on the prostate. The ring is introduced by a carrier. Then a condom is fitted on the concave groove of the same ring and an elastic band is placed around this to keep it in position. The outer ring has a hinge and a clasp so arranged that it fits exactly the different thicknesses of gut. With the carrier in position and the condom on, the inner ring is now introduced into the cylinder of mucous membrane, which has previously been dissected up inside the sphincter, the outer ring is clasped over it, and with the finger in the ring, the gut can be dissected up above a tumor with the finger in the rectum as a guide, and with no possible fear of infection from the bowel. [C.A.O.]

4.—Intravascular Antisepsis.—C. C. Barrows mentions the experiments made by different investigators, and the conclusions drawn in regard to the use of formaldehyd as an intravascular antiseptic. He also reviews the case previously reported by him and reports others, some of which were under his own personal care and others treated in accordance with his own personal instructions. The patients were all the subjects of the profoundest type of general puerperal sepsis, in which after other forms of treatment had failed very positive and satisfactory results followed the intravenous infusion of formaldehyd. In most cases a 1 to 5,000 solution of formalin in freshly prepared normal salt solution at a temperature of 100° F. was injected into a superficial vein, preferably the median basilic or cephalic. In four cases the solution of formaldehyd was made in simple sterile water. There was practically no difference in the behavior of the cases. From 750 cc. to 1,000 cc. was used in most cases, and repeated if necessary. The microscopic evidence in most of the cases showed that the cellular elements of the blood had undergone no morphologic changes. The explanation offered by Barrows as to the action of this solution is that it inhibits the development of bacteria and neutralizes the toxins they are supposed to produce. [C.A.O.]

5.—Mental Aberration and Pelvic Disease.—L. G. Hanley reports several cases of mental aberration in patients suffering from pelvic disease in which complete recovery followed operation. He says that no woman of today should be committed to an insane asylum without first receiving a thorough examination of her pelvic organs, and should any disease be found she should be treated before having the stigma of *non compos mentis* branded upon her. Melancholia is the most common form that has existed in cases operated on by the author. [C.A.O.]

6.—The Source of Typhoid Fever.—C. E. Davidson has with a great deal of accuracy traced the infection in 30 cases of typhoid fever, and in each case he has been able to trace the disease to an infected well. Several cases are reported. [C.A.O.]

8.—Radiotherapy in Enteritis and Colitis.—Sinclair

Tousey has begun this line of treatment in cases in which there is a chronic condition of pain, or discomfort with frequent discharges of mucus and occasional discharges of blood or of false membrane, and which have failed to yield to the use of intestinal antiseptics, such as naphthalin given by the mouth and to the use of other antiseptics given by enteroclysis. The results in the cases under treatment have been satisfactory. [C.A.O.]

9.—Stacke's Operation.—T. R. Pooley states that while he does not wish to detract from the merits of the operation in well-selected cases, he believes that the application of this operative procedure to the cure of chronic otorrhea is becoming too universal and indiscriminate. There is danger of wounding the facial nerve, dura, lateral sinus, and the semicircular canals. There is uncertainty of a radical cure after one operation, and the duration of the after-treatment is long. There is also the possibility of permanent impairment of hearing in patients who before the operation could hear fairly well. The objective indications may be grouped under two forms: Any case of reinfection or of a rapid extension of a chronic otitic process, or whenever a grave complication is threatened; the indication is then for immediate operation. [C.A.O.]

Medical News.

July 18, 1903. [Vol. 83, No. 3.]

1. Presidential Address on the Care of Epileptics. FREDERICK PETERSON.
2. Nature, Frequency, and Possible Significance of the Various Forms of Epileptic Aura. WILLIAM P. SPRATLING.
3. The Daily Rhythm of Epilepsy and Its Interpretation. PIERCE CLARK.
4. On the Pathology of Epilepsy. ADOLF MEYER.
5. The Legal and Social Standing of the Epileptic. EDGAR J. SPRATLING.
6. Therapeutic Suggestions in Diphtheria. LOUIS FISCHER.
7. A Report of a Case of Spina Bifida; Operation; Death. CHARLES GREENE CUMSTON.

1.—Care of Epileptics.—F. Peterson recalls the successful solution of the care of epileptes by Pastor von Bodelschwingh in his colony scheme at Bielefeld. Its effect was magical. Steps began to be taken everywhere to provide for epileptics. Interest has grown with geometric progression. The objects of the National Association for the Study of Epilepsy are to promote the welfare of sufferers, stimulate study of causes and cures, to advocate their care in institutions where they can be educated and acquire trades and have the best medical care, and to assist the various States in making proper provision for them. [H.M.]

2.—Epileptic Aura.—According to W. P. Spratling there may be an occasional case in which the impulse starts at the periphery, but the question then arises whether it should be designated as epileptic or epileptiform. There is a growing tendency to regard the aura as part of the epileptic attack. It should be treated as the commencement of the fit, not a warning of it. Auras are best grouped as psychic, sensory, motor, and irregular. The sensory greatly outnumber the rest. Apparently less than half all cases have a specialized aura. They are more frequent in the milder forms. The most common psychic aura is sudden acceleration of the imagination. Fear of a primary unreasoning kind is met with. Of the special sense auras, the visual greatly predominate. Amaurosis may constitute the entire attack. Gowers mentions a case of diplopia. In a color aura red or blue is most apt to be seen. Auditory auras occur only one-fourth as frequently as visual. The epigastric aura is more frequent than all the other sensory auras combined. The location and cause of the pain is entirely problematic. Many patients suffer from indigestion that makes its appearance to some extent periodically and correction often lessens or removes the attacks, pointing to the importance of investigating chemic pathology as a cause of epilepsy. Procursive epilepsy or running before the fit is a common motor disturbance. A sleepy feeling is sometimes warning of an attack. In rare instances the heart is the seat of disturbance. [H.M.]

3.—Daily Rhythm of Epilepsy—L. P. Clark presents tables based on the study of 150,000 epileptic seizures. The bromid treatment was at a minimum during a large part of the study. One table includes all the cases in the colony hospital, another out-of-door workers, another the idiotic, imbecile, and demented, and the fourth is a grand total of all the groups. These show the hours of greatest frequency, as early evening, 9 p.m.,; noon to 2 p.m., and early morning, 4 to 6 a.m. The day is divided approximately into eight-hour periods, with tendencies to the formation of a secondary rhythm about midway between. Autointoxication must be reckoned with in the interpretation of the daily variation, and secondly the lowered inhibitory control. The seizure curve at night may be taken as an inverted curve for blood-pressure, depth of sleep, and cerebral inhibition. In the process of awaking the lower reflexes are released first and may on stimulation be made to overact. At noon the patient is fatigued and inactive, it is the time of the heaviest meal, bolting, overeating, and excessive autointoxication compensate the moderate cortical inhibition still present. Epileptics do not meet with serious accident while earnestly occupied. Idleness, indifferent, and monotonous occupations should be discouraged. [H.M.]

4.—The Pathology of Epilepsy.—After a somewhat lengthy discussion, Meyer draws the following conclusions: (1) The frequency of nervous lesions in epileptics is difficult to establish. The ordinary examination is too open to oversights, and must be very systematic in order to justify the verdict of negative findings. The great variation in the number of sclerosed cornu ammonis, diffuse gliosis, small foci of softening quoted by various authors, is certainly to a large extent a picture of the psychology of investigators rather than of facts; (2) concerning the chemic investigations, nothing short of unprejudiced and complete series of investigation will help us here, and also a much greater conservatism with complicated methods such as the tests of toxicity, the results of therapeutics, etc.; (3) all these conditions are difficult to attain except in sufficiently equipped institutions for which funds should be made available by the State, and by scientific corporations, so that they may work free of the need of sensational results, create a sound basis in clinical work and systematize the investigation according to methods which can be admitted as safe and fruitful. [A.B.C.]

5.—Legal and Social Standing of the Epileptic.—E. J. Spratling says, legally the epileptic is held rigidly responsible unless he can prove irresponsibility at the specific time; socially he is held to hard and fast responsibility, consequently ostracized; and the few who have studied him know that morally he is always irresponsible. The author condemns the present attitude of society toward the epileptic. He makes a strong plea for his segregation and complete separation from lunatics. In but two States in the Union—New York and Massachusetts—have we risen above this barbarous treatment of the epileptic. He commends the great work being done at Craig colony, and similar institutions abroad. [A.B.C.]

6.—Therapeutic Suggestion in Diphtheria.—L. Fischer gives the indications for a large inital dose, and for repetition of the dose of diphtheria antitoxin, and emphasizes the importance of bacteriologic examination of the blood in order to determine as to streptococcemia and the administration of streptococcus antitoxin. He also discusses the necessity of supporting the general nutrition by proper feeding, of elimination, local treatment, antipyretics, stimulation and hygiene. [H.M.]

7.—Spina Bifida: Operation; Death.—C. G. Cumston reports the case. The child was first seen by the author when it was 11 months of age. There was a family history of paternal syphilis. Another child in the same family had congenital harelip. A tumor in the region of the fourth and fifth thoracic vertebras was noticed at birth and continued to enlarge. Manual pressure could reduce it slightiy, and it increased in size when the child cried. Operation revealed a cyst, which, when dissected free, was found to be connected by a pedicle with the cord. The pedicle passed through a cleft in the spinous processes of the vertebras. When the sac was opened fluid escaped, and exploration with the finger revealed a portion of the cord therein. This was reduced to its normal situation and the pedicle closed by suture, the sac cut away and the wound closed. The child did well until the fifth day, when it became drowsy, the anterior fontanel became tense, and he died on the tenth day. Necropsy showed the ventricles of the brain dilated and distended with fluid. Internal and external hydrocephalus was demonstrated. [A.B.C.]

CLINICAL MEDICINE

DAVID RIESMAN A. O. J. KELLY

EDITORIAL COMMENT

The Etiology of Yellow Fever.—An extremely interesting and valuable report on certain investigations bearing upon the etiology of yellow fever has just been issued by the Public Health and Marine-Hospital Service. The report comprises the results of the work of Dr. H. B. Parker, of the Public Health and Marine-Hospital Service; Dr. George E. Beyer, professor of biology in Tulane University, and Dr. O. L. Pothier, pathologist to the New Orleans City Hospital, who together constituted a working party that investigated yellow fever in Vera Cruz from May to October, 1902. By no means the least interesting part of the report is that relating to the sanitary history of Vera Cruz and a synopsis of previous investigations concerning yellow fever. Proceeding to the work that especially engaged their attention, however, they give the results of their examinations of the fresh blood of yellow fever patients, comprising the microscopic examination of the native blood and of stained film preparations, the bacteriologic study of the blood, and studies in serum reactions. No noteworthy changes were found on microscopic examination of the blood, and bacteriologic examinations were uniformly negative, except in one case in which the blood taken in the agonal period revealed a bacillus belonging to the colon group. Serum agglutination tests were undertaken with *Bacillus icteroides* of Sanarelli, *Bacillus typhosus*, *Bacillus dysenteriæ* of Shiga, and *Bacillus coli communis*, in dilutions of 1 to 40, with uniformly negative results. Finally, and of especial interest, is that fact that bacteriologic examination of the blood and the organs of subjects dead of yellow fever, the examinations being undertaken within one hour of death, revealed the entire absence of vegetable organisms. Such being the case, the committee ceased their examinations of the blood and organs, and turned their attention to the mosquito, *Stegomyia fasciata*, and a more complex series of organisms, the protozoa—with results that they express in the following conclusions: 1. The bacteriologic examination of the blood of cases of yellow fever during life and the blood and organs at autopsy performed immediately after death in uncomplicated cases is negative. 2. *Stegomyia fasciata*, when contaminated by feeding on a case of yellow fever 41½ hours after the onset of the disease and subsequently fed on sugar and water for 22 days and 1½ hours, can, when permitted to feed on a nonimmune individual, produce a severe attack of the disease. 3. *Stegomyia fasciata*, contaminated by feeding on a case of yellow fever, and after varying periods killed, sectioned, and appropriately stained, presents with regularity a protozoan parasite, the *Myxococcidium stegomyiæ*, that can be traced through a cycle of development from the gamete to the sporozoite. 4. *Stegomyia fasciata* fed on the blood from a case of malarial fever, on normal blood, or artificially fed, does not harbor the parasite indicated in conclusion three.

The alleged parasite of yellow fever, for which the above referred to commission propose the name, *Myxococcidium stegomyia*, Parker, Beyer, Pothier, is provisionally placed among the hemospordiæ. Its schizogonic stage is as yet unknown. In its sporogenic stage it consists of a fusiform stage—a nucleated body, 3 to 4μ long by 1.5 to 2μ broad—found in the lumen of the stomach and the esophageal diverticulum about three days after the mosquito has bitten a yellow fever patient. This is succeeded by a globular stage (?oöcyst) in the esophageal diverticulum, where it is imbedded in an albuminoid mass of undetermined origin and nature. This reaches maturity and breaks up into numerous elongate-oval bodies (? sporoblasts) 3μ long by 2μ broad, which enter the cells of the salivary gland where, coming to rest (? spores), they break up into numerous excessively minute bodies (? sporozoites), which would naturally be discharged by the mosquito when in the act of taking food. As a bit of work these investigations are extremely interesting and they appear to follow naturally on the epoch-making researches of the lamented Reed and his associates. Whether the new organism is really the causative factor in yellow fever or whether it is destined to be added to the already fairly long list of suppositious organisms remains to be seen. Analogy nevertheless warrants us in assuming that ultimately the cause of yellow fever will be demonstrated to be a protozoon rather than a bacillus. Assuredly the work should be proved; its importance and possibilities suggests its being subjected to the strictest scientific inquiry.

REVIEW OF LITERATURE

The Early Diagnosis of Pleuritis Diaphragmatica.—R. v. Stenitzer[1] reports two cases of this condition and concludes that there are three symptoms which are of special importance in diagnosing this condition, namely: (1) The pain; (2) the disturbances in the action of the diaphragm, and (3) a reflex phenomenon which has been described by Schmidt. The pain is very intense, is situated in the lower part of the thorax and tends to radiate to the epigastrium, hypochondrium, sacrum, and shoulder. There was sensitiveness to pressure over Mussy's "diaphragmatic point"—the phrenic nerve in the neck. A high position of the diaphragm on one side is a striking symptom and depends upon a loss of tone in the muscle of the diaphragm. The respiratory movement in the lower part of the thorax was lowered, there was an absence of the proper movement of the base of the lungs during respiration, and there was an absence of Litten's diaphragm phenomenon. The reflex phenomenon of Schmidt consists of a contraction of the upper part of the abdominal muscles during inspiration. [J.H.W.R.]

Prognosis in Atrophic Cirrhosis of the Liver.—To leave no doubt that a certain cured case has been one of atrophic cirrhosis of the liver H. Ehret[2] considers the following conditions necessary: 1. A fully developed clinical picture. 2. Disappearance of all signs and symptoms. 3. A continued absence of such symptoms during a period of at least 20 years, and death due to other causes, without any implication on the part of the liver. 4. Demonstration of the disease at autopsy. He reports a case which fulfils every one of these requirements. A man of 72 had had cirrhosis of the liver at 42. It began acutely and ran a rapid course. He had to be tapped a number of times. Leaving off alcohol, within a comparatively short time (2 years) was free of all symptoms, and remained so for the rest of his life. Death was due to a carcinoma of the esophagus and hypostatic pneumonia. The autopsy showed atrophic cirrhosis of the liver, with adhesions to spleen and other neighboring organs. The cause of the recovery is to be found in the great compensating power of the remaining liver tissue, in the probable formation of new liver tissue, which by many is believed to be physiologically competent to take up the work of the destroyed tissue, in the formation of collateral bloodpaths through the spleen, the peritoneum, etc. He discusses the treatment which is most likely to produce this curative result. [E.L.]

An Early Sign of Typhoid Fever in Children.—It is stated[3] that a Hungarian physician, J. Bernard, has made use of a sign that apparently is of value in making an early diagnosis of infantile typhoid. When that disease is suspected Bernard places himself at the right side of the patient and applies the pulp of the fingers of both hands to the right iliac fossa and palpates carefully that region, rolling the tissues under the fingers as in making an examination of the liver. In cases of typhoid there may be felt in the ileocecal region two or three tumefactions in a line with the axis of the body and 1 cm. or 2 cm. apart. They are the size of a hazelnut or pigeon egg and have their long axis also in the axis of the body. These tume-

[1] Wiener klinische Wochenschrift, 1903, page 475.
[2] Münchener medicinische Wochenschrift, February 24, 1903.
[3] La Semaine Médicale, May 27, 1903.

factions appear only toward the end of the first week and disappear in three or four days. It is a question whether they are hypertrophied follicles of the ileum or enlarged mesenteric lymph-nodes. [A.G.E.]

Experiences with Kroenig's Method of Percussing the Pulmonary Apices.—A. Wolff[1] relates his experience in percussing the pulmonary apices by Kroenig's method as modified by him. The outline of the normal lung apex is sketched against the skin in such a manner that the isthmus is to be found 1 cm. below the edge of the sternomastoid, and 3 cm. above the clavicle. This in the normal individual is equal on both sides, and at least 4 cm. wide; in diseased apices there will be inequality or bilateral deficiency in size. Percussion must be performed very lightly and absolutely parallel with the expected lines. Retraction is diagnosed fairly easy, as the change from the dull note of the surrounding structures to the resonant note of the lung is easily observed, but in cases of infiltration it is more a change of note—a diminution of resonance—which indicates the process. Wolff does not believe that this method will supersede all others, but as it is valuable in noting very early changes in the lung, he considers it a valuable addition to our present methods of diagnosis. [E.L.]

Actinomycosis of the Lungs.—In nearly one-fifth of all cases actinomycosis attacks the lungs. The parasite enters these organs either by way of the respiratory canal or indirectly through the esophagus. Two forms of the disease may be distinguished, the superficial or catarrhal and the deep or parenchymatous. Only the latter possesses practical significance. T. K. Sprijorny[2] reports three original cases. The first patient had for some time been treated with mercury and iodids on the score of a mistaken specific disease and died soon, having refused operative interference. He was 50 years old, and the lesion, evidently starting in the lungs, gradually developed into a large tumor, which ulcerated on the anterior upper part of the thorax. The second patient, who also showed a tumor in the same region, consented to an operation. The swelling was incised and the characteristic pus removed. No communication could be found between abscess and lung. However, healing was sluggish, new foci appeared, later metastases developed and the woman succumbed. The disease had, probably, primarily attacked the lungs in this case. The third patient presented a similar history and status; gradually growing pulmonary disturbances (cough, expectoration), general debility, finally appearance of a tumor on the anterior thorax. He, too, staked his fortune on operative treatment, but could not be saved. Thus all three cases ended fatally in spite of energetic treatment. (K. T. was also given systematically.) [L.J.]

Pellagra with Especial Reference to its Occurrence in South Bukowina.—M. Wuerzel's[3] article concerning pellagra is an extensive one treating of the disease in a statistical and descriptive manner. The disease seems to be greatly on the increase in all the districts in which it has gained a footing. It is not an infectious disease, but an intoxication due to poisons contained in maize, acted upon and decomposed by parasites. From the standpoint of its symptoms it must be considered a general disease with special localization in the nervous system, in the glandular structures of the abdomen, the circulatory system, and especially the skin. Gastrointestinal catarrh and characteristic skin lesions occur in every case. After brief consideration of the course, complications and pathology, he advises withdrawal of alcohol and the substitution of a good diet for the spoiled flour; of medicines tonics are the best. More important, however, than the treatment is the prophylaxis of the disease, this consisting chiefly in the education of the masses as to the cause of the disease, the withdrawal of maize as a food product. He finishes his article by relating the histories of nine patients. [E.L.]

Massage of the Abdomen.—In the great majority of cases abdominal massage is employed to combat chronic constipation. The brilliant results achieved in this affection have in turn popularized massage treatment. W. A. Stange[4] sums up his discussion in these propositions: 1. In chronic obstipation excellent results can be obtained only from a combination of massage, purgative remedies, and regulated gymnastic exercises. 2. The duration of treatment is at least two months. 3. Our technic of massage requires a change, the usual direct propulsion of feces along the bowels, being as harmful as it is valueless. 4. The best method aims at exciting contractions of the intestinal musculature, and consists in deep frictions, kneadings and vibrations; the latter may be performed either manually or with the aid of apparatus (vibrators.) 5. For the stomach, vibration is decidedly the best form of massage, and the intended effect is the same as above—muscular contraction, leading to improved circulation, better glandular activity and livelier motor function. 6. The idea of mechanically shifting the gastric contents toward the pylorus by means of massage is erroneous, physiologically, and, moreover, practically not to be realized. [L.J.]

A Case of Infantile Pseudobulbar Palsy.—F. Kaufmann's[1] case concerns a man of 57, who since earliest childhood complained of difficulty in speaking, chewing and swallowing, and troublesome salivation. Examination showed the symptom-complex of a bulbar palsy (paralysis of muscles of tongue, lips and esophagus), associated with a right-sided spastic paralysis. The differential diagnosis is discussed at some length. Bulbar palsy is excluded by the time of onset (congenital) absence of progressiveness, absence of symmetry (right side more than left), absence of atrophy and presence of normal electric reactions. He quotes a number of cases of pseudobulbar palsy, and comes to the conclusion that his case belongs to their category. Pathologically, he considers it a case of congenital, bilateral arrest of development in the lower part of the central lobes; on the left side the middle and upper part of these lobes are also affected to a slight degree. [E.L.]

Percussion of the Head.—W. M. Bechterew[2] draws attention to tenderness of the cranium on percussion with the finger, and considers this sensitiveness to be an important indication of a deep-seated organic brain process. According to the illustrious author, affections of the base or its meninges manifest themselves in a marked tenderness on percussion over the zygomatic arch, while the rest of the cranium may show no such sensitiveness. The explanation is to be sought in the fact that the zygomatic arch connects two cranial regions and therefore easily transmits vibrations to the basal portions. Unilateral zygomatic tenderness points to a deep pathologic process of the same side; when the tenderness is bilateral one side will generally evince a greater sensitiveness, and thus afford some probability of finding the lesion on the same side. This diagnostic sign may prove especially valuable in examining patients who are suspected of having a syphilitic affection of the base or its meninges. [L.J.]

Lightning Injuries from a Clinical and Medicolegal Standpoint.—S. Jellinek[3] discusses the literature pertaining to injuries resulting from lightning, in full, and adds a large number of personal observations, the details of which, in as much as they are associated with numerous drawings, make very interesting and instructive reading. He discusses the injuries to the various parts of the body; most of them were evanescent, but very painful while they lasted. He relates in full the autopsies of several individuals killed by lightning. Toward the end of the article the medicolegal side of the subject is quoted fully. [E.L.]

Gummatous Cellulitis Simulating a Malignant Growth.—A. Fournier[4] reports the case of an emaciated, cachectic man of 34, having a very large tumor of the pelvis which was producing urinary and defecatory symptoms, through its pressure on bladder and rectum. The tumor filled the entire pelvis and reached some distance above it; it was hard and painless; there was no glandular enlargement. The tumor had been diagnosed as malignant by several surgeons, and operation refused. The patient's father had syphilis; of 15 children in the family, 12 had died in early childhood. Neither the patient nor a brother showed a single sign of syphilis until the eye-grounds were examined. The patient showed

[1] Deutsche medicinische Wochenschrift, February 5, 1903.
[2] Medizinskoe Obosrenie, lix, No. 2.
[3] Wiener klinische Wochenschrift, February 19, 1903.
[4] Russki Vratch, March 8, 1903.

[1] Münchener medicinische Wochenschrift, February 10, 1903.
[2] Obosrenie Psychiatrii, 1902, No. 11.
[3] Wiener klinische Wochenschrift, February 5 and 12, 1903.
[4] Journal des Praticiens, 1902, Vol. xvi, p: 673.

certain rudimentary signs, his brother positive signs of inherited syphilis. On the strength of this, and as a last resort, the patient was placed upon mixed treatment; daily hypodermic injections of benzoate of mercury, 0.02 gram (⅓ grain) combined with potassium iodid, 4 grams to 6 grams (60–90 grains) daily. Within two months the mass and all its symptoms had disappeared completely, thus proving it to have been a gumma of the pelvic cellular tissue. [E.L.]

Uremic Amaurosis.—W. Hauenschild[1] reports a case of acute nephritis, during the course of which the patient had uremic convulsions. Several days afterward he found himself suddenly and totally blind, which condition was confirmed by thorough examination. This state probably lasted 18 hours; at no time did the ophthalmoscopic examination reveal anything abnormal. Edema of the lungs developed and was followed by death. [E.L.]

The Properties of Pancreatic Juice.—L. B. Popelsky[2] has experimented on dogs with a view of determining the digestive powers of the pancreatic secretion. He has proved to his satisfaction that the pancreatic juice alone cannot digest proteids; when brought in contact with the intestinal secretions, however, its protrypdin is converted into trypsin, and the latter successfuly attacks proteids. There is no adaptation of the pancreas to any particular kind of food. It follows, according to the author, that whenever the intestinal secretions are altered, as in various enteric inflammations, it is useless to give the patient food, since it will not be adequately digested. With the subsidence of acute symptoms, feeding becomes doubly necessary, and such articles should be allowed as do not stimulate the flow of pancreatic juice—milk, soups, broths. [L.J.]

The Liver Test.—A number of French observers, among them especially Lacassagne and Martin, have made chemic postmortem studies of the liver and have formulated some important conclusions: The absence of glycogen and sugar indicates death following a chronic disease; their presence sudden death; the presence of sugar and absence of glycogen indicates death without previous illness. These results have been denied by most investigators since. J. Seegen[3] ridicules them not only from a physiologic standpoint, but also from a consideration of the chemic methods used in arriving at them. He examined the livers of three individuals who died suddenly of asphyxiation, using more accurate tests, however, than the others did. He also performed animal experiments. He found the amount of sugar in all cases much reduced, and in most cases the glycogen had almost disappeared completely. He concludes from his physiologic deductions, from the results of the investigations of others of livers in chronic disease, and from his own of livers of asphyxiated persons, that Lacassagne and Martin's conclusions are totally wrong. The complete absence of glycogen from the liver of a healthy individual having died suddenly may be considered as proof of death due to asphyxiation. [E.L.]

Ferments of Milk.—E. Moro[4] has investigated Escherich's theory, that the greater improvement which infants who are raised on human milk show, is due not so much to the greater digestibility of the milk, but to the presence in it of certain ferments, which enable the child to absorb and apply its food better. He found in human milk hydrolytic, proteolytic, coagulating lipolytic and oxidative ferments; they are probably all derived from the blood. There is a marked difference between the ferments of human milk and cow's milk, both in quantity and quality, still it is doubtful whether these ferments are of the least importance in the nutrition of infants, even though infants fed with boiled human milk, which destroys the ferments, thrive less than those fed with uncooked milk. [E.L.]

Syphilitic Joint-inflammations. — Borchard[5] divides luetic joint diseases into primary and secondary; the former may arise during the secondary or tertiary stage; in congenital syphilis we may have both, the latter following inflammation of the neighboring periosteum and bone. Either may be acute or chronic; the acute characterized by hydrops and swelling, is nothing more than synovitis, due to syphilitic poison, and associated with the general disease. It may occur as often as secondary symptoms arise. All the other joint-inflammations are the expression of a local syphilitic product; the gumma may have its seat in the synovial tissue or the cartilage. Fringe formation cannot be traced to a chronic hydrops, but must be considered as miliary gummas of the synovial membrane. The acute hydrops cannot become chronic without formation of miliary gummas of fringes, and even joint inflammation in tertiary and congenital syphilis may be traced to this change in the synovial, parasynovial, or cartilaginous tissue. [E.L.]

Is Anesthetic Leprosy Contagious?—By many authorities the maculo anesthetic form of leprosy is considered noncontagious, and prophylactic measures are accordingly lax. D. F. Reshetillo[1] marshalls a series of facts proving the contagiousness of anesthetic leprosy, all voices to the contrary notwithstanding. In both forms of the disease the same bacilli are present, and endemiologic observations in India and elsewhere testify to the contagious nature of lepra anesthetica. Hence the necessity of the same protective measures as are adopted against tuberculous leprosy. [L.J.]

Examination of the Esophagus.—H. Starck[2] recommends for exploration of the esophagus an instrument differing from the straight bougies by having an end which can be bent at almost any angle. He speaks of it as a diverticulum sound, and by means of the eccentric end the slightest irregularity, fold, pocket, etc., can be recognized. It is, however, especially useful in diagnosing the exact position and length of a tumor, also the size of diverticulums, etc. He cites a number of cases in which the advantage of the instrument demonstrated itself. [E.L.]

Anthrax Infection.—Hammer[3] reports concerning four cases of this disease. The first had anthrax of both left eyelids, from the blood and pus of which the bacilli were isolated. Injections of 5% solutions of carbolic acid prevented further spread and saved the eye for the patient. In the second patient the entire left side of the face was affected, and the lids gangrenous. Application of alcohol and injections of carbolic acid cured the patient. The third patient died on the fifth day of the infection; in him the entire right arm was edematous. The bacilli were isolated from all the organs of the body. These cases were infected through slight wounds; the last presented the typical picture of an anthrax septicemia. Anthrax acquired through the respiratory tract is very rare, and its existence has been denied by Baumgarten. Hammer's fourth case was such a one. A man, 32 years old, a laborer in a flour mill was taken suddenly with a chill and fever; the next day he was brought to the hospital unconscious; the third day he died. The autopsy revealed a large subdural hemorrhage and hemorrhagic infarcts in the upper lobes of both lungs and the spleen. Anthrax bacilli were demonstrated microscopically and culturally. [E.L.]

[1] Münchener medicinische Wochenschrift, January 27, 1903.
[2] Russki Vratch, April 19, 1903.
[3] Wiener klinische Wochenschrift, February 26, 1903.
[4] Jahrbuch für Kinderheilkunde, 1902, Vol lvi, page 391.
[5] Deutsche Zeitschrift für Chirurgie, Vol. lxi, p. 110.

GENERAL SURGERY

MARTIN B. TINKER
A. B. CRAIG C. A. ORR

EDITORIAL COMMENT

Hydrocele Testis.—Hydrocele of the vaginal tunic presents itself in two forms, depending on etiology, viz., simple or idiopathic, and symptomatic or resultant hydrocele. The latter variety may arise from gonorrhea, filariasis, tuberculosis, etc. That trauma plays a considerable role in the causation of simple hydrocele is admitted by most surgeons, but such a large percentage of cases arise without known cause that we fall back on our ignorance and denominate the affection idiopathic. Keyes calls attention to the far greater frequency with which simple hydrocele occurs in the tropics than in

[1] Russki Vratch, April 19, 1903.
[2] Münchener medicinische Wochenschrift, January 27, 1903.
[3] Zeitschrift für Heilkunde, Vol. xxii, p. 383.

temperate climates. The symptoms and diagnosis of this condition are expounded in most of the textbooks on surgery, and genitourinary surgery, the authors in the main agreeing. But on the subject of treatment one is struck with the diversity of opinion. Most all agree, however, that tapping is rarely curative in the adult, and should be resorted to only in feeble elderly men and in children, and even in the latter acupuncture and scratching the internal surface of the sac, in a number of places, is a much more reliable procedure. The numerous approved methods for treating simple hydrocele in the adult can all be arranged under injection or incision. The former consists in evacuating the fluid by trocar and cannula, or aspirating needle, and then injecting an irritating fluid, which will cause local inflammation, adhesion of the visceral and parietal surfaces, and thus effect obliteration of the sac. The various substances which have been used for injecting are legion. Most all have passed out of use except carbolic acid, which was first used for this purpose by R. J. Levis,[1] of Philadelphia. The method of Levis with slight modifications is still the one of choice with Keyes, Wharton and Curtis, and others. Care must be taken that all the fluid is evacuated with the aspirating needle before the carbolic acid is injected. The latter is used in full strength, the crystals being liquefied by a little glycerin, and from 5 to 20 minims are injected, pains being taken that the drug enters the sac and not the tissues. After withdrawing the needle the sac walls are pressed together to distribute the irritant. Accumulation usually recurs for several days, and a second aspiration is sometimes necessary. It should be stated that there are many of the best surgeons who object to injections of any kind. Hearn still prefers the method employed by S. D. Gross and introduced by Volkmann. It consists in making a longitudinal incision of scrotum and sac, evacuating the fluid, stitching the incised edges of the sac to the corresponding edges of the scrotal incision, swabbing with carbolic acid and packing temporarily with iodoform gauze. If the tunic is thick and leathery it is best to deliver sac and testis, cut the former away to near its junction with the latter, and close with temporary drainage after the method of von Bergmann. After both of these plans of procedure recurrences occasionally take place. An operation which has been more recently introduced and variously ascribed to Jaboulay, Doyen, and Winkelmann, is very simple, capable of speedy execution, and seemingly makes recurrence impossible. It consists in making a free longitudinal incision, evacuating the fluid, delivering the testis, and completely retroverting the tunic and bringing its edges together by a few catgut sutures back of the base of the cord the epididymis and testis. This does away with the sac completely. The scrotal wound is closed without drainage. It simplifies the procedure to deliver the sac, testis and all completely before opening the former. Should the hydrocele be very large and the tunic therefore redundant, part of it may be trimmed away before retroverting. Should the sac wall be thick and leathery von Bergmann's is the better operation.

A special advantage claimed for the injection method is that it can be performed under local anesthesia or even without it, whereas any method requiring incision should be done under a general anesthetic. Certainly, however, the latter method seems the safer and more rational in most other particulars.

[1] Trans. of Medical Society of the State of Pennsylvania, 1881.

REVIEW OF LITERATURE

Enterotomy for Fecal Concretions.—Lejneff[2] performed enterotomy in a case of fecal stone, which had caused symptoms of intestinal obstruction. He warmly recommends this operation in the presence of fecal concretions for these reasons: 1. It is safe under aseptic precautions and results in a rapid as well as radical cure. 2. It enables us to inspect and examine the mucous membrane of the intestinal segment harboring the stone and may thus suggest further surgical measures. 3. After enterotomy we know what should be done in order to obtain complete healing of the mucous membrane. [L.J.]

[2] Russki Vratch, April 12, 1903.

Dressing for Dislocated Phalangeal Fracture.—Clamann[1] reports a case of fractured proximal phalanx which he could not keep in position until he flexed the finger over a roller bandage and fixed it firmly by passing adhesive plaster over its back, beginning at the metacarpus. At the nail he split the plaster and brought the tails up to the point of starting, where they were fastened. The patient did not suffer the slightest inconvenience, and the result was excellent. [E.L.]

[1] Deutsche medicinische Wochenschrift, January 22, 1903.

Extirpation of the Prostate.—P. J. Freyer[2] has previously reported 21 cases and in the present paper reports an additional series of 10, making a complete list of 31 in a period extending over about two years. The patients varied in age from 58 to 79 years, and the removed prostates varied in size from 1½ oz. to 10¼ oz. A large proportion of the patients were almost moribund before the operation. Few, if any, were free from grave complications, such as putrid cystitis, pyelitis, nephritis, diabetes, cardiac disease, chronic bronchitis, etc. Of these cases 27 were successful, both immediate and remote. By successful he means that the patients are able to retain and pass their urine as well as they ever did. In no case has there been any relapse. Of the four deaths two were from mania after the wounds had practically healed and urine was passed normally; one died from heatstroke on the tenth day, and one from coma due to retention of morbid products of urine in the blood, which had set in before the operation. The author's method of operation is by the suprapubic route, dividing the mucous membrane over the prostate and enucleating that organ. [A.B.C.]

[2] British Medical Journal, April 18, 1903.

The Resection of Nerve-trunks in Removing Tumors of the Neck.—S. P. Theodoroff[3] reports four original cases in which large nerves were intentionally cut in operating without any deleterious consequences. Once the nervovascular bundle was excised and part of the vagus removed in a woman operated upon for a malignant growth of the neck. No more serious disturbances followed than accelerated pulse for some days, due to vagus paralysis, and permanent hoarseness, due to the paralyzed recurrent nerve. In another case the tenth, eleventh and twelfth cranial nerves and all nerves of the cervical plexus were excised. This led to a number of muscular palsies, and the patient became hoarse and could not swallow fluids without choking; however, the vital functions were unimpaired. A third time the author cut two roots of the cervical plexus, in a fourth patient the brachial plexus was injured. It was noted that irritation of the vagus before severing it may arrest the heart and the respiration and endanger life. Pressure exerted on this nerve is promptly followed by a marked fall of the pulse-rate. The accessory nerve may be cut with entire impunity. In the literature of the last 10 or 12 years the author could find no case of death directly after vagus section. The only constant sequel is hoarseness. Occasionally vagus pneumonia carries off a victim. As to meddling with large blood-vessels during these operations, the common carotid may be ligated without danger, since the vessel has been gradually compressed by the growth and a collateral brain supply of blood established. The same applies to the jugular vein. [L.J.]

[3] Russki Vratch, February 8.

Leukocytes in Suppuration.—Blassberg[4] has made counts of white blood-corpuscles in 40 different cases and draws the following conclusions: Leukocytosis is an accompaniment of suppurations; it is slighter in superficial than in abdominal or pelvic suppurations. After its evacuation their number increased for a short time, to diminish gradually after that, unless the suppurative process continues to spread. It is an early symptom of suppuration, and of suppurating complications after an operation or disease; only in some few cases is leukocytosis absent. Leukocytosis must be considered as a specific reaction of the organism against infectious organisms. If leukocytosis should be absent, it is because either it is not necessary to over-

[4] Wiener klinische Wochenschrift, November 20, 1902.

come the disease, or because the infection is so severe as to destroy the individual before leukocytosis appears. [E.L.]

Operative Treatment of Prostatic Obstruction.—F. A. Southam[1] reviews the literature on the subject and compares the various operations for relief of this condition. He believes that instead of removing the prostate in its capsule after the manner of Freyer we may enucleate separately the adenomatous growths by dividing not only the mucous membrane but the capsule of the organ as well. He adopted this procedure in one case, and a large number of adenomatous growths varying in size from a pea to a filbert were shelled out of both lateral lobes, and the patient recovered. Subsequent experience, however, leads him to favor the extracapsular method as advocated by Freyer, and he believes that in the future, though it is not an operation suitable for all cases of prostatic obstruction, it will become a common practice to give relief in this way. [A.B.C.]

Development of the Prostate Gland in Children.—In his dissertation E. M. Liachowsky[2] has undertaken to throw some light on disputed points concerning the prostratic changes in childhood. He draws these conclusions from a series of original studies: 1. Growth and tissue differentiation in the prostate do not keep pace with each other, the glandular development being in advance of increase in size. 2. At 12 years of age the gland resembles in structure the prostate of the adult. 3. The gland grows very slowly in childhood, while a rapid gain in weight and size takes place at puberty. 4. The muscular system of the prostate, beginning its development with the unstriped muscles, reaches a maximum at puberty. The same applies to the elastic tissues of the gland. 5. The anterior prostatic wall participates in senile hypertrophy of the gland. 6. Concretions in the form of homogeneous masses occur in the prostate of children. 7. The prostate shows a tubular structure up to the age of 2 years. Later an alveolar structure is gradually developed. 8. As the gland grows it accumulates connective tissue. Its vascular system is fully developed at puberty. 9. The length of the prostatic urethra increases with the growth of the gland. [L.J.]

Cicatricial Strictures of the Esophagus.—Mosetig-Moorhof[3] relates the histories of five patients, who through swallowing lye had acquired strictures of the esophagus. All of them were impermeable even to the smallest whalebone bougies, and in all he was forced to a gastrostomy; in one case it had to be done twice. He used Witzel's method as modified by Kader, as it permits a hermetic closure of the fistula, does not interfere with retrograde catheterization, and closes spontaneously after the removal of the drainage-tube. In three of the cases whalebone bougies could be introduced after the operation; in the other two cases esophagotomy had to be performed before instruments could be passed through the stricture. At their discharge all of them were able to pass large instruments, could eat through the natural passage, and had the gastric fistula closed. [E.L.]

New Operation for the Cure of Congenital Displacement of the Testicle.—M. Katzenstein[4] draws the testicle down into the scrotum after loosening its adhesions and constrictions. He draws it through an opening in the lower part of the scrotum, and fastens it to the adjacent skin of the thigh a flap of which has been loosened and twisted on itself; in this manner he prevents the testicle from returning to the inguinal canal. The scrotum is then pulled over the testicle; the flap is very tense at first, but this tension disappears within from one to two weeks. After a week the scrotum is sewed to the skin flap, and as soon as the tension has entirely disappeared, the skin flap is severed from the thigh, and the two wounds are permitted to heal. He reports satisfactory results. [E.L.]

Plastic Operations on the Nose.—N. T. Napalkoff[5] condemns paraffin injections for restoring the nasal form. This method is destined to be forgotten, as was also the fate of the old metallic splints or plates used for the same purpose. Frequently both methods lead to troublesome later developments, and at times more harm than good was done to the patient. On the other hand, plastic operations which aim at utilizing adjacent living tissues, like bone and cartilage, for replacing the defect, give far better ultimate results. A series of original cases is adduced in evidence. [L.J.]

Morphin and Scopolamin Narcosis.—In attempting narcosis with morphin and scopolamin Sclückelberger[1] followed Korff's method. A liquid breakfast was followed four hours before the operation by hypodermic injections of $\frac{1}{4}$ grain of morphin and $\frac{1}{65}$ grain of scopolamin. This was repeated after two hours and again a half hour before the operation. Seven women, three children and one man were thus anesthetized—the former with relative success, the latter without success. In many of them the narcosis had to be assisted with the other anesthetics before the operation could be carried out. While it is apparently a reliable anesthetic scopolamin does not produce sufficient relaxation of muscles. It finds its place only in cases when a general anesthesia is wished for, but both ether and chloroform are contraindicated; it will never be able to take their place. The author believes that one dose of the drug from a half hour to an hour before the operation would be an excellent means of quieting restless patients and preventing the nauseating after effects. [E.L.]

Callus Formation in Osteomalacic Fractures.—H. Beckmann[2] reports two cases of fracture in patients suffering from osteomalacia. In the first case the osteomalacia was not far advanced, and there were signs of callus formation at the seat of fracture, with restoration of function in the limb. A skiagraph, however, showed there was no trace of calcification in the callus, as no shadow was cast by it. The tendency to callus formation was shown by thickening at the ends of the fragments. In the second case the abnormal mobility of the dislocated fragments showed that there was no callus at all. The skiagraph confirmed this, as there was not even a thickening at the ends of the fragments. The author considers skiagraphy valuable in diagnosing osteomalacia, and also in determining the degree of the disease. [B.K.]

Retroperitoneal Cysts.—A man 53, who had been complaining of gastric disturbances, presented himself to Scharlemmer[3] with the statement that his food seemed to collect above the cardiac end of the stomach, to enter this only some time after swallowing. In the right hypogastrium an elastic resistant mass the size of a child's head could be made out. Its exact origin and attachment could not be determined. An operation revealed a retroperitoneal cyst containing about a liter of milky fluid. No connection with either lymph-vessels, glands or pancreas could be seen. The patient made a good recovery. Chemical and microscopic examinations of cyst wall and contents were made, demonstrating the characteristics of a chylous cyst. [E.L.]

Retrograde Incarceration of the Intestines.—Armin Langer[4] claims to report the first clinical case of this condition. He states that there is only one previous case of "retrograde incarceration" of the intestines in the literature, and that was the case described by Schmidt, who discovered the condition postmortem. In Langer's case the mesentery of the intervening portion lay free in the abdominal cavity. The intraabdominal complication results in an effusion into the abdomen, which, however, in his case was not sufficiently great to be recognized clinically, a local meteorism and an absence of peristaltic movements in the affected area. It must be remembered in removing the incarcerated portion of the intestine that the vessels supplying nutrition to the intervening portion are removed also. [J.H.W.R.]

Aseptic and Bloodless Extirpation of the Rectum.—The dangers of resection of the rectum are hemorrhage and sepsis. The deathrate of the operation is about 46%, and the cause of death is about equally divided between the two. Asepsis is as good as impossible in such operations, and another one of the sequels of infection is separation of the rectal sutures, fecal abscesses, and fistulas. Abscesses may be prevented by the preliminary formation of an artificial anus, which will not permit

[1] British Medical Journal, April 18, 1903.
[2] Dissertation, St. Petersburg, 1903.
[3] Wiener klinische Wochenschrift, January 1, 1903.
[4] Deutsche medicinische Wochenschrift, December 25, 1902.
[5] Chirurgia, February, 1903.

[1] Wiener klinische Wochenschrift, December 18, 1902.
[2] Deut. Arch. für klin. Med., Bd. 76, p. 1.
[3] Deutsche medicinische Wochenschrift, December 18, 1902.
[4] Wiener klinische Wochenschrift, 1903, p. 475.

any of the stool-matter to enter the portion of the gut operated upon, but even this will not permit the formation of fistulas, as they result from even the slightest infection. Thus in most cases three serious and dangerous operations are necessary, and but few of the already weakened patients are sufficiently robust to withstand so many onslaughts. Wenzel[1] describes Witzel's method of doing away with both sepsis and hemorrhage. He performs a high rectal amputation instead of resection of the tumor, and follows this with the formation of a gluteal anus; this operation also gives much better chances of being aseptic than resection. The loss of blood is reduced to a minimum by preliminary ligation of the inferior middle and superior hemorrhoidal arteries, which supply the rectum, as well as by continuous tamponing and compression of the wound surface and cavity during the course of the operation. Concerning the terminal results of the operation, the extent of the tumor is decisive; if it does not extend beyond the proper fascia of the rectum, the tumor as well as the diseased lymph-glands can easily be removed, but if it extends beyond the fascia (has attacked the prostate, bladder, seminal vesicle, or sacrum) the terminal result cannot be a success, as recurrence is sure to take place. The technic of the operation is described very carefully. [E.L.]

GYNECOLOGY AND OBSTETRICS

WILMER KRUSEN FRANK C. HAMMOND

REVIEW OF LITERATURE

Fractures of the Clavicle in the Newborn in Cases of Head Presentation.—Ruther called attention to the numerous cases of fracture of the clavicle in newborn children and blames the unskilled midwives for the large number of such cases which came under his observation. The peculiar feature of Muer's[2] observations is the fact that such cases were seen in larger numbers in multipara. The proportion was 28 to 14. According to his experience these fractures of the clavicle are very hard to detect, as the child can, as a rule, use the arm of the side affected as well as that of the other side. It takes a very careful examination to detect the fracture, which is generally discovered one week after birth, usually through a prominent callus formation. The children do not seem to be fretful or suffer any pain due to the manipulation. Crepitation is the reliable guide and there may be a slight depression at the point of fracture. Healing begins in from 1 to 2 weeks and is generally complete in 10 days. These fractures, as a rule, result from the position of the body of the child when passing through the true pelvic canal, *i. e.*, when rotation fails to take place. The clavicle is broken on the side on which there is the greatest pressure. According to Muer, the majority of these cases of fracture of the clavicle in newborn children was observed to be in cases in which there was absolutely no interference and therefore could not be traceable to the midwives. [W.K.]

A Fibromyoma Imbedded in the Decidua and Expelled with the Amniotic Membrane.—Carlos Knoop[3] reports the case of a woman, aged 42 years, whose fifth labor and delivery were entirely normal. The placenta was removed by the Credé method three-quarters of an hour after delivery, and in the chorion was found a dark tumor the size of a pigeon's egg. The microscope showed it to be a fibromyoma, the origin of which could not be determined with certainty, but it was evident that fibers extending from the muscles of the uterus radiated into the under layer of mucous membrane. The hyperemia of pregnancy and the tense fulness of the vessels of the tumor had tended to loosen the growth from its bed in the uterine wall. [W.K.]

Knee-chest Gymnastics in Retroflexion of the Uterus. A. N. Lawrinowitch[4] has made this method the subject of a thorough investigation and has every reason to be satisfied with the results obtained. There is no difficulty and no danger attending this most conservative treatment; it can be carried out at home, causes no pain, requires no great energy, and can be employed without the constant aid of the physician. The rationale of the method is as follows: The knee-chest position brings about a negative intraabdominal pressure consequent on the enlargement of the abdominal cavity; the negative pressure in its turn leads to the entrance of external air into the vagina, which is inflated to some extent; all this results in a shifting of the uterine center of gravity and self-reposition of the organ. The knee-chest position may be practised in bed or on a lounge. The author has devised a special table for this purpose, allowing the hips to be raised much higher than the head. The best effects of this method are seen in retroversions due to pregnancy or subinvolution. Diseases of the heart and blood-vessels and respiratory affections contraindicate the treatment. [L.J.]

Treatment of Face Presentation.—Anselm[1] gives the results of 75 cases of face presentation treated in the hospital of Basel. In 96%, or all but 3 of the cases, the expectant treatment was employed, and 56, or 76.7%, were delivered without artificial help. Among these spontaneous deliveries there were 4 deaths of children, one evidently having died before labor began. Of the 14 cases in which interference was finally found necessary there were 4 deaths, making in all 11.4%. There were no deaths in the first 11 days following delivery while the patients remained in the hospital, either from injuries received or from disturbed circulation, but one died from tracheotomy. Comparing these results with those obtained by obstetricians who practise the correction of the face presentation, transforming it into occipital, the latter show no less infant mortality, while the procedure works additional danger to the mother. In certain exceptional cases a correction of the position is indicated; but in general there is no ground for departing from the long-tried procedure—to have patience. [W.K.]

Chorea Gravidarum.—J. B. Hellier[2] reports the case of a married woman, aged 23, who when four months pregnant was admitted to the hospital manifesting violent choreic movements of the arms, the head, and the face, and to a less extent of the legs and trunk. She spoke in a whisper, but could articulate fairly well. She was treated medically for seven days without any improvement, then her symptoms grew gradually worse with an accompanying delirium, and it was deemed necessary to terminate pregnancy. The cervix was drawn down with volsellum forceps and a sterilized bougie was passed into the uterus without rupturing the membranes. The fetus and placenta were expelled about 15 hours later. There was no improvement for the first three days after delivery, but from that time she grew gradually better, and was discharged without choreic movements. Hellier thinks there is no doubt that inducing abortion saved her life. Chorea gravidarum is not an essentially incurable disease, and it is only when the movements are violent, the patient cannot sleep, and there is tendency to delirium that the indications for inducing abortion are absolute; and yet one must not wait too long. As a matter of technic he greatly prefers in such cases induction of abortion by stimulating the physiologic action of the uterus to a forced mechanic delivery at one sitting. [W.K.]

Long-Continued Function of the Milk Glands.—Nussbaum[3] reports in his practice two cases of persistent secretion of milk for one or more years after the discontinuance of nursing, resulting in making the women weak and nervous. Both patients were suffering from malposition of the uterus, accompanied with endometritis and fluor albus. The treatment in both was similiar, consisting of a pressure bandage over the gland, the use of a mild aperient, and repeated doses of antipyrin to the limit. This soon caused a cessation of the milky secretion with an improvement of the accompanying symptoms. The writer quotes another case from Zeitlin in which the function of the milk glands persisted for five years; the interesting feature in this case was the atrophy of the uterus after a dry metritis associated with amenorrhea. [W.K.]

Cystic Fibromyoma of the Uterus Weighing 87 Pounds.—J. C. Webster[4] reports the successful removal of the above-

[1] Münchener medicinische Wochenschrift, March 10, 1903.
[2] Zentralblatt für Gynäkologie, June 6, 1903.
[3] Münchener medicinische Wochenschrift, May 26, 1903.
[4] Dissertation, St. Petersburg, 1902.

[1] Münchener medicinische Wochenschrift, June 16, 1903.
[2] Lancet, June 20, 1903.
[3] Münchener medicinische Wochenschrift, June 26, 1903.
[4] Illinois Medical Journal, July, 1903.

named tumor from a woman of 41. Under anesthesia from Schleich's fluid an abdominal incision 5 inches in length was made. This was soon prolonged to 12 inches. The upper portion of the tumor was occupied by a large cyst, which was tapped. Hysterectomy was then performed. After an hour the patient became restless and a few drops of chloroform was given. The patient did not lose consciousness, however, as only 24 gm. (6 drams) was used during the remaining one and one-half hours of the operation. The tumor proved to be a multilocular cystic fibroid uterus. Recovery was uneventful, the patient weighing, six days after the operation, 91 pounds. Webster attributes the successful outcome to the careful preparation of the patient before the operation, to the heat applied during the operation by means of an electric pad, to the slight loss of blood, and to the small quantity of anesthetic administered. [A.G.E.]

Vegetarian Diet in Gynecology.—Theilhaber[1] bases his views in regard to vegetarian diet upon 200 cases in which it has been fairly tested. In vegetarian diet he excludes all flesh of animals, but does not exclude the products of living animals, as milk and eggs. He has used the vegetarian diet with good results in treatment of neuralgia, neurosis of the urinary organs, nervous loss of sleep; a diminution of the disorders accompanying the artificial menopause was consequent upon abstaining from flesh and alcoholic stimulants, with tea and coffee only in small quantities. A patient with colossal milk supply was cured by a complete withdrawal of flesh as food. Pruritus of the vulva and perineum was cured in one month by similar treatment. He also found it of advantage in mild cases of dysmenorrhea, in some cases of preclimacteric bleeding, and in chronic constipation, especially when due to inactivity of intestinal muscles. One objection to vegetable diet frequently made is its uniformity, but attention to the subject will readily overcome this objection. It is also objected that the volume of food required is too great, but in cases of inactive intestinal muscles this additional volume stimulates the muscles to a needed activity and thus produces the best results. In other conditions this objection may easily be obviated by a knowledge of the most nutritious vegetables. The claim that vegetarian diet increases gas is without foundation. The more grave objection that this diet causes loss of strength seems at first to have more force, as the patient may feel weaker at an abrupt change of diet, but with time the weakness disappears. In some cases it may be advisable to discontinue the use of flesh gradually. Vegetable diet is favorable to the reduction of fatty tissue. Theilhaber hopes that other physicians will take up the study of this important question of the effect of vegetarian diet upon chronic diseases of women. [W.K.]

The Influence of Diet in Pregnancy on the Weight of the Offspring.—D. Noel Patton[2] states that Prochownick, wishing to ascertain whether by reducing the diet of the mother the size of the child might be so diminished that labor should be facilitated in case of narrow pelvis, made a study of 48 cases. He gives as the result of regulation of diet that the average weight of the child was in 24 males 2,960 gms. (6½ pounds) being a reduction of 11%; in 24 females 2,735 gms. (6 pounds) a reduction of 14%. Patton made a similar test with guineapigs, one series of seven being fully fed and another kept on a low diet. The average weight of the offspring of the latter was 28% below that of the normal animal, and 10% less per gram of the weight of the mother. These observations, though few in number, are so concordant that they warrant the conclusion that the size of the offspring depends very directly upon the diet and nutrition of the mother during pregnancy. While this explains the easy labors among the healthy lower classes and confirms Prochownick's conclusion that by dieting the mother the children of rickety women may be so reduced in size as to be viable, it also probably helps to explain the very high infant mortality among the very poor. The infant starts life at a low level and readily succumbs to the hardships to which it is too often subjected. The nourishment of the maternal tissues seems to take precedence over the nutrition of the fetus. Had the embryo the prior claim to nourishment we should find that in badly nourished mothers each gram would produce a greater proportionate weight of young than in well-nourishad mothers. This is exactly the reverse of what occurs. The mother thus appears to pass on the surplus nourishment to the fetus and the better the nutrition of the maternal tissues the greater is the growth of the young in utero. [W.K.]

Importance of Attention to the Mouth and Teeth Before and After Operations upon the Pelvic Viscera.—H. MacNaughton-Jones[1] thinks that the infective germs of the mouth may and occasionally do favor septic changes in wounded tissues in proximity to the alimentary tract. When the general health is affected and the buccal cavity itself is involved the virulence of such organisms is increased. Gingivitis is accompanied by streptococcus invasion and putrefactive organisms. These with decayed food remnants and pus being swallowed originate gastric fermentation. The lymphatics of the salivary glands and mouth carry infective organisms to the cervical glands, or the circulation may be directly reached through abrasions in the mouth. Parotitis and other oval and cervical inflammations following pelvic operations may be better explained by direct infection from the mouth than by sympathetic excitation or the immigration of toxic elements from parts so distant. Depression of vital power by prolonged administration of an anesthetic and an operation involving shock aggravate preexisting septic tendencies in the mouth. Ether especially disturbs the digestive system, making the breath foul and coating the tongue. The disinfectants used by the writer are potassium permanganate, formalin, hydrogen peroxid, boric acid, and sulfurous acid. In gastric complications with fetor of the breath he gives benzonaphtol in cachets with calomel occasionally. [H.M.]

Lysol Poisoning.—Fritz Hammer[2] points out the danger of using lysol solution in a puerperal uterus, especially in cases of placenta previa, reports some illustrative cases, and draws a twofold lesson from his study and experience: 1. In the irrigation of a puerperal uterus, choose a lysol solution of the smallest possible concentration. 2. It is to be absolutely avoided when the irrigation will be done under high pressure. Especially in cases of placenta previa, it must be performed only under the smallest possible pressure, since an entrance of the lysol solution through an open vein can easily result. [W.K.]

Why Minor Gynecologic Operations Fail.—S. Goldberg[3] defines a minor gynecologic operation as one that does not involve the opening of the peritoneal cavity. He claims that these operations are too often done when the abdomen should be opened and inspection made of the contents. The examination of the adnexa through the inguinal ring at the time of an Alexander operation as practised by Goldspohn is considered inefficient. The drainage splint method of Goelet will also often fail in restoring patients to complete health. Goldberg concludes: (1) That all socalled minor gynecologic operations to be of any permanent benefit must be performed within at least one year from time of the infliction of the original lesion; (2) that after the passage of about a year, Alexander's operation, trachelorrhaphy or curetage, or all combined, will be insufficient to restore patient to perfect health; (3) the reason for such failure in the great majority of such cases, after one year, is because the adnexas are involved; (4) the best course will be to do some operative procedure intraabdominally. [A.G.E.]

Immediate Delivery the best Treatment in Eclampsia.—Von E. Bumm,[2] having studied the subject of eclampsia in the Women's Hospital of Halle, says that the observations of the last two years have produced the conviction that when we come to the treatment of the eclamptic soon after the first attack, while the pulse is good and the lungs intact, we shall obtain the best results as a rule by the immediate emptying of the uterus, and that through following this principle of treatment the mortality, varying under other methods from 12% to 30%, may be reduced to 5%. A considerable proportion of the patients were brought to the Halle Hospital in a coma due in at least a third of the cases to the do-nothing policy and the old

[1] Münchener medicinische Wochenschrift, May 26.
[2] Lancet, July 4, 1903.

[1] Medical Press and Circular, March 25, 1903.
[2] Münchener medicinische Wochenschrift, May 26, 1903.
[3] Buffalo Medical Journal, July, 1903.

morphin therapy. If the eclamptic poisoning has already caused necrotic changes in the liver and kidneys causing apoplectic effusion of the brain; or if in the course of long-enduring coma, severe lesion of the lungs has occurred, delivery can bring no help. For which reason he all the more insists upon immediate delivery before it is too late. [W.K.]

Uterine Injuries.—Osterloh[1] mentions several cases of uterine injuries arising from the use of instruments, and two cases in which the repeated use of the curet to remove the pieces of a small fetus resulted in a laceration of the uterus and the escape of some fetal fragments into the Douglas sac. Undoubtedly at the same time septic infection took place from which both patients died. Dangerous, as the use of the curet appears, still he would not do without it in cases of abortion; but he rarely uses the sharp curet, preferring the blunt instrument in a great majority of cases. [W.K.]

TREATMENT

SOLOMON SOLIS COHEN
H. C. WOOD, JR. L. F. APPLEMAN

REVIEW OF LITERATURE

Aerotherapy in the Management of Pulmonary Tuberculosis.—Although he recognizes that the stimulant effect of cold dry climate and the tonic action of altitude may frequently be of extreme value in the treatment of tuberculosis, S. Solis Cohen[2] is an ardent advocate of the application of fresh air treatment for the tuberculous at home. The beneficial results following climatic change are largely attributable to the fact that the patient spends most of his time in the open air. At home it is a constant fight for the doctor, especially in large cities, to get his patient to spend his time entirely in the open air. Even in winter the tuberculous should spend much time on the porch or with every window of his room wide open. Those persons who are predisposed to tuberculosis should be encouraged to adopt occupations and modes of living which keep them largely out of doors. When the predisposition is very marked the use of respiratory exercises is of great value. Much good can be done by voluntary forced respiratory movements, and such general exercises as tend to enlarge the thorax. Usually the employment of some form of air-pressure apparatus is necessary, both because it induces the patient to carry out exercise systematically and also for its physical effect. The ordinary pocket inhaler and resistance tubes Cohen does not believe to be of much value in any but mild cases. He has introduced a form of valved pocket apparatus in which the patient inspires and expires through different chambers, so arranged that the measured pressure in each may be altered at will; thus the patient can inspire or expire against a definite resistance. When the muscles of the thorax are too weak for respiratory gymnastics the mechanic effect of variations in the atmospheric pressure is often valuable. There are two forms of the socalled pneumatic pressure method. In one the patient is placed in a large chamber, the atmospheric pressure around the whole body being altered. In the other the pressure on the outside of the body is that of the air, but the patient breathes from and into cylinders, the pressure in which may be varied. Cohen has had more experience with the latter method. It does good by diminishing the muscular effort of respiration dilating the alveoli to the greatest possible extent, increasing pulmonary ventilation and by stimulating the movement of the blood through the lungs; by the alternation of aspiratory and pressure effects, through the variations in the pressure of the inspiratory and expiratory chambers. [H.C.W.]

Theocin as a Diuretic.—Hess[3] reports a case of dropsy dependent upon the existence of an uncompensated cardiac lesion, benefited by the use of theocin. There was marked edema of both extremities as high as the knee, and congestion of the liver; the urine scanty and high colored. Digitalis, strophanthus, and diuretin were successively employed without much relief. Agurin, in doses of 2 grams to 3 grams (30 grains to 45 grains) daily, brought relief, but had to be discontinued on account of its action on the stomach. After its discontinuance the patient rapidly lost ground, and when the theocin treatment commenced was secreting 150 cc. (5 ounces) of urine a day. Three powders of theocin of 0.3 gram each (5 grains) caused in 24 hours the amount of urine to be increased nearly 2,000%. So long as the patient continued taking the drug the quantity of urine varied from 1,000 cc. to 3,000 cc. daily. Subsequent experiments with the drug have led Hess to believe that it is useful only in cases in which the individual heart-beats are still strong, and the pulse is not abnormally rapid or small. [H.C.W.]

The Action of Cerebrin on the Cerebral Circulation.—Cerebrin is an organic extract of the brain substance. Poehl, of St. Petersburg, is the originator of the "Cerebrinum Poehl" which has recently given rise to experiments and discussions. L. M. Pussen[1] publishes the results of a series of animal experiments with this extract. He concludes that moderate doses (1 gram to 2 grams of a 1% solution injected into the circulation which would equal 0.035–0.07 gram for every kilogram of the animal's weight) produce slight cerebral anemia, while larger doses bring about an ultimate hyperemia. Furthermore, cerebrin increases the general blood-pressure. Taken internally the substance acts much more slowly and much larger doses are required. While on the other hand the action on blood-pressure is more permanent. It will thus be observed that cerebrin exerts an effect quite different from that of the bromids, which lower the blood-pressure. This circumstance would seem to speak against the use of cerebrin in epilepsy, although the author refrains from drawing decisive conclusions in this respect. As a matter of fact several reports of good results obtained with cerebrin in epilepsy have been published. [We quote this for what it may be worth. We do not endorse it.—S.S.C.] [L.J.]

Climate in Tuberculosis.—Hall[2] recognizes the climatic factors in order of importance as follows: (1) Pure air; (2) abundant sunshine; (3) low atmospheric pressure; (4) little humidity; (5) low wind velocity. Temperature is a matter purely of personal predisposition. As showing the importance of pure air he calls attention to the fact that in the city of Denver twenty years ago when little manufacturing was carried on the city was absolutely free of tuberculosis, but has lately developed several original cases, which he attributes to the effect of the increased size of the city on the purity of the atmosphere. Because the air of cities is always contaminated the tuberculous should if possible live in sparsely settled regions. Concerning the value of sunshine there is no room for dispute. Low atmospheric pressure, such as obtains in high altitudes, leads to increased chest movement and consequently increased ventilation of the lungs, and especially the apices, which are most liable to the attacks of the bacillus. It also causes an increased formation of red blood cells. Neither heat nor cold can be said to favor or retard recovery from pulmonary tuberculosis. In choosing a resort for a patient the personal likes should be consulted. If he is used to a warm climate a rigorous cold will not be beneficial. Patients with cavity are seldom benefited by climatic change. Weak heart and neurasthenia counterindicate high altitudes. Profuse secretion is a counterindication for damp climates. [H.C.W.]

The Relative Toxicity of the Morphin Derivatives.—Mayor[3] objects to the experiments which have been made concerning the relative toxicity of the various morphin derivatives on the lower animals, as not in any way contributing to the question of their activity on human beings. In the lower animals codein is more poisonous than morphin; in man the reverse is true. It is noted that in man death occurs in deep coma and convulsions are extremely rare; whereas in the lower animals convulsions at some period of the poisoning are the rule. In the rabbit, under the influence of morphin the blood-pressure sinks gradually in the first stage of the poisoning, the pulse and respiration become gradually smaller; this is followed by sudden elevation of the blood-pressure, the respirations becoming more rapid and the pulse still smaller. This

[1] Münchener medicinische Wochenschrift, May 26, 1903.
[2] Medical Electrology and Radiology, 1903, Vol. iv, page 23.
[3] Therap. Monat., 1903, xvii, 196.

[1] Obosrenie Psychiatrie, etc., March, 1903.
[2] Medical Electrology and Radiology, 1903, iv, 32.
[3] Therap. Monat., 1903, xvii, 223

sudden change marks the beginning of the convulsive period. It seems reasonable to suppose that the man, on account of increased sensibility of the respiratory centers, dies in the period of depression before the beginning of the convulsive stage. There is a strong analogy between the condition of the man in morphin poisoning and the rabbit before the outbreak of the convulsive symptoms. Mayor's experiments lead him to the belief that the greatest depression of the respiratory centers correspond with the lowest blood-pressure, this time representing the agonic period in man. It would seem, therefore, that the toxicity of a member of the morphin group for man may be measured by the rapidity and power with which it lowers the blood-pressure and respiratory rate in the first period of poisoning in the rabbit. Proceeding on this supposition, he finds that the morphin group divides itself into two classes, on the one hand morphin and heroin, which have a powerful action on both blood-pressure and respiration; and on the other hand codein and dionin, which are comparatively feeble poisons. Peronin stands by itself as being a dangerous cardiac depressant; it has no advantage to justify its practical use. Mayor comes to the conclusion that the order of the poisoning for man with these drugs, is heroin, most poisonous, then morphin, codein, and finally dionin as the least poisonous. [H.C.W.]

Antithyroidin.—P. J. Moebius'[1] antithyroidin prepared from the blood of sheep, from which the thyroid gland had been removed and given to patients in doses of 5 grams (75 grains) every second day, has produced considerable improvement in a large number of patients. It has never produced unpleasant symptoms, and while it has never caused much diminution in the pulse-rate, it has brought about considerable improvement as far as the size of the struma and neck is concerned. It acts as a sedative on the patients, all of whom sleep much better. Its one disadvantage is its high price. [E.L.]

Surgical Treatment of Ulcer of the Stomach.—According to Hayem,[2] operation for simple gastric ulcer is not even to be considered in acute cases unless some complication exists, such as hematemesis or perforation. In chronic ulceration, which may have run its course and have penetrated the gastric wall, the hole being stopped by a layer of peritoneum or by some neighboring organ, the possibility of surgical interference must be borne in mind. A gastric ulcer can only reach this advanced stage either through lack of treatment or through improper treatment. For the purpose of relieving this condition, two forms of operation have been advanced; first, resection of the ulcer and sewing up of the gastric wall; and second, gastroenterostomy. The former has had a very high mortality, and the preference of surgeons today is generally for the artificial connection between the stomach and intestine. The underlying cause in these cases is usually an excessive secretion of hydrochloric acid, this form of gastritis being largely dependent upon the difficulty of the stomach emptying itself, causing a consequent prolongation of digestion. Gastroenterostomy will overcome this difficulty, and in the majority of cases will cause immediate relief of symptoms. The subsequent history of these patients, however, shows that there is very likely to be a return of symptoms with hematemesis, gastric crises, and perforation, these symptoms being due to the formation of new ulcers, or more rarely, to carcinomatous changes in the old ulcer. After the operation of gastroenterostomy, the lower loop of the stomach connected with the duodenum must take on the function of the pylorus, and is exposed to the same extent as the pylorus to the formation of the peptic ulcer as long as the morbid process is not corrected. Moreover, the operation has shown a large mortality by the older statistics, as high as 20%. For these reasons Hayem is not an enthusiast in operations for gastric ulcer. [H.C.W.]

The Treatment of Carcinoma by Mercuric Cataphoresis.—According to Massey[3] the curetment of inoperable cancer by leaving exposed a large absorbent surface tends to increase the progress of the disease rather than to restrain it. The Röntgen rays, which have shown themselves apparently of value in superficial cancer, are not applicable to cancers involving the rectum and uterus. The surgeon must therefore welcome any measure which promises to be beneficial in relieving the inoperable growths in this region. Massey has had good results with a cataphoric diffusion of mercury and zinc. In this treatment an electric current of the strength of at least 110 volts is employed. The active electrode is solid zinc, heavily coated with mercury. It is made to penetrate into the growth, and a current of 500 milliamperes gradually turned on. It is necessary for the patient to be anesthetized during the operation, but the pain will rarely persist longer than the effects of the ether. As the result of this treatment, in from one to two weeks a large slough will come away, leaving behind it a healthy surface which heals over in a short time. [H.C.W.]

[1] Münchener medicinische Wochenschrift, January 27, 1903.
[2] Klin. Therap. Wochensch., 1903, x. 434.
[3] Journal of Advanced Therapeutics, 1903, 21, 279

A Case of Sepsis Cured by Intravenous Injections of Collargol.—Jaenicke[1] reports the case of a woman who, after a difficult forceps' operation, showed symptoms of sepsis on the eighth day. In spite of the many things done to stop the parametrial process, the exudate increased to the level of the umbilicus, becoming stiff and hard. Her condition was despaired of, and as a last means 8 cc. of a 1% sterilized solution of Credé's colloidal silver was injected into a superficial vein on the right forearm; 36 hours later her temperature was normal, her pulse 96, and 4½ days after the injection the exudate was gone. [E.L.]

Psoriasis Treated with X-ray.—Ferris[2] reports a case of extensive psoriasis of twenty or thirty years' duration, which had resisted all the ordinary forms of treatment, but in which cure followed the use of the x-ray. Three exposures of ten minutes each were given over each area. [H.C.W.]

Hydrotherapy in Tuberculosis.—The improvement in nutrition and the deepening of the inspiration which follows muscular exercise may, according to S. Baruch,[3] be imitated in tuberculous patients by the external application of cold water. The first shock of the cold causes contraction of the peripheral bloodvessels, which is followed, especially if friction is employed, by a secondary dilation; this contraction and dilation of the skin vessels leads to higher activity of the circulation. A method advised is as follows: If the patient is not febrile he should be snugly wrapped in a woollen blanket for from one-half hour to an hour, after which the trunk is exposed and rubbed with a cloth wrung out of water at 90°, the extremities not being touched. As the vessels become used to the change the temperature of the water is lowered gradually. Following this the patient is dried rapidly and induced to go into the open air. Febrile patients do not need the preliminary warming process. [H.C.W.]

[1] Deutsche medicinische Wochenschrift, February 5, 1903.
[2] American Electrotherapeutic and X-ray Era, 1903, iii, 165.
[3] Medical Electrology and Radiology, 1903, iv, 30.

THE PUBLIC SERVICE

Health Reports.—The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended July 18, 1903:

SMALLPOX—UNITED STATES.

			Cases	Deaths
Alabama:	Mobile	July 4-11	2	
California:	San Francisco	June 28-July 5	3	
Georgia:	Atlanta	July 1-8	1	
Illinois:	Chicago	July 4-11	4	
Indiana:	Kokomo	July 4-11	2	
Louisiana:	New Orleans	July 4-11	2	
Maine:	Fort Kent and vicinity	July 10-14	24	
Massachusetts:	Fall River	July 4-11	15	
	New Bedford	July 4-11	2	
	Taunton	July 4-11	2	
Michigan:	Detroit	July 4-11	11	
	Port Huron	July 4-11	3	
New Jersey:	Camden	July 4-11	1	
New Hampshire:	Manchester	July 4-11	3	
New York:	New York	July 4-11	1	
Ohio:	Cincinnati	July 3-10	2	
	Cleveland	July 4-11	1	
	East Liverpool	June 1-30	6	
	Hamilton	July 4-11	4	2
	Toledo	July 4-11	2	
Pennsylvania:	McKeesport	July 4-11		1
	Philadelphia	July 4-11	54	11
	Pittsburg	July 4-11	47	2

South Carolina:	Charleston	July 4–11	4	
Tennessee:	Memphis	July 4–11	2	
	Nashville	July 4–11	3	
Utah:	Salt Lake City	June 27–July 4	3	
			One case imported.	
	Salt Lake City	July 4–11	5	
Wisconsin:	Milwaukee	June 27–July 4	6	

SMALLPOX—FOREIGN.

Austria:	Prague	June 13–20	6	
Belgium:	Brussels	June 20–27		5
Brazil:	Pernambuco	May 8–31	11	
Canary Islands:	Las Palmas	June 13–27	10	
Colombia:	Bocas del Toro	June 23–30	8	1
Ecuador:	Guayaquil	June 20–27		1
France:	Marseilles	May 1–31		32
	Marseilles	June 1–30	19	
	Rouen	May 1–31		3
Great Britain:	Birmingham	June 20–27	4	
	Dublin	June 20–27	9	2
	Dundee	June 13–20	2	
	Leeds	June 27–July 4	4	
	Liverpool	To July 4	28	4
	Manchester	June 20–27	10	
	Newcastle-on-Tyne	June 13–27	9	
	Nottingham	June 20–27	4	
	Sheffield	June 13–20	1	
	Southampton	June 13–20	1	
			from S. S. St. Paul, from New York.	
India:	Bombay	June 9–16		27
	Calcutta	June 6–13		2
Mexico:	City of Mexico	June 14–27	29	20
Russia:	St. Petersburg	June 20–27	11	3
	Warsaw	June 6–13	2	
Spain:	Barcelona	June 13–20		7
Turkey:	Constantinople	June 21–28		1

YELLOW FEVER.

Colombia:	Panama	June 20–July 6	6	2
Costa Rica:	Limon	June 24–July 2	7	1
Cuba:	Habana	July 14		1
			Patient taken from S. S. Vigilancia from Progreso.	

PLAGUE—INSULAR.

Hawaii:	Honolulu	July 3	1	

PLAGUE—FOREIGN.

Australia:	Queensland, Brisbane	May 9–30	2	2
	Bundaberg	May 16–23	1	1
Western Australia:	Freemantle	June 10	1	
Egypt:	Alexandria	June 6–13	4	2
	Beni Mazar	June 6–13	2	
	Port Said	June 6–13	1	1
	Tukh	June 6–13	8	2
	Samalut	June 6–13	2	2
India:	Bombay	June 9–16		186
	Calcutta	June 6–13		15
	Karachi	June 7–14	15	13
Mauritius:		June 4–11		2
Japan:	Nagasaki	May 27		1
	Yokohama	June 6–13	3	2

CHOLERA.

India:	Calcutta	June 9–16		45
	Madras	June 6–12	1	1
Straits Settlements:	Singapore	May 16–30		20

Changes in the Medical Corps of the U. S. Army for the week ended July 18, 1903:

SHAFER, J. J., contract surgeon, will proceed to his home, Louisville, Ky., for annulment of contract at his own request.

EDIE, Major GUY L., surgeon, is granted leave for one month from about July 15.

CROSBY, Major WILLIAM D., surgeon, is granted leave for one month

TEN EYCK, Major BENJAMIN L., surgeon, is directed to report to Major General John C. Bates, president of the Army Retiring Board at Chicago, Ill., for examination by the board. Upon the completion of his examination Major Ten Eyck will return to his proper station.

BUSHNELL, Major GEORGE E., surgeon, is relieved from duty at Fort Logan and will proceed to Fort Bayard and report at the U. S. General Hospital at that place for duty.

PARKMAN, WALLACE E., contract surgeon, leave granted June 2 is extended one month.

HUSSEY, SAMUEL W., contract dental surgeon, is relieved from duty in the department of California, and will proceed to St. Paul, Minn., and report to the commanding general, department of Dakota, for assignment to duty.

TREUHOLTZ, CLARENCE A., contract surgeon, is relieved from further duty in the department of the Columbia, and upon the expiration of his present leave will proceed to Fort Apache for duty.

CHAMBERS, W. H., contract dental surgeon, is granted leave for fourteen days, from about July 16.

TUKEY, WILLIAM H, contract surgeon, is granted leave for two months, with permission to visit the United States.

FELTS, ROBERT L., contract surgeon, is granted leave for two months, with permission to visit the United States.

COFFIN, First Lieutenant JACOB M., assistant surgeon, will report to the commanding officer Twenty-third Infantry, to accompany that regiment to the department of Mindanao, reporting upon arrival to the commanding general of that department for assignment to duty.

KIRKPATRICK, Captain THOMAS J., assistant surgeon, is relieved from duty at Caloocan, Province of Rizal, and will proceed to Manila, P. I., reporting upon arrival to the commanding officer, First Reserve Hospital for duty.

RUFFNER, First Lieutenants ERNEST L. and JAMES F. HALL, assistant surgeons are relieved from duty at Iloilo, Island of Panay, and Camp Connell, Calbayog, Island of Samar, respectively, and will proceed to Manila, P. I., reporting to the chief surgeon of the division for instructions.

PYLES, First Lieutenants WILL L., and EDWARD M. TALBOTT, assistant surgeons, recently arrived on the transport Thomas, will report to the commanding general, department of Luzon, for assignment to duty.

FIFE, First Lieutenants JAMES D., and JOHN A. CLARK, assistant surgeons, recently arrived on the transport Thomas, will proceed to Iloilo, Island of Panay, reporting to the commanding general, department of the Visayas, for assignment to duty.

RENO, First Lieutenant WILLIAM W., assistant surgeon, is relieved from duty at Hospital No. 4, Manila, P. I., and in this division, and will report to the commanding officer of the first available transport for duty thereon to San Francisco, Cal., reporting to the commanding general, department of California, and by telegraph to the adjutant general of the Army, for instructions.

SHORT, ALFED S., contract surgeon, is granted leave for one month, with permission to visit China.

TREHOLTZ, C. A, contract surgeon, is granted leave for one month, with permission to apply for an extension of one month.

GRAY, Major W. W., surgeon, is granted leave for one month, from about August 1.

Changes in the Medical Corps of the U. S. Navy for the week ended July 18, 1903:

LAW, H L., surgeon, retired, ordered to additional duty at Marine Recruiting station, Providence, R. I.—July 13.

BROWN, H. L., assistant surgeon, appointed assistant surgeon with rank of lieutenant, junior grade, from June 29, 1903—July 13.

THOMPSON, J. G., assistant surgeon, detached from the Columbia and ordered home and to wait orders—July 14.

DELANEY, C. H., assistant surgeon, detached from the Navy Yard, Norfolk, Va., and ordered to the Columbia—July 14.

PLUMMER, G. R., acting assistant surgeon, ordered to Naval station, Key West, Florida—July 14.

TYREE, F. W., acting assistant, ordered to the Naval station, Port Royal, S. C.—July 14.

LOWNDES, C. H. T., surgeon, detached from the Naval station, San Juan, P. R., and ordered home and to wait orders—July 15.

PICKRELL, G., surgeon, ordered to Naval station, San Juan, Porto Rico—July 15.

HARRIS, H. N. T., surgeon, orders of July 8 modified; detached from Glacier and ordered to Navy Yard, Pensacola, Fla, from July 18—July 15.

BUCHER, W. H., passed assistant surgeon, detached from Navy Yard, Pensacola, Fla., and ordered to Washington, D. C., July 21, for examination for promotion, and thence to San Francisco, Cal., to take passage on steamship Siberia, sailing August 8 for Asiatic Station, for duty at Navy Yard, Cavite, P. I.—July 15.

THOMPSOM, J. C., assistant surgeon, orders of July 14 modified; detached from Columbia and ordered to Chesapeake July 17—July 16.

GEIGER, A. J., assistant surgeon, detached from Naval Hospital, Navy Yard, Norfolk, Va., and ordered to Washington, D. C., for duty as recorder of Naval and Medical Examining Board now in session at Naval Museum of Hygiene and Medical School—July 16.

CHAPMAN, R. B., acting assistant surgeon, ordered to duty with Recruiting party No. 6—July 16.

SCHWERIN, L. H., acting assistant surgeon, detached from duty with Recruiting party No. 6 and ordered to the Southery—July 16.

Changes in the Public Health and Marine-Hospital Service for the week ended July 16, 1903:

PERRY, J. C., passed assistant surgeon, granted leave of absence for one month from July 14—July 10, 1903.

ROSENAU, M. J., passed assistant surgeon, to proceed to Boston, Mass.; Philadelphia, Marietta, and Swiftwater, Pa.; Detroit, Mich.; St. Louis, Mo.; Milwaukee, Wis.; Chicago, Ill., and Baltimore, Md., for special temporary duty—July 16, 1903.

WICKES, H. W., passed assistant surgeon, granted leave of absence for one day, July 17—July 15, 1903.

CLARK, T., passed assistant surgeon, granted leave of absence for seven days from July 13, 1903, under paragraph 191 of the regulations.

MCCLINTIC, T. B., assistant surgeon, to proceed to Atlantic City and Point Pleasant, N. J., for the purpose of making physical examinations of keepers and surfmen of the Life-saving Service—July 15, 1903.

To proceed to Tuckerton, N. J., for the purpose of making physical examinations of keepers and surfmen of the Life-saving Service—July 16, 1903.

TROTTER, F. E., assistant surgeon, granted seven days' extension of leave of absence from July 13—July 11, 1903.

WILLE, C. W., assistant surgeon, to proceed to Ocean City, Md.; Chincoteague Island, and Onley, Va., for the purpose of making physical examinations of keepers and surfmen of the Life-saving Service—July 15, 1903.

BARNSBY, P. N., acting assistant surgeon, granted leave of absence for two weeks, on account of sickness, from July 2—July 8, 1903.

HICKS, W. R., acting assistant surgeon, granted leave of absence for three days from July 14—July 15, 1703.

SWEETING, C. B., acting assistant surgeon, granted leave of absence for thirty days, on account of sickness, from July 10—July 18, 1903.

TUTTLE, JAY, acting assistant surgeon, department letter granting Acting Assistant Surgeon Tuttle leave of absence for thirty days, amended so as to be effective July 3—July 10, 1903.

WELDON, W. A., acting assistant surgeon, granted leave of absence for fifteen days from July 11—July 11.

American Medicine

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PUBLISHED WEEKLY AT 1321 WALNUT STREET PHILADELPHIA BY THE AMERICAN-MEDICINE PUBLISHING COMPANY

VOL. VI, No. 5. AUGUST 1, 1903. $5.00 YEARLY.

Genuine Hygiene in the Public Schools.—It is refreshing to realize that educators and those interested in educational methods are at length beginning to realize the importance of having hygiene taught in the public schools from the standpoint of the sanitary scientist rather than of the faddist with regard to some presumed evils. This is the season when educators meet to discuss methods, and the question of the teaching of hygiene has been under discussion at a number of annual meetings. In New York the very sensible method was adopted of asking practical physicians to open and develop the discussion on the teaching of hygiene in the public schools. Before University Convocation (held in Albany), at which, by the invitation of the regents of the University of the State of New York, prominent educators from many parts of the country assemble every year, and at the New York State Teachers' Association meeting, both convened during the first week in July, the discussions brought out very clearly the fact, that there are good grounds for dissatisfaction with the present methods of teaching hygiene, and yet that the improvement demanded will not necessarily carry public school work beyond its own scope into too highly specialized subjects.

The science of hygiene both as regards the individual and the community, it was well said, has developed in a marvelous way in recent years. This new and interesting science and its history deserves to be treated not with any such *ex parte* methods as are now in vogue, but with the serious purpose and exactness that beseems its vital importance. There are many hundreds of thousands of people now alive who, to use the words of a distinguished sanitarian, have no business being alive, or at least would not be in existence if the deathrate of ten years ago had continued. With regard to infant mortality especially, there has been vast improvement in the last ten years, and the outlook is even more promising than before. The great popular plagues of past centuries, cholera and pest, are now scarcely feared at all, and the recent splendid work of the United States Army Medical Department in Cuba with regard to yellow fever would seem to give promise of eradicating another very serious scourge of mankind which, because of its resistance to all other measures, had come to be looked upon with almost fatalistic apathy as inevitable in our American tropical countries.

Scientific Sanitary Development in Recent Years is Represented in only a Small Degree by the Points Cited.—Malaria, which has constituted the main reason why white men do not readily become acclimated in the tropics, is just being brought under human domination. Typhoid fever, for so long apparently the hand of Providence in thinning out the overcrowded quarters of large cities, is now absolutely within the control of a community if proper municipal regulations with regard to water, milk, and food-supply are enforced. There has not been a case of smallpox in Cuba for over two years, nor a case of yellow fever for over 22 months. These two results alone of American rule in Cuba amply repay all the sacrifices in lives and treasure made during the war and their effects will doubtless continue for many years to come. The story of these great events is much more important than even that of the charge up San Juan hill, and surely the children of this generation should be made to realize what these victories of peace mean, and how they have been accomplished. This is all the more true because this chapter of sanitary history carries with it the lessons that will be precious incitements to the proper fulfilment of sanitary regulations in every day life.

Special Training of Teachers in Hygiene.—As suggested by Dr. Putnam, of Providence, R. I., in her paper on the "Department of Hygiene and Public Schools," read before University Convocation, in order to secure the proper teaching of hygiene it will be necessary to secure special training on the part of teachers in this branch, and also to commit the management of the department in the high schools of our cities at least, to some one who has not only theoretic but practical knowledge of this progressive and important subject. In this day of specialism the advisability of this suggestion will appeal to every one at once. The perfunctory way in which hygiene has been taught up to the present time is entirely incommensurate with the immense practical importance of the subject. It remains then for arrangements to be made by which the more thorough teaching of the branch will be effected, yet at the same time, without overloading the already crowded curriculums in superior schools. Certainly some of the present more or less ornamental branches of school work might well be sacrificed to the effort to secure a practical knowl-

edge that would do much to add to human happiness and save human suffering.

The "Teaching of Health" is a crying need of modern educational systems. It is in the tender ages, when the habits are forming, that the lessons of preventive medicine and hygiene will make the most impression and may be permanently inculcated in the routine of life. The pedagogic trend has been toward the didactic teaching of physiology and anatomy, rather than instruction in applied physiology and hygiene. Much of the anatomy is a useless burden on the already overtaxed memory of the pupil, and the scientific value of some of the physiology, particularly in regard to the effects of alcoholic beverages and tobacco, is questionable. In many cases calisthenics have been made such a fetish that class-drills have been substituted for the natural recreation of play during recess. Much of the faulty and unnecessary teaching in matters of personal hygiene is due to the dearth of proper literature and lectures from trained medical authorities. Until teachers and parents have been properly instructed, little advance may be expected in the methods now in vogue in the public schools. At a recent meeting of the American Academy of Medicine in Washington, D. C., there was held a very successful symposium on the "Teaching of Hygiene in the Public Schools," and for a thorough discussion of this subject we refer our readers to the August number of the *Bulletin* of the Academy. The opening paper by Dr. Walter L. Pyle, of Philadelphia, is published in this issue of *American Medicine*. The opening paper in the discussion was read by the United States Commissioner of Education, the Hon. W. T. Harris, who emphatically agreed that the greatest aid in this matter must come from the medical profession, and that if the teaching of hygiene in the public schools were put under the supervision of trained physicians the greatest improvement would be brought about.

The National Educational Association and Medicine.—Dr. Helen C. Putnam, of Providence, R. I., writes to correct the impression given in our editorial note concerning the absence of physiology, hygiene, etc., from the program of the recent meeting. It would appear as if the fault lies with the reports. The subjects are not so interesting as others, and so the newspapers did not report the discussions. In the official program there were listed a dozen or more papers and several symposiums, for instance, on Backward Children, Physiology, Gymnastics, Physical Training, Physical Sanity and Outdoor Life, Sex Differentiation, School Hygiene, Health and Growth of Children, The Children of the State, etc. One is glad to make the correction, and to learn that these most important of subjects were not omitted from the program, even if not thought worth reporting by the newspapers.

Enforcement of the Proper Ventilation of Buildings.—In a suggestion to the body engaged in preparing a new charter for the city of Denver, Dr. Charles Denison presents a plan to limit deficient ventilation in all future buildings erected in that city. By adherence to the rules proposed, Dr. Denison believes that the more or less complete prevention of tuberculosis would be accomplished. Dr. Denison thinks that there is an electric quality or attribute of the air we breathe which governs its usefulness to sustain life. It is thought the unstable ozonic form of oxygen is produced during respiration, which favors the giving up of oxygen to the blood, that is, that respiration is essentially an electric process, and not complete without that agency. The air once used is claimed to be thereby "devitalized" and its "renewal" becomes imperative before it can again impart vitality to the living organism. If a gauge of purity based upon the carbonic acid content of the air could also be assumed to answer for this electric state, then Park's rule of "3,000 cubic feet of air renewed once per hour for each adult person" could be looked to as the goal, which when once reached the more or less complete prevention of tuberculosis would be accomplished. The rules for minimum ventilation, subject to certain discretionary variations, are given by Dr. Denison as follows:

In sleeping and living-rooms, workshops, and factories, allowance of 2,000 cubic feet of air per person, renewed once per hour, the renewal being based on the facility furnished for 100 square inches or its equivalent of unobstructed open space connected with the outer air, as with an open window when the temperatures in and out of doors are approximately equal.

The minimum window space to be ten times the renewal estimated space required, and the minimum floor space per person to be 84 square feet; and all of the living or sitting-rooms and sleeping-rooms (built to receive double beds) to be considered as for at least two persons.

In theaters, churches, schools, public halls, and places of amusement (to be occupied at their full seating capacity not more than two hours at a time) and in grade and primary school buildings (to be occupied by children of an average age of 14 years or under) a 50% reduction in the per capita cubic space and renewal of air rule may be allowed and the floor space not be insisted on; but in all prisons, almshouses, nurseries, dormitories, etc. (constantly occupied) the full limit of the rule shall be insisted on, and in hospitals, closed sanatoriums, etc., the limit of deficient ventilation shall be 50% nearer to perfect purity of air than that stated in this minimum rule.

The Production and Use of Ozone.—Quoting Hugo Jone the Chicago Health Bulletin says that the most important feature of the month, in sanitary science and public hygiene, is the announcement made at the German Chemists' Congress of the complete success of the labors of Professor Koch and his colleagues in the sterilization of water by ozone. That ozone is a powerful germicide and destroyer of organic matter has long been known, but the practical difficulty in the way of its use has been the cost of its production. "Ozone," says Jone, "is a normal constituent of forest air; it is its presence which makes the breathing of forest air agreeable. Produced by the lightning stroke, it is what freshens the atmosphere after a thunderstorm. By the introduction of ozone the problem of sterilization, purification and revivifying of water easily and completely, without danger of making the water harmful, has been solved." "The system has passed the experimental stage. The germs of typhoid fever, Asiatic cholera and dysentery are killed by ozone without fail. This is not always the case in filtration through sand or even charcoal. Furthermore, any animal or vegetable matter, particularly sewage, which might happen to be in the water in small quantity, is oxidized and destroyed.

Another, though lesser, advantage is the fact that an ozonizing plant requires less space than a filtering plant of the same capacity. The cost of operation with an ozonizing plant is less than with a filtering plant. The general introduction of the ozonizing system in places where the drinking water cannot be kept free from contamination is sure to follow." Dr. Reynolds suggests the Rogers Park water supply of Chicago as a good one with which to begin the ozone process, and he begs to urge this subject on the Sanitary Trustees as an additional reason for the prompt utilization of its enormous water power still running to waste, instead of producing the electricity necessary for conversion of the oxygen of the air into ozone.

An Aspect of the "New Woman" Question.—We are manufacturing nowadays in the United States most valuable data for the student of morbid psychology and sociology, and when its history comes to be written there will be no chapter so instructive, certainly none so amusing, as that describing the roles played by many women. All over the land women without a minute's study of history, philosophy, or any science, without a scrap of anything beyond newspaper and ten-cent-magazine knowledge, without a thought of fitness or preparation, are sending forth tons of poor paper, covered with the printed evidences of painful vacuity of mind and inflamed egotism. If one can have the patience to give a few hours to it, let him run over a hundred of the crazy periodicals published in the country, or the books advertised in them. One may feel afterward as if escaped from a lunatic asylum, but he will be wiser at least. The printer must be paid for this work even though the vain editors and authors get nothing for their labor except the glory of posing as teachers and inspired geniuses. A large deal of the verbiage is motived upon antimedicalism, antidruggism, antivaccination, or antianything sensible, but not entirely all of it, for a considerable fraction seems to be like Dean Ramsey's disappointed errand-boy, who "just stood in the middle of the road and swore at large." It is pathetic, all this wild-eyed and dismal rubbish poured forth "world-without-end, and without amen." The leaders and most characteristic illustrators are Mother Eddy and Ella Wheeler Wilcox, but they have multitudes of poor imitators.

A New Woman on the Practice of Medicine.—An enterprising Chicago journalist has found a picture of Ella Wheeler Wilcox without her hand up to her ear in a self-conscious pose for the interviewer. This latter gentleman represents the lady as giving young medical men the benefit of her supernatural wisdom. From the lofty point of view of the modern American priestess of the omniscient, Ella tells of the sad lot of the young doctor who hangs up his shingle but who believes in "Powder, Pill, and Knife." He gets never a patient. Across the way is his rival who advertises "Electricity, Massage, and Cold-water Treatment." "Carriages stand in line before his office and the door bell rings the whole day long." Then comes a fine lecture on the glorious passing of the day of "old-fogyism," powder, pill, and knife, and hacking, medical slashing, butchery, and drugging, and killing patients, and the more glorious new birth of the world into "intelligence," "new notions," "broad ideas," "electricity," "mental and spiritual healing," "new schools," "baths," "massage," "progress," etc. Ella's advice, (and of course she has studied medicine deeply, and long, and is "dead-bent" on "truth,") is as follows, and the young graduate is to choose:

> If you are a sensible young man you will form a partnership with some graduate of a school where cold water and massage are taught, or you will supplement your old-school methods by a thorough knowledge of medical electricity, and I would suggest osteopathy—even if that word offends you as a red rag offends the bull.

One wonders how even supernal wisdom can "teach cold water," but the modern priestesses of *omni re scibile* are of course "*super grammaticum*."

Scientific Study of the Drunkard.—If it is true that inebriety is a disease one must marvel that the disease has received so little study of a genuinely inductive and scientific kind. Almost the only study of the kind which we have seen is by Dr. Charles F. Applegate, superintendent of the Iowa Mt. Pleasant State Hospital (*Bulletin Iowa Institutions*, April, 1903). The patients subjected to examination numbered 150, six of whom were women. Investigation was made as to ancestry, heredity, age, and nationality, beginnings of the habit, occupation, education, religion, domestic relations, use of tobacco or other narcotics, kinds of liquors used, physical examination, blood tests, urinalysis, treatment, etc. As to the treatment, Dr. Applegate while urging that there can be none that is uniform for all patients, thinks that the Willis Parker Cure, the Tracy Cure, the suggestive, hypnotic, osteopathic, and other "cures" have "much more of a tendency to cause other diseases to progress than to cure true inebriety." Of the Keely Cure he says, "it has done some good in a few cases, in others much harm, and has failed utterly to cure the disease." Ninety percent of the patients are sufferers from other diseases, is reason enough why no one treatment is sufficient. In sixty-three out of the 150 cases there was some ocular lesion, muscular, nervous, or optic, but in all the methods of treatment described none, apparently, was especially directed to the eyes. In fifty-two out of the 150 cases severe and prolonged dyspepsia is the most evident and complained of symptom. The causal relation of drinking to insanity, crime, etc., is vividly pointed out, and as to syphilis, it certainly existed in fifteen, probably in forty-seven, and was suspected in thirty-four of Dr. Applegate's cases. "In a little town of southern Iowa of nearly 4,000 people I found they had consumed in one year 5,400 gallons of spiritous liquors. There were nine drug stores; no saloons."

Honor the Detroit Journal!—Dr. E. L. Shurly, of Detroit, Mich., sends us the following letter, which physicians should see. And they should act upon it in a practical way when it is possible to do so. Other newspapers should be encouraged to do likewise, and if they will not they should be discouraged:

> Undoubtedly you are aware of the recent passage of an amendment to our State medical registration law called the "nasty ad. amendment," which provides for the suppression, as nearly as may be, of those filthy, lying, quack advertise-

ments which abound in the newspapers. Although the medical profession (as usual when such reforms are agitated) has had considerable to do with the passage of this wholesome law, yet much, if not the greater credit is due one of our daily newspapers—*The Detroit Journal*. This newspaper at the risk of financial loss, fearlessly and persistently "took up the cudgel" by refusing to publish such advertisements in their columns, and when the amendment to the law was presented by using its influence and columns to aid the passage of the law through the legislature. I therefore feel that the medical press generally ought to know this fact, with a view of acknowledging on behalf of the profession the courageous and philanthropic attitude which *The Journal* has taken in this matter.

A Homeopathic Confession.—We fear the dire results even of quoting the following paragraph, and certainly we should not have dared to make such an indictment ourselves. One must believe that the words are too harsh and not wholly warranted. The excerpt, however, is from the editorial columns of *The Hahnemannian Monthly* for June, 1903:

As to the Institute in its relationship to materia medica, we must express our feelings of disappointment. For years there have been altogether too many papers which should be classed as patriotic effusions similar to the school-boy essays, which descant upon "love of country," "the onward march of science," etc. These socalled materia medica papers prattle about our God-given law, the memory of Hahnemann, the death of the allopaths, and so on *ad nauseam*. But scarcely, if ever, is there presented a practical paper which adds one mite to the improvement of the materia medica. Thus far it has been TALK, TALK, TALK. But we are waiting for results. It is true that the Bellows committee [*absit omen!*] is doing good work, but until the plan becomes more generalized in its workings the homeopathic materia medica cannot be brought down to the present status of medical science within the lifetime of the present generation. WE MUST WORK, WORK, WORK.

"The Flaming Sword," of November 21, 1902, "A. K. 63," is No. 1 of Vol. xvii. It is published in Chicago. It is christian. If there are two volumes a year, it has therefore found support for over eight years. It was founded by "Koresh" ("Dr. Cyrus T. Reed") and is devoted to the exposition of "Koreshanity," "Koreshan Universology," or the "Cellular Cosmogony." According to the latter term the universe is a cell, a hollow globe, the physical body of which is the earth; the sun is at the center. We live on the inside of the cell; and the sun, moon, planets, and stars are all within the globe. The universe is eternal, a great battery, and perpetually renews itself through inherent functions, by virtue of which it involves and evolves itself. Chemistry is false and alchemy is true. The attainment of immortality in the flesh, the practise of communism and of celibacy, the destruction of the money power, etc., are the ideals of Koreshanity. The editor wishes eddyism "great speed in its progress toward the termination of its career." Among the advertisements we notice such as are always to be found in such periodicals, viz., those of the drug-haters. Prominent among these is that of a treatise on "Medical Delusions," "a new book just off the press," against vaccination, inoculation, serumtherapy, and Anti-Toxin, hyphenated and the toxin capitalized of course. Koreshan makes shawls as well as cosmogonies and Flaming Swords, and the members of the Society of the Arch Triumphant of the Koreshan Unity are earnestly enjoined to forward their annual dues.

BOOK REVIEWS

Nothnagel's Encyclopedia of Practical Medicine: Diseases of the Stomach.—By FRANZ RIEGEL, M.D., Professor of Clinical Medicine in the University of Giessen. Edited, with additions, by CHARLES G. STOCKTON, M.D., Professor of Medicine in the University of Buffalo. Authorized translation from the German under the editorial supervision of ALFRED STENGEL, M.D., Professor of Clinical Medicine in the University of Pennsylvania. Philadelphia, New York, and London: W. B. Saunders & Co., 1903.

This volume on the important subject of diseases of the stomach, written by a distinguished German clinician and edited by one of America's best-known writers on the subject, is a book to awaken keen expectations. To those familiar with German it has been for several years a storehouse of information and authoritative opinion, a font of last resort. Now that it appears in English it is doubtless destined for years to remain the authority. The book opens with an especially valuable and practical exposition of the methods of examining the stomach and its contents—an exposition of much value to the general practitioner, indicating as it does certain simple methods of investigation that can readily be carried out even in the remotest sections of the country. The chapter on the general treatment of diseases of the stomach, especially the remarks concerning diet, are much to be commended. The different disorders of the stomach are discussed in detail with special reference to diagnosis and treatment, and so well and authoritatively, that even he of much experience cannot fail to profit by the perusal. The subject of hyperchlorhydria has received attention in accordance with its extreme importance, and the same is also true of the much neglected subject of motor insufficiency of the stomach. Both of these subjects have been much increased in value by critical remarks by the editor. The editor has also added comments to the subjects of periodic vomiting in children, syphilis of the stomach, the etiology of gastric ulcer, the blood in carcinoma and ulcer, diet in hyperacidity, acute dilation of the stomach, digestion, leukocytosis, benign tumors of the stomach, achylia gastrica, hematemesis of hepatic cirrhosis, congenital stenosis of the pylorus, operative procedures in stomach diseases, etc., but pains have been taken not to alter the statements contained in the original text. As a whole the volume can be cordially recommended to the general practitioner as well as to the specialist as one that merits his attention and will well repay the time devoted to its reading.

Handbook of Climatology.—By DR. JULIUS HANN, Professor of Cosmical Physics in the University of Vienna. Part I. General Climatology. Translated from the second revised and enlarged German edition by ROBERT DE COURCY WARD, Assistant Professor of Climatology in Harvard University. New York: The Macmillan Company, 1903.

Ward has furnished a very acceptable translation of this standard work on climatology. Part I deals with theoretic considerations regarding the influence upon climate of altitude, continents, ocean currents, etc. Most of the given examples of climate phenomena refer to Europe, but the translator has added many from the United States. A very valuable feature of the work is the unusually full list of references to standard writings on the subject in question. The translator has rendered a distinct service to English-speaking students.

Surgical Anatomy and Operative Surgery.—By JOHN J. MCGRATH. F. A. Davis Company, Philadelphia.

This is a work of some 550 pages with 227 illustrations. A successful effort has been made by the author to combine in a practical manner the subjects of surgical anatomy and operative surgery. Purely technical anatomic matter has been wisely excluded. The established surgical operations as applied to the various regions of the body are given briefly but comprehensively and often accompanied by illustrations. Rather full attention is devoted to the surgical procedures about the head and face; the abdominal viscera, together with hernias; the male pelvis and genitalia, and the extremities. As a work for ready reference by students and practitioners it will prove convenient and up to date.

Spectacles and Eyeglasses: Their Forms, Mounting and Proper Adjustment.—By R. J. PHILLIPS, M.D., Ophthalmologist, Presbyterian Orphanage, late Adjunct Professor of Diseases of the Eye, etc. Third edition, revised, with 52 illustrations. Price, $1.00 net. P. Blakiston's Son & Co., 1902.

In the latest revision of this reliable handbook of spectacle-fitting there has been added an account of such improvement in spectacles, the methods and implements of their prescription, as involve any newly-discovered principle or promise to be of permanent value. The portions relating to bifocal glasses and to prisms have been rewritten, some new cuts have been added, and the whole text has been revised.

The Care and Feeding of Children: A Catechism for the Use of Mothers and Children's Nurses. By L. EMMETT HOLT, M.D., LL.D. New York and London: D. Appleton & Co., 1903.

The third edition of this little catechism has been greatly enlarged and increased in value by the insertion of new material in the section on Infant Feeding and by the consideration of points relating to growth, training, toys, etc. Of the 149 pages 80 are devoted to the feeding of children, with directions for preparing various forms of milk, and including several pages of food formulas. The book in its latest form can be heartily recommended to mothers and nurses, and physicians will find in it many practical points.

Manual of Bacteriology.—By ROBERT MUIR, M.D., Professor of Pathology, University of Glasgow, and JAMES RITCHIE, M.D., Reader in Pathology, University of Oxford. American edition, revised and edited from the third English edition by NORMAN MACLEOD HARRIS, M.B. New York: The Macmillan Company, 1903.

The American editor of this Manual is to be congratulated on his presentation of the wellknown work of Muir and Ritchie. It is an exceedingly valuable reference book. Our only criticism, and we are not sure that it is a just one, is that too much has been attempted in the space at command. As the work retains the name of Manual, however, abbreviation is to be expected. The appended bibliography is a valuable feature.

Disinfection and Disinfectants.—By M. J. ROSENAU, M.D. P. Blakiston's Son & Co., Philadelphia.

This is a volume of some 350 pages with illustrations. The author speaks from the standpoint of one who has had a wide experience as a sanitary officer in the field and in experimental work in the laboratory. The book is intended as a practical guide for sanitarians, health and quarantine officers, and to all others engaged in disinfection for any purpose. All the principal disinfectants, chemic, thermic, etc., are discussed, together with the proper and practical methods of using these agents. For health officers and sanitarians, especially, this is a work of value.

The Surgical Treatment of Gastric and Duodenal Ulcers.—By B. G. A. MOYNIHAN, M.S., F.R.C.S. W. B. Saunders & Co., Philadelphia, New York, and London.

This little volume consists of some 80 pages, together with illustrations, embodying the author's experience and opinions in the treatment of gastric and duodenal ulcers. The subject matter is considered under the following heads: Perforation of Gastric and Duodenal Ulcers; Hemorrhage; Chronic Ulcer; Hour-glass Stomach. The last 30 pages are devoted to histories of the cases presented. The table of cases comprises 12 of perforating ulcer, 69 of gastroenterostomy, 3 of pyloroplasty, 15 of hour-glass stomach, and 1 each of excision of gastric ulcer and gastroplication. The extensive experience of the author enables him to write entertainingly and instructively upon the diseases and conditions in question. The book forms a valuable contribution to surgical literature.

Surgical Diseases of the Face, Mouth, and Jaws.—By H. HORACE GRANT, A.M., M.D. W. B. Saunders & Co., Philadelphia and London.

This is a well-written volume of over 200 pages with illustrations. The author has succeeded in preparing a convenient and concise work, containing the practical information necessary for students of dentistry. An exhaustive analysis of inflammation and the minute pathology of surgical diseases is wisely omitted as being unnecessary in a textbook for dental students. Only such surgical subjects as properly come within the field of dentistry are considered. A conspicuous feature of the book is its essentially practical character and its adaptation to the needs of those interested in dentistry and oral surgery.

Studies on the Leukocytes.—By EDWARD T. WILLIAMS, M.D., Boston, 1903.

Williams has produced a valuable monograph. It is made up of a series of papers published in the *Boston Medical and Surgical Journal* and in *American Medicine* and of added chapters. The author states that the studies are the result of a personal effort to find out something about leukocytes. He holds that eosinophiles are necrotic cells, and suggests the placing of all leukocytes in two classes—myelocytes and lymphocytes. It is a pleasure to read the plain and direct statements of this writer.

Ambulance Work and Nursing.—A Handbook on First Aid to the Injured, with Sections on Nursing, etc. Published by W. T. Keener & Co., Chicago. Price, $3.50.

This is a valuable little book of some 300 pages, abounding in illustrations. The first portion is devoted to the rudiments of anatomy, the blood, circulation, etc. The major portion, however, deals with various accidents, injuries, etc., which are likely to arise under ordinary circumstances, and the emergency treatment which should be instituted under such circumstances. It is suitable for popular reading by those anxious to be acquainted with such emergency work, and it will prove of particular value to nurses in training and those engaged in ambulance service.

Physical Diagnosis; Diseases of the Thoracic and Abdominal Organs.—A Manual for Students and Physicians. By EGBERT LEFEVRE, M.D. Published by Lea Brothers & Co., Philadelphia and New York.

The manual comprises a volume of some 430 pages. The author has confined himself to the diseases of the thoracic and abdominal cavities. As stated in the preface, special emphasis has been laid on the altered anatomy of the organs under examination, and its relation to the physical signs. The respiratory and cardiac sounds, their production and modification, normal and pathologic, have been discussed more fully than is usual in a manual of diagnosis. Probably no item in the entire curriculum of medical study is less completely taught, yet of more import than physical diagnosis. The wide experience of the author both as a clinician and a teacher has enabled him to prepare a well-arranged, comprehensive and valuable manual on this important, yet often neglected, subject. The work is well written and profusely illustrated.

Syphilis in Dentistry.—By L. BLAKE BALDWIN, M.D., and EZRA R. LARNED, M.D. Published by E. H. Colgrove, Chicago.

This little volume of 120 pages, with illustrations, is intended primarily for members of the dental profession. It is a brief, terse, concise, but for practical purposes, sufficiently full, discussion on syphilis. Stress is laid on the symptomatology and means of inoculation. Particular attention is called to the danger of inoculation from improperly cleansed dental instruments. This danger is not fancied but real, and the fearful consequences which may, and at times do, arise from this neglect, makes the book in question one of value. This or a similar work should be in every dentist's library, and it should be studied with care.

Diseases of the Anus, Rectum, and Sigmoid Flexure.—By JOSEPH M. MATHEWS. Published by D. Appleton & Co., New York.

This work needs no introduction to the profession. Attention only need be called to the fact that the third edition has appeared. In this edition the chapter on cancer has been entirely rewritten to correspond to the latest discoveries. A

number of new operations devised by the author are fully set forth and their merits discussed; and considerable discussion is given to the valves of the rectum. The work is brought to a position thoroughly abreast of the times, in an important but too often neglected field of practical medicine. The extensive experience of the author in this special line of work, together with previous contributions from him, makes this treatise a standard work.

Bacteriology: A Manual for Students and Practitioners.—By ZAPFFE and GALLAUDET. (Lea's Series of Pocket Textbooks.) 146 engravings and 7 colored plates. Lea Brothers & Co., Philadelphia and New York.

This volume of 350 pages is a clear, concise account of bacteriologic methods. As the writers state in the preface, their aim has been to exclude all unnecessary scientific discussions. In this they have succeeded, perhaps to the disappointment of the student who wishes to know the why and wherefore. The book is in no way superior to the many works which we already have on this subject, and which the writers frankly acknowledge they have freely used in the preparation of their text. The form is convenient, the paper and type good.

Practical Obstetrics.—A Textbook for Practitioners and Students. By EDWARD REYNOLDS, M.D., and FRANKLIN S. NEWELL, M.D. Published by Lea Brothers & Co., Philadelphia and New York.

In the present volume of some 550 pages the authors have contributed a well-arranged volume on an important subject. The abundant literature with reference to midwifery might well justify the query whether more is needed in the present state of our knowledge. The authors, however, have embodied in the present volume the fruits of a wide and varied experience and their deductions and suggestions are founded on actual bedside experience. The work is written in a vigorous, clear style, being devoid of the ambiguity so confusing to students. The whole subject of obstetrics is treated in comprehensive forms; the book is well and profusely illustrated and all together it comprises a well-arranged and valuable volume.

Surgical Diseases of the Abdomen.—By RICHARD DOUGLAS. Published by P. Blakiston's Son & Co., Philadelphia.

This is a work of almost 900 pages, with appropriate illustrations. The extensive experience of the author has given him the right to speak with authority on the various surgical affections of the abdomen. A prominent and valuable feature of the work is the space devoted to diagnosis. The book is not so much a treatise on operative technic as a study of the etiology and symptomatology of the various affections considered; the indications for or against operation; and the after care of operative cases. The work is up-to-date in one of the most extensive, advanced, and important fields of surgery. The discussion has to do with various surgical affections of all the abdominal organs, and as such it comprises a valuable addition to surgical literature.

The Diseases of the Blood.—By ALFRED C. COLES. Published by P. Blakiston's Son & Co., Philadelphia.

The second edition of this work has appeared, revised, and somewhat enlarged. The book is designed more particularly for use by the practitioners without convenient access to laboratory. It deals particularly with the methods for preparing blood for microscopic examination and the significance of that which is seen under the microscope. The various anemias are discussed and the blood conditions found in each. Likewise, the condition of the blood in the various acute diseases receives brief notice. The author makes no pretense to an exhaustive treatise on the blood, but rather to a work that is a guide in blood examination and interpretation. As such it is deserving of commendation. In this edition considerable attention is given to blood examination for the malarial and filarial parasites.

BOOKS RECEIVED.

[Prompt acknowledgment of books received will be made in this column, and from time to time critical reviews will be made of those of interest to our readers.]

Disease of the Pancreas: Its Cause and Nature.—By EUGENE L. OPIE, M.D., Associate in Pathology in the Johns Hopkins University; Fellow of the Rockefeller Institute of Medical Research. J. B. Lippincott Company, Philadelphia and London, 1903. Price, $3.00.

Surgical Diseases of the Abdomen: With special reference to diagnosis.—By RICHARD DOUGLAS, M.D., formerly Professor of Gynecology and Abdominal Surgery, Medical Department, Vanderbilt University, Nashville; ex-President of the Southern Surgical and Gynecological Association, etc. Illustrated by 20 full-page plates. P. Blakiston's Son & Co., Philadelphia, 1903.

A Textbook of Modern Materia Medica and Therapeutics.—By A. A. STEVENS, A.M., M.D., Lecturer on Physical Diagnosis in the University of Pennsylvania; Physician to the Episcopal and St. Agnes Hospitals, Philadelphia. Third edition, greatly enlarged, rewritten, and reset. Handsome octavo of 663 pages. W. B. Saunders & Co., 1903. Cloth, $3.50 net.

Dermochromes: Parts I and II.—By PROF. JACOBI, of Freiburg, Breisgau. English adaptation of text by J. J. PRINGLE, M.B., F.R.C.P., Physician to the Department for Diseases of the Skin, at the Middlesex Hospital, London. Rebman, Limited, London, 1903.

Twenty-second Annual Report of the State Department of Health of New York, for the year ending December 31, 1901. J. B. Lyon Company, State Printers, Albany, 1902.

The Practical Application of the Röntgen Rays in Therapeutics and Diagnosis.—By WILLIAM ALLEN PUSEY, A.M., M.D., Professor of Dermatology in the University of Illinois; and EUGENE W. CALDWELL, B.S., Director of the Edward N. Gibbs X-ray Memorial Laboratory of the University and Bellevue Hospital Medical College, New York. Handsome octavo volume of 591 pages, with 180 illustrations, nearly all clinical. W. B. Saunders & Co., 1903. Cloth, $4.50 net; sheep or half morocco, $5.50 net.

A Treatise on Diseases of the Rectum, Anus, and Sigmoid Flexure.—By JOSEPH M. MATHEWS, M.D., LL.D., of Louisville, Ky., ex-President American Medical Association; Professor of the Principles and Practice of Surgery, and Clinical Lecturer on Diseases of the Rectum, in the Hospital College of Medicine, etc. Third edition, revised and enlarged. With 6 chromolithographs and numerous illustrations in the text. D. Appleton & Co., New York. Half leather, $5.50; cloth, $5.00.

Syphilis in Dentistry.—By L. BLAKE BALDWIN, M.D., Professor of Dermatology and Venereal Diseases, Postgraduate Medical School; Professor Clinical Dermatology, Medical Department, University of Illinois, etc. E. H. Colegrove, Chicago. Price, $1.50.

Progressive Medicine: Fifth Annual Series, Vol. ii, June, 1903. A Quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences.—Edited by HOBART AMORY HARE, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Octavo, handsomely bound in cloth, 427 pages, with 46 illustrations. Per volume, $2.50, by express, prepaid. Per annum, in four cloth-bound volumes, $10.00. Lea Brothers & Co., publishers, Philadelphia and New York.

The Buckeye Doctor: A Tale for Physicians and for Physicians' Patients.—By WM. W. PENNELL, M.D. The Grafton Press, New York.

The Autobiography of a Thief.—By HUTCHINS HAPGOOD. Fox, Duffield & Co., New York City. Price, $1.50.

Index Catalogue of the Library of the Surgeon-General's Office, U. S. Army: Second Series, Vol. viii. Government Printing Office, 1903.

Transactions of the Southern Surgical and Gynecological Association: Vol. xv, 1902.

Report of the Bureau of Vital Statistics of the State of New Jersey, for the year ending December 31, 1901. J. L. Murphy Publishing Co., Trenton, N. J.

Tumors, Innocent and Malignant: Their Clinical Characters and Appropriate Treatment.—By J. BLAND-SUTTON, Surgeon to the Chelsea Hospital for Women; Assistant Surgeon to the Middlesex Hospital, London. Third edition. W. T. Keener & Co., Chicago, 1903.

Studies from Institute for Medical Research, Federated Malay States: An Inquiry into the Etiology and Pathology of Beriberi.—By HAMILTON WRIGHT, M.D., (McGill) Director of Institute for Medical Research, Federated Malay States. J. & A. Churchill, London; P. Blakiston's Son & Co., Philadelphia.

A Textbook of Surgery for Students and Practitioners.—By GEORGE E. BREWER, A.M., M.D., Lecturer on Clinical Surgery at the College of Physicians and Surgeons (Medical Department of Columbia University), New York. In one octavo volume of 712 pages, with 280 engravings and 7 plates in colors and monochrome. Cloth, $4.00; leather, $5.00 net. Lea Brothers & Co., Philadelphia and New York, 1903.

Uric Acid as a Factor in the Causation of Disease: A Contribution to the Pathology of High Blood Pressure, Headache, Epilepsy, Nervousness, Mental Diseases, Asthma, Hay Fever, Paroxysmal Hemoglobinuria, Anemia, Bright's Disease, Diabetes, Gout, Rheumatism, Bronchitis, and other disorders.—By ALEXANDER HAIG, M.A., M.D. (Oxon.), F.R.C.P., Physician to the Metropolitan Hospital and the Royal Hospital for Children and Women, etc. Sixth edition, revised and enlarged by 100 pages. 8vo. 947 pages, 75 illustrations. Cloth, $3.50 net.

A Treatise on Organic Nervous Diseases.—By M. ALLEN STARR, M.D., Ph.D., LL.D., Professor of Diseases of the Mind and Nervous System in the College of Physicians and Surgeons (Medical Department of Columbia University), New York; Consulting Neurologist to the Presbyterian Hospital, St. Vincent's Hospital, St. Mary's Hospital for Children, etc. In one octavo volume of 742 pages, with 275 engravings and 26 plates in colors and monochrome. Cloth, $6.00; leather, $7.00 net. Lea Brothers & Co., Publishers, New York and Philadelphia, 1903.

Gynecology: A Textbook for Students and a Guide for Practitioners.—By WILLIAM R. PRYOR, M.D., Professor of Gynecology in the New York Polyclinic Medical School; Attending Gynecologist New York Polyclinic Hospital; Consulting Gynecologist St. Vincent's Hospital, New York City Hospital, and St. Elizabeth's Hospital; Membre Fondateur Congress International de Gynæcologie et d'Obstetrique; Fellow of the American Gynecological Society; Fellow New York Academy of Medicine. D. Appleton & Co., Publishers, New York. Cloth, $3.50.

AMERICAN NEWS AND NOTES.

GENERAL.

Brazilian Army Perishing from Fever.—According to a newspaper report a letter from the Acre territory says that the Brazilian army is perishing from fever. Six hundred officers and men are dead and 400 ill. Some detachments of troops are without medicine.

Maritime Medical Association.—The thirteenth annual meeting of the Maritime Medical Association was held July 22 and 23 at St. John, N. B. Appropriate officers were elected for the ensuing year, and a variety of interesting and instructive papers were read and discussed.

Diphtheria Germs Packed Away.—That diphtheria may live in packed clothing almost indefinitely is shown by an incident which occurred in Ohio. A child died of diphtheria and its mother packed its dresses and toys in a chest. The mother died 15 years afterward, and her daughter and granddaughter, who opened and handled the contents of the chest, were duly taken ill of diphtheria, although there had recently been no cases in the village.

Charitable Bequests.—MONTREAL, CANADA: The late James Cooper bequeathed $60,000 as a fund to establish in the medical faculty of McGill University a chair for the teaching and study of internal medicine on lines to be determined by the medical faculty. This will be known as the Cooper Endowment Fund, and will be paid two years after the death of the testator. NEWARK, N. J.: According to the will of Eugene Vanderpool, the Newark Charitable Eye and Ear Infirmary will receive $10,000.

To Reorganize the Red Cross.—An exchange states that the American Red Cross Society may be either reorganized under rigid government supervision or be superseded in importance by a similar society under the War or Navy departments. The recent factional differences, as a result of which prominent members of the Red Cross were expelled for trying to retire Miss Barton from the active presidency, because they deemed her a business incompetent, will have an interesting sequel when Congress meets. It is stated that prominent United States officials and other influential persons will try to induce Congress to enact legislation for government control of Red Cross work in time of war or calamity.

Smallpox among Dogs.—An exchange says: The health authorities of Cleveland have made an astonishing discovery—that dogs can contract smallpox. In a family of five persons three were found suffering from the disease, and the whole five were taken to the hospital. The family dog was found to be also a victim, and was taken along. This is probably the first authenticated case of the liability of the canine race to contract this disease, and is of importance as showing another source of infection. Hereafter health officers must quarantine the family dog as well in cases where this disease appears. No doubt vaccination would give immunity to dogs as well as humans and persons owning valuable animals would do well to have them vaccinated. The alarming increase in this disease all over the country is coincident with the rise of a stubborn and silly disbelief in the value of vaccination. When a whole community, without exception, has been properly vaccinated the disease is unknown.

Deaths from Tetanus.—The *Chicago Tribune*, which has apparently kept careful statistics from all sources of the country relative to this subject, states that since the Fourth of July not less than 162 deaths have occurred from lockjaw following injuries received on that day. The Philadelphia *Record* adds that the total fatality list ascribable to the Fourth of July celebration would not fall short of 250 persons, to say nothing of the loss of property, and further adds: "This is a fearful sacrifice to make to the celebration of a national holiday. And it becomes all the more horrible when its uselessness is considered. The parents and guardians whose thoughtlessness and heedlessness are responsible for most of this slaughter should ask themselves whether it is worth the while. But parental remorse alone will not remedy the evil. The laws now on the statute books against the sale and use of firearms must be strengthened. This year's list of Fourth of July casualties, which is larger than ever known before, should arouse public opinion to the need of energetic action."

Useful Articles Made from Milk Casein.—An exchange contains the following: "At the Hygienic Milk Supply Exhibition, which was lately held at Hamburg, the Vereinigten Gummiwaren-Fabriken, of Harburg and Vienna, exhibited a number of objects which seemingly had nothing whatsoever to do with hygienic milk supply. There were shown, nicely arranged in glass boxes, combs, seemingly made of horn; cigar holders, with amber colored mouthpieces; knives and forks, with handles similar in appearance to ebony; ferrules for umbrellas and sticks, and balls, rings, chess figures, dominoes, etc.; also a small table with an inlaid marble slab, and finally a number of thick slabs and staves with every imaginable variation of marble colors, but of considerably less weight than real marble. These objects were made of 'galalith,' or milk stone. The advantage of the new product, as compared with celluloid, is the fact that it does not ignite so easily and is entirely odorless. Trials have proved that even when kept for weeks in water it does not distend more than the best quality of buffalo horn; after one month it had not soaked in more than 20% of water. Of late trials have been made to produce, by the addition of vegetable oils, an insulating material for electrotechnical purposes."

Cholera Germs in River Water.—A report from Manila to the Marine-Hospital Service says that the majority of cholera cases continue to occur on vessels lying in the shallow side of the Pasig river. The report says that this indicates that the river must be infected, especially near the banks, where the water is sluggish and does not readily mix with that in the current. It is here also that the native crews bathe, and it is no uncommon sight to see them dip this water up and use it for drinking and for washing vegetables. Another strong point in favor of the infection being due to this stagnant water is the fact that no white people have been affected; that cholera is found only among Filipinos, and that they are the only persons who come in contact with the suspected water. If the source of this infection could be definitely determined, no doubt a remedy could be supplied which would result in ridding Manila entirely of cholera. Two interisland vessels have been reported as having had cholera aboard after leaving this port, and the islands are generally infected throughout.

Religion a Factor in Race Suicide.—The Rev. Dr. Walter Laidlaw, executive secretary of the Federation of Charities and Christian Organizations, in a paper in the current number of the *Federation Quarterly* says: That religion may have directly to do with the question of race suicide is illustrated by the sociologic studies of the federation. The material collected both in the east and west sides of Manhattan and the various wards of Brooklyn during the last seven years have made it possible to prepare a careful study of the subject. The average number of children in Protestant families is 1.85; in Roman Catholic, 2.03; in Hebrew, 2.54. There are only 16.6% of the Hebrews without children, whereas 28.3% of the Protestants are without children. It should be noticed that six times as many Hebrew families have 9 children as the Protestant families, and for every Protestant family with 8 children there are proportionately 4 Hebrew families and twice as many with 7 children. Among the several Protestant communions there were several whose average of children is higher than the Roman Catholic average, notably the Episcopalian and Presbyterian, but excepting the Free Methodist there is not a single Protestant communion in which the average is as high as the Hebrew.

NEW YORK.

New Clinic for the Board of Health.—Plans have been filed with the Building Bureau for a one-story clinic of pressed brick and terra cotta with marble trimmings, to be built for the use of the Department of Health. The new building will be 25 feet front and 80 feet deep, and is to cost $10,000.

Sues Hospital for $100.000.—It is reported that John H. Calder has begun an action in the Supreme Court against the General Memorial Hospital for the Treatment of Cancer and Allied Diseases to recover $100,000 damages for the death of his wife, who died in February at the hospital, where she had gone to be operated on. Calder alleges that her death was due to the carelessness and inexperience of the nurse who attended her. The suit is an unusual one, and it is said to be the first in which a hospital has been sued on such grounds. From the complaint it appears that the nurse was directed to rub Mrs. Calder with a mixture of alcohol and ether. Instead of using the electric light, it is alleged the nurse lighted a candle, and the stuff caught fire after it had been spread over the patient's body. Before the flames could be extinguished the patient had received mortal burns, and died four days later.

Section of the Sanitary Code is Constitutional.—The Court of Appeals has decided that Section 66 of the Sanitary Code, providing that "no milk shall be received, held, kept, offered for sale, or delivered in the city of New York without a permit in writing from the Board of Health and subject to the conditions thereof," does not violate either the State Constitution or the Fourteenth Amendment to the Federal Constitution. A violation of the Sanitary Code is made a misdemeanor, and to punish a person who did not obtain the required permit, it was argued, would be in contravention of the provisions of the State Constitution insuring equal rights and privileges to all, and that section of the Fourteenth Amendment declaring that "no State shall make or enforce any law which shall abridge the privileges or immunities of citizens of the United States; nor shall any State deprive any person of life, liberty or property without due process of law, nor deny to any person within its jurisdiction the equal protection of the laws." Judge Bartlett points out that provisions relating to the vending of food in the interests of the public health have been a part of the statute law for a century or more. The courts have regarded the principle involved, he said, as a proper and necessary municipal regulation, sanctioned by the police power.

PHILADELPHIA, PENNSYLVANIA, ETC.

Roof-garden Hospital.—The roof-garden of the Philadelphia Hospital has been dedicated to the use of the tuberculous. The roof-garden is 26 by 186 feet on the top of the men's medical ward, and cots for 100 tuberculous have been placed there in the cool air.

Typhoid at Pittsburg.—One hundred and twelve new cases of typhoid fever in six days was the record for last week. Health officials express the belief that the record of the last six days is but a starter of what is coming during the remainder of the summer, and they are a unit in attributing the typhoid to the impure water supply.

Arresting the Spitters.—A vigorous campaign is being waged in Philadelphia in support of the ordinance which has recently become effective and which prohibits, under penalty of fine or imprisonment, or both, spitting on the sidewalks of the city. A number of arrests have been made recently and the offenders haled before the magistrates and fined for the offense.

Must Report Smallpox Cases.—The first meeting of the new Board of Health of Philadelphia, recently appointed by Director Martin, was recently held, when several physicians who have failed to report cases of smallpox were asked to explain their dereliction. A penalty of $50 may be imposed upon a physician who fails to report to the health authorities a case of contagious disease.

Extensive Skin-grafting.—At Plainfield, N. J., a man was so extensively burned that physicians in charge have placed over 3,000 pieces of epidermis upon his body as skin-grafts to aid in his recovery. It is stated that brother Masons and business associates to the number of 100 have contributed pieces of skin to be grafted upon their unfortunate comrade. The man will recover without serious deformity in spite of the extensive destruction of skin.

Atlantic City and the Bathers.—The City Council of Atlantic City has given the Mayor the right to establish a line marked off by buoys, boats, or lines, beyond which bathers shall not be permitted to go under penalty of arrest, or a fine of $100, or imprisonment for 90 days. The police and lifeguards are given power to arrest, without warrant, any person who shall violate the law. This was deemed necessary on account of the increasing number of people who go far out beyond the ordinary lines of safety, and among which a number of lives have been lost.

Red-light Treatment of Smallpox.—It is stated that experiments have been made in the red-light treatment of smallpox at the Municipal Hospital, and it was found that the red light was neither beneficial nor harmful to the patient. Similar experience is quoted as coming from the Municipal Hospital in Indianapolis. From these and other fruitless experiments it is claimed, by some at least, that no good is accomplished by treating smallpox in this manner, pustulation is not prevented, and the disease runs its usual course with practically the same rate of mortality.

Baby Directory and Lectures to Mothers.—The officers of the Board of Health of Philadelphia have recently begun a work among young babies and their mothers which it is hoped will reduce the infant mortality of the city very materially. A house-to-house visitation is to be made and complete city directory made of all children under 1 year of age. A complete history of the child is to be taken and records made therefrom to be used by the Board of Health. Tracts are to be distributed relative to the proper care of infants and children, and a free course of lectures is to be delivered in various sections of the city to mothers, by a volunteer corps of physicians. The step is progressive and enlightened, and the medical profession is in accord with the officers of the board of health in their efforts to remove the odium of a large infant mortality from the city.

SOUTHERN STATES.

Special Hospital for the Tuberculous in the District of Columbia Suggested.—Dr. George M. Sternberg, chairman of the subcommittee on the care and treatment of the tuberculous, has written to the District Commissioners urging the importance of securing a special hospital for the treatment of persons suffering from tuberculosis. He says the mortality from this disease in the District is excessive, and no doubt there are many infected houses, especially among the colored population, which contributes a large annual quota to the mortality rate from this disease. It is impossible to prevent houses from becoming infected so long as patients with pulmonary tuberculosis are allowed to remain in their own homes. The removal of such cases to a properly located and well-regulated hospital would be in the interests of the sick and would no doubt go far toward preventing the propagation of this infectious disease. I urge that you will make estimates for the construction of a hospital for the tuberculous upon the site selected for a municipal hospital.

"Race Murder."—The Health Department of the District of Columbia has issued a bulletin which in part is as follows: "Much has been heard recently of race suicide. Alongside of that term has recently been placed another, 'race murder,' coined to describe the so prevalent destruction of human offspring through the unwillingness of mothers to nurse their infants. During the week ended July 18, 1903, somewhat more than one-fifth of all deaths occurred among children less than two years of age from diarrheal diseases alone. Of these children only one was breast-fed. Four were fed partly at the breast and partly on cows' milk, four on cows' milk alone, and thirteen on condensed milk. The largest part of the mortality was, therefore, associated with the use of condensed milk. In the cases in which the use of fresh cows' milk preceded the development of diarrheal diseases the milk used came from various sources and was treated in various ways; in some cases used in the natural state, in others diluted. In some instances it was boiled, and in one instance an attempt was made to pasteurize it."

WESTERN STATES.

Plagued by Diphtheria.—The residents of certain portions of Chicago have made appeal to the Board of Health to investigate the cause of diphtheria. In several instances it is reported that diphtheria is the cause of death, hence the appeal.

Announcement.—The Missouri Valley Medical Society will hold its annual meeting in Omaha, September 17. A symposium on skin diseases will be a feature of the program. Those desiring to contribute papers should send their titles to the secretary not later than August 10, so says Secretary Chas. Wood Fassett.

Recovers from Glanders.—A girl, assistant in the laboratory of the State Board of Health at St. Paul, Minn., is recovering from an attack of glanders. She became infected more than a year ago. Three cases of glanders among human beings have occurred recently in this State. Two brothers died from the effects of the disease, having taken it from horses owned by one of them. It was the germs from these which inoculated the girl.

The Bulletin of the Chicago Health Department for the week ended July 18 says: "Only 57 cases of diphtheria, measles, scarlet fever, smallpox, etc., were reported during the week. This is the lowest number since September, 1901. In the corresponding week last year there were more than twice as many —119—and the 34 cases of diphtheria and 14 cases of scarlet fever reported this week are one-third and one-half less than the respective number reported during the previous week. Measles, which has been epidemic for many months, is fast disappearing, as also is smallpox, the solitary reported case of which was that of an unvaccinated infant of 6 months."

No Fear from Immigration.—The Bulletin of the Chicago Health Department says: "Chicago, as the objective point of a large proportion of the immigrants to this country, is necessarily interested in the question raised by the Commissioner-General of Immigration, F. P. Sargent, as to the effect of the present 'flood' on the general welfare. So far as the public health is concerned, and especially the health of this city, the department sees no ground for alarm. We have absorbed much larger numbers of the foreign born, in proportion to population, than the 857,000 of the fiscal year just ended, not only without any disastrous effect on health, but with a steadily diminishing deathrate."

Health Conditions in Indiana for June.—The monthly bulletin of the Indiana State Board of Health for June says: Better health existed in June than in the preceding month, but no improvement appears in comparison with June of 1902. Rheumatism was the most prevalent disease, as it was also in the two preceding months. Tonsillitis and bronchitis were, respectively, second and third in prevalence. Typhoid fever was fourth, having moved up from seventh place the preceding month. Smallpox was sixth, having fallen from third place. Diarrhea, as was to be expected, increased in June over May, yet dysentery and inflammation of the bowels show no increase. Diphtheria, pneumonia, and influenza were very much less in June than in May.

The Ravages of Plague.—From an exchange we quote the following: Some astonishing facts as to the ravages of bubonic plague, not only in the world at large, but in the United States domain are disclosed in the latest statistical reports of the Marine-Hospital Service. These statistics, just made public, show more than 31,000 known cases in the world since the beginning of May, and there are many more than that number not reported. In the United States alone there have been 94 cases and 90 deaths from the plague since March 1900, when the first case was officially reported. All of these have been at San Francisco. There were 22 cases at San Francisco and 22 deaths the calendar year 1900. During 1901 there were 29 cases, and only 4 of them survived. During 1902, 41 cases, all fatal, were reported at San Francisco. So far the calendar year 1903 has scored only two plague victims at San Francisco. One of these cases developed March 17 and the other on June 5. Both of them proved fatal.

FOREIGN NEWS AND NOTES

GENERAL.

Announcement.—The Sixth International Congress of Psychology, which was to have met in Rome in the autumn of 1904, will be postponed to the spring of 1905 to avoid conflict with the Sixth International Congress of Physiology which meets at Brussels in the autumn of 1904.

Plague Quarantine Enforced.—At Guayaquil, Ecuador, the Board of Health has refused admittance to the British steamer, "Cumbal," Captain Barry, from New York, April 30, because she left Valparaiso after June 12. On account of bubonic plague at Valparaiso and other ports of Chile, Ecuador proclaimed a quarantine against vessels leaving Valparaiso and other Chilean ports after June 12.

Memorial to Pasteur.—A memorial to Pasteur was unveiled yesterday at the village of Marnes la Coquette, near Villeneuve l'Etang, where the great chemist died, and where he for a long time conducted his researches in connection with his cure for hydrophobia.

Tetotalism Aided.—The following news is quoted as coming from London: The cause of total abstinence from strong drink has received two powerful impulses recently. The first was the death-blow dealt by King Edward to one of the most insidious drinking customs in the army and navy, when he said that his health "can be drunk just as well in water as in wine." It has been the custom, both in the army and navy, to insist that every officer, no matter how young, and even if he never drinks otherwise, shall toast the King in a glass of port wine. Tetotalism, therefore, has been virtually impossible in either service. The second was Prof. Mazzoni's remark attributing Pope Leo XIII's extraordinary tenacity of life to a healthy heart unimpaired by alcohol and strengthened by regular, simple habits.

GREAT BRITAIN.

Progress Made by Women Physicians.—The recently issued annual report of the School of Medicine for Women, the London *Telegraph* notes, records the longest list ever issued of public appointments conferred upon female practitioners, of whom there are said to be 90 in London alone. In addition to those made at the Royal Free Hospital—the first general hospital to appoint women to its medical staff—and the new Hospital for Women, which is entirely officered by the sex, there are a number of noteworthy positions to which women have been appointed for the first time.—[*City and State.*]

Temperance Reform in England.—Those engaged in social settlements in London claim that drunkenness is such an important menace to the welfare of the indigent population with which they deal that they have advocated strongly that the municipality take some action in the matter. Accordingly a law has been made which provides that any person who is arrested for persistent drunkenness shall be recorded in the official registers as an "habitual," together with a general description of the person and photographs of full face and profile. This forms an identification index. Duplicate cards of this character are distributed to the liquor sellers of the regions which the person thus recorded frequents or may reach, and the vendors are warned not to sell again to him. The statute prescribes a punishment by fine or imprisonment, or both, for both the drunkard who buys and the vendor who sells liquor to him. It matters not if the recorded person does not get drunk when thus on parole. The mere purchasing of liquor suffices to render him amenable to the law for a more severe punishment. The saloon keeper is likely to suffer heavily in costs and even to forfeit his license.

CONTINENTAL EUROPE.

Mortality in Berlin.—The deathrate of Berlin for the week ended June 13 was lower than it has been since the beginning of August last year, amounting, calculated on the year, to 12.8 per 1,000 of the population (against 16.6 in the foregoing week), and being considerably lower than for the corresponding week of last year, in which it amounted to 14.5. Of the German large towns only the following showed more favorable figures than Berlin, namely, Dortmund, Charlottenburg (with 10.2), and Schöneberg (with 9.7 per 1,000). The deathrate of London was a little lower than that of Berlin.—[*Public Health Reports.*]

Plague Infection from Laboratory Work in Berlin.—The report of the U. S. Public Health and Marine-Hospital Service says the two cases of plague formed the subject of an animated discussion at the recent meeting of the Berlin Medical Society. Professor Dönitz, who, in the absence of Professor Robert Koch in Africa, is the director of the Berlin Institute for Infectious Diseases, gave an authentic account of all the incidents connected with the death of Dr. Milan Sachs and the sickness of the hospital attendant, Marggraf. The hospital attendant, Marggraf, continues to make favorable progress. Special interest was manifested in the remarks of the lecturer regarding cases of laboratory infection. Such infection has taken place not only with plague bacilli, but also with cholera and typhoid bacilli. For example, the son-in-law of Robert Koch, Doctor Pfuhl, was infected with cholera in the Berlin Institute, and Professor Marx was infected in this manner with typhoid. The question is now, is an infection with plague more to be feared than an infection with cholera or typhus? Herr Dönitz denied this emphatically; for, although during the last four years a large number of medical men had been occupied in the Berlin Institute with plague experiments, and in spite of the large number of visitors to the plague department, no case of infection had hitherto occurred.

OBITUARIES.

Donald Maclean, at Detroit, Mich., July 24, aged 64. He was graduated from the Edinburgh University in 1862. He practised medicine in Kingston, Ont., Can., until 1870, with the exception of the years 1863 and 1864, when he was surgeon in the United States Army. In 1870 he was elected professor of surgery at the University of Michigan, and kept the chair until 1889. For a number of years he was chief surgeon of the Michigan Central and Grand Trunk Railroads, and in 1894 was president of the American Medical Association.

Edward B. Armstrong, of the United States Navy, in New York City, July 16, aged 30. He was appointed assistant surgeon in the Navy in 1898, and during the Spanish-American war served on the "Scorpion," and at its close was assigned to duty in the Philippines.

Joseph Ferguson, of Philadelphia, July 26, aged 63. He was a graduate of the medical department of the University of Pennsylvania, Philadelphia. In 1882 he was made medical director of the Pennsylvania Division of the Grand Army of the Republic.

James N. Dickson, of Poquonock, Conn., died at Mercy Hospital, Springfield Mass., July 15, aged 60. He was graduated from the Berkshire Medical College in 1866, and practised successively in Sheffield and Huntingdon, Mass., and since 1883 in Poquonock.

Nathan F. Brown, in Detroit, Mich., July 26, aged 66. He was graduated from the Detroit Medical College in 1870, and was a member of the Michigan State Medical Society and of the American Medical Association.

Bernard S. Simpson, in St. Louis, Mo., July 1, aged 30. He was graduated from the St. Louis Medical College in 1897, and was professor of physical diagnosis in the St. Louis College of Physicians and Surgeons.

John Evans Walker, of Columbus, Ga., July 24. He was graduated from the New York University, New York City, in 1886, and at one time was the immigration medical inspector at Ellis Island, New York.

Richard W. S. Martin, in Henning, Tenn., July 16, aged 63. He was graduated from the Medical College of Virginia, Richmond, in 1861, and was a member of the Lauderdale County Medical Society.

William C. Bailey, at Adams Center, N. Y., July 6, aged 77. He was graduated from the Berkshire Medical College, Pittsfield, Mass., in 1844, and served as assistant surgeon in the Civil war.

George R. Wells, at Bethany, N. Y., July 10, aged 41. He was graduated from the Rush Medical College, Chicago, in 1886, and was a member of the American Medical Association.

James A. Perkins, of Chestertown, Md., died at Germantown, Pennsylvania, July 17, aged 71. He was graduated from the University of Maryland, Baltimore, in 1854.

Herman Nauman, in Milwaukee, Wis., July 4, aged 79. He was graduated from the University of Jena, Austria, in 1851. He served as surgeon during the Civil war.

Frank W. Morley, in Sandusky, Ohio, July 4, aged 42. He was graduated from the Homeopathic Medical Hospital College, Cleveland, Ohio, in 1884.

Arthur H. Barr, of Starkville, Miss., died at San Angelo, Texas, July 6. He was graduated from the Tulane University, New Orleans, in 1900.

Willis D. Hamilton, in Kennett Square, Pa., July 3, aged 36. He was graduated from the University of Pennsylvania, Philadelphia, in 1890.

Lewis A. Falligant, in Savanna, Ga., July 5, aged 66. He was graduated from the Hahnemann Medical College, Philadelphia, in 1858.

George C. Crawford, of Brooklyn, N. Y., July 13, aged 35. He was graduated from the Long Island College Hospital, in Brooklyn, in 1894.

Lawrence Stewart Edwards, of Patchogue, Long Island, July 25, aged 48. He was graduated from the Bellevue Medical College in 1876.

C. W. Hinchman, in Golden City, Mo., July 7, aged 72. He was graduated from the American Medical College, St. Louis, Mo., in 1885.

Marcella C. Baldwin, in Rockford, Ill., July 7, aged 45. She was graduated from the Women's Medical College, Chicago, in 1882.

G. P. Jones, in Princess Anne, Md., July 6, aged 61. He was graduated from the Jefferson Medical College, Philadelphia, in 1869.

Frank Buys, in Painesville, Ohio, July 2. He was graduated from the Western Reserve University, Cleveland, Ohio, in 1885.

Samuel H. Bowen, in Corinne, S. C., July 4. He was graduated from the Barnes' Medical College, St. Louis, in 1897.

Emma D. Yates, in Ander, Texas, June 12. She was graduated from the Fort Worth (Texas) University, in 1899.

CLINICAL NOTES AND CORRESPONDENCE

[Communications are invited for this Department. The Editor is not responsible for the views advanced by any contributor.]

SOME UNUSUAL TYPES OF ORTHOPEDIC CASES.*

1. Sciatic Scoliosis. 2. Spondylitis Deformans. 3. Scoliosis after Empyema. 4. Flexion of Thighs following Infantile Paralysis. 5. Scoliosis.

BY

PRESCOTT LEBRETON, M.D.,

of Buffalo, N. Y.

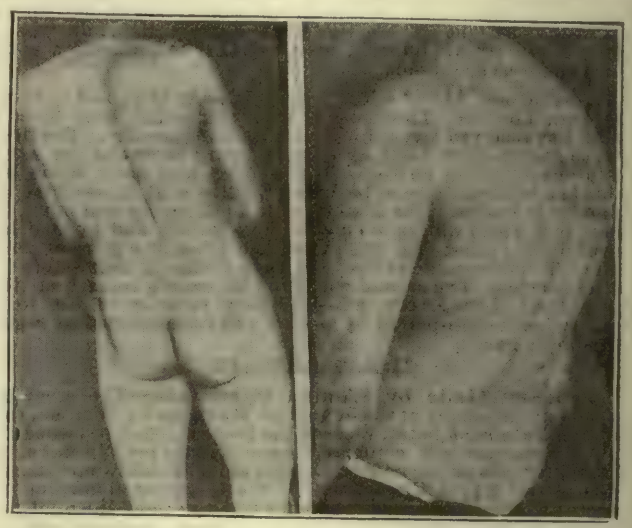
Assistant Orthopedic Surgeon Children's Hospital and Erie County Hospital, Buffalo, N. Y.

CASE I.—*Chronic sciatica, traumatic in origin, causing a very marked lateral curvature.* G. W., a male, aged 35, a carpenter, and car-trimmer, was examined May 10, 1902. This patient had always had good health until his sixteenth year, when, for a space of two months, he suffered from much pain in his joints, and his feet were swollen at night. No physician was called and recovery followed without medical treatment. His present illness dated from an injury to his back received in March, 1901, 14 months previously. While he was at work trimming the interior of a car, which stood stationary upon the track, an engine and another car were backed rather violently and without warning against the car in which he stood. The shock threw him backward and his lower spine struck against a seat. He persisted at work the rest of the day and for several months thereafter in spite of the fact that he continued to have pain across the lumbar spine. Nine months later this pain extended to the right buttock and increased. He noticed that he was bending to the left and throwing his weight on the left leg. The pain and deformity grew worse and he was compelled to stop work. He had consulted five physicians the majority of whom stated that he had tuberculosis of the bone. He had made for himself a leather jacket which, he thought, gave him some relief.

Questioning elicited the fact that his pain was not constantly present, but was produced by certain movements, such as attempting to bend over, to stand upright, or to turn in bed at night. He could ride his bicycle and could sit all day in an easy chair in comfort. With the pelvis fixed, the thigh could be passively moved in all directions without muscular spasm or distress, thus eliminating the hip-joint as the origin of the trouble. Lateral pressure over both great trochanters caused no pain. Local pressure over the sacroiliac joint externally and local pressure toward the same joint with the examining finger in the rectum determined no point of tenderness. These facts warranted the conclusion that the sacroiliac joint was not involved. Pressure upon the sciatic nerve, however, as it emerged from the pelvis, caused the characteristic pain from which he suffered. Flexion of the thigh, also, with the leg kept extended, as in testing for Kernig's sign, caused the same pain long before an angle of 90° was reached. The opposite thigh could be readily flexed to the normal limit. The diagnosis, therefore, was chronic sciatica, based upon these three symptoms of pain, a tender point over the nerve, and the distress caused by stretching the nerve. No loss of power, no atrophy, and no blunted sensation were present.

The physical examination was negative. The urine was acid, 1,022. A tendency to excessive sweating was apparent. A photograph of the marked scoliosis was taken. The man said that he felt well, that his appetite and digestion were excellent, and that his weight had not diminished. The treatment advised was a fly blister over the tender point, to be followed by applications of the ointment of the red mercury iodid and complete rest to the limb. On June 9, one month later, no improvement was noted and slight tenderness over the roots of the sciatic nerve in the lumbar region was found. The treatment was continued with the application of the sparks of static electricity every second day. On July 3 as no marked change had occurred and as the urine was hyperacid and 1,025 it was decided to treat the condition as a rheumatic manifestation following the traumatism to the nerve. Sodium salicylate .65 gram (10 grains) three times a day, and an alkaline powder were ordered and the static electricity was continued. Immediate improvement followed and in ten days' time the pain had practically disappeared, becoming evident only when he attempted to stand upright. For the first time in months his sleep was undisturbed. The lumbar region was free from tenderness. After returning from a trip to the country in September, during which he had continued to take salicylate and alkali, it was found that the local signs had disappeared and that the lateral curvature was very slight. Stretching the spine in the Sayre's suspension apparatus caused no discomfort. Considerable acidity of the urine and immoderate sweating were still present. He returned to work and has been entirely well and free from deformity since November, 1902, although he continues to take salicylates at intervals.

This case is interesting, primarily because of the liability to err in diagnosis. The condition following the injury was not accompanied by all of the usual symptoms of sciatica and one unusual feature, the deformity, was very marked. This curvature was due to the effort of the patient to relieve the affected side from the weight of the trunk and to relax the tension on the sciatic nerve and its roots by flexing the trunk, abducting the right leg, and inclining the body to the left. A similar tendency often accompanies sacroiliac disease. It is of interest to note that the last symptom to disappear was the pain produced by the effort to stand upright. Charcot was the first to recognize the relationship between sciatica and lateral curvature, and Babinski[1] in 1888 reported the first series of cases, five in number. Brissaud[2] in 1890 brought out the fact that although the



Case I.—Scoliosis due to sciatica. Case II.—Spondylitis deformans.

inclination of the trunk is usually toward the sound side it may be toward the diseased side, especially if the neuritis is widespread, involving other nerves of the sacral plexus. Such a scoliosis may become permanent if the sciatica persists a long time.

CASE II.—*Spondylitis deformans, limited to the dorsal vertebras.* This form of rheumatoid arthritis, which is called spondylitis deformans, when limited to the spine to the exclusion of other joints, is well exemplified in the following case, the diagnosis being confirmed by Drs. Park, Cary, Putnam, and Kraus. On March 21, 1901, at the request of Dr. J. W. Putnam, I visited this woman. She was then 67 years old, short, round-shouldered, and aged in appearance. The family history was unimportant. She had been married at 18, had had nine children, and had overworked all her life in caring for her home and in doing daily washing. She had had malaria at the age of 35, with no recurring attacks. Her present illness began two months previously with a typical attack of influenza. This was followed by a severe continuous pain in the right shoulder and arm. Night after night she had paced back and forth in her room, unable to find relief from this pain, which was burning, tearing and agonizing in character. Examination of the arm showed moderate atrophy, considerable weakness of the muscles, delayed and imperfect sensation, and many tender points over the circumflex, ulnar, median and musculospiral nerves. A diagnosis of neuritis caused by influenza was made and fly blisters, sodium salicylate, an alkali and morphin were ordered, with rest and heat for the arm. Improvement was immediate, and after a period of three weeks the woman was not again visited. Four months later she appeared at the office, stating that her pain had returned to the same arm, but was sharp and shooting in character. On examination it was found that the tender points over the nerves, the anesthesia and the weakness were no longer evident. There was some general sensitiveness over the shoulder and upper arm. As the condition suggested a new cause the spine was examined for the first time and a peculiar condition of affairs was manifested. Kyphosis in the dorsal region with a slight scoliosis existed, the convexity of the lateral curvature being to the right in the dorsal region. Movement of the arms did not effect a change in the contour of the spine. She was stretched up in the Sayre's apparatus and this part of her spine, from the first to the tenth dorsal vertebra, was found to be absolutely rigid, no motion whatever taking place between the vertebras. It was as if the spine had been welded together. In testing her chest for

*Read at a meeting of the Women's Medical Club, Buffalo, N. Y., March 2, 1903.

expansion the tape measure showed not one iota of change from full inspiration to full expiration. In other words, the ribs were as motionless as the vertebras and her breathing was diaphragmatic. The diagnosis was then evident, *i. e.*, rheumatoid arthritis, limited to the spine, the symptoms being due to pressure on the nerve-roots. Except for a lithemic tendency the woman was in good general health. Various measures were tried in succession to relieve her pains. Rest, the support of a leather jacket, stretching the spine in the Sayre's apparatus, the cautery, hot baths, sodium salicylate, alkalies, aconitia, potassium iodid and tonics were used separately and in combination, and of these hot baths alone gave some temporary relief. The pains grew worse and extended to the left shoulder and left arm. Motor weakness and diminished sensation in the arms followed. She was sent to the Buffalo General Hospital and given rest in bed, nutritious food and tonics. The pains extended farther to the chest and upper abdomen, and morphin in large quantities had to be used. Finally, obstinate vomiting began, apparently due to the same cause, and she died in an emaciated, exhausted condition. No autopsy could be obtained.

Probably the best article of recent years on this subject is that of Goldthwait,[3] in 1899, who collected from the literature about 35 cases previously reported, and detailed the histories of 10 cases of his own. The condition is undoubtedly often overlooked. Bland Sutton reported finding the results of the disease in a mummy taken from the pyramids, and it is known to have affected oxen, horses, and cats. The pathologic condition is distinct from the usual form of rheumatoid arthritis in that it is an osteoarthritis. Proliferation of the edges of the articular cartilages and ossification of the same is followed by extension of this bony formation in the ligaments. Pain in the back, muscle-spasm and rigidity are the early symptoms, but it is not until the bony deposits press upon the nerve-roots or the spinal cord that very active symptoms appear. Such pressure is regularly followed by neuralgic pains or paraplegia, just as in Pott's disease tuberculous infiltration causes referred symptoms. When the active stage of the inflammation has subsided shrinkage of the nonosseous structures usually lessens the pressure and the pains abate. In the case cited such improvement did not occur. It is possible that in the local application of hot air we have a therapeutic agent of some value, as shown in a case reported by Potts.[4]

CASE III.—*Extreme scoliosis and thoracic deformity due to chronic empyema in early childhood.* Referred by Dr. Ray Johnson and Dr. J. W. Putnam. This pale, delicate girl, aged 20, is an illustration of the fact that one can live with but one active lung. Her deformity, even when she was dressed and padded liberally, was striking. At the age of 3 she had pneumonia. During convalescence her temperature rose and she was desperately ill for some weeks. The attending physician did not make a diagnosis until pus had burrowed its way through the chest wall and was discharged through several sinuses near the sternum and posteriorly near the scapula. The purulent discharge continued for 20 months, during which time the lung and chest wall collapsed on the right side and the ribs projected posteriorly on the left side. Growth and development were impeded. Anemia and general ill health had naturally ensued. Her chest expansion was one inch. She had worn no support and had had no treatment. I made her a leather jacket and advised respiratory exercises and the administration of iron. The jacket afforded her considerable relief, enabling her to walk farther than before and to work harder at her occupation of dressmaking. A letter from her home in Pennsylvania five months after beginning treatment stated that her jacket was still very satisfactory but that her anemia was not improved.

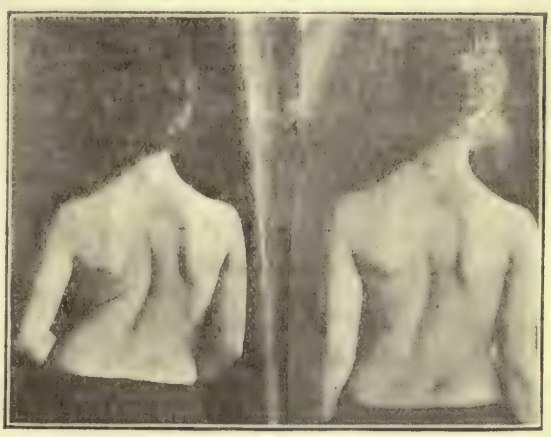


Case III.—Scoliosis after empyema.

CASE IV.—*Anterior poliomyelitis, severe in type, followed by flexion of both thighs.* Male, aged 6, referred by Dr. Matzinger, May 7, 1902. This child, when nearly two years old, suffered from a very severe attack of anterior poliomyelitis, accompanied at the onset by such severe peripheral pains that at first it was supposed to be acute osteomyelitis with multiple foci. Later the paralysis was found to affect both lower extremities throughout. The usual gradual improvement followed and the child was given the benefit of careful nursing and prolonged treatments of electricity and massage. Four years after the onset of the paralysis the condition was as follows: A well-marked contraction of the muscles about the anterior superior spinous process of each ilium, causing considerable flexion of the thighs. On attempting to extend the thighs the lumbar spine bowed forward sharply and the contracted muscles became tense and hard. The glutei muscles on each side were atrophied and did not appear to possess any voluntary power. The quadriceps extensor of each thigh was markedly atrophied. There was toe-drop on each side, and well-developed knock-knee and flat-foot on the left side. A brace with a pelvic girdle had been worn, correcting the flat-foot and the knock-knee. Unequal atrophy of both lower extremities, coldness, and poor circulation were present. The knee-jerks were absent. The reaction of degeneration to the electric current was marked. The child could get about rapidly on crutches but was unable to stand upright owing to the flexion of the thighs. The indication was plain, *i. e.*, to divide the contractured muscles, release the thighs, and allow the overstretched glutei muscles to regain what little power might remain in them. Accordingly, on May 13, 1902, by open tenotomy, I cut the sartorius, rectus femoris, and tensor vagina femoris on each side and numerous bands of contractured fascia. Full extension was found possible without division of the iliopsoas muscles. A double plaster-of-paris spica was applied. Two weeks later, after complete union of the wounds, the plaster was replaced by a double leather spica made from a plaster cast and extending from the ribs to the knees, as seen in the photograph. These leather trousers were worn at first all the time, later at night only. The child grew to like them and preferred to sleep in them. Massage and exercises were continued daily as before. The family moved to Chicago, and on October 13, 1902, his father wrote as follows: "I want especially to tell you how pleased we are with the improvement in Gordon. He is able to stand quite erect, and can balance himself for quite a few moments without holding on to any support. He, of course, wears the brace to stiffen the left leg. After getting his balance he can even take a few hitching steps at times without falling." Very probably the glutei, as is often the case with overstretched and palsied muscles, had regained some little power when allowed to contract. Tendon transplantation, useful in similar conditions at the ankle, knee, and wrist, has not as yet been applied successfully to the muscles at the hip-



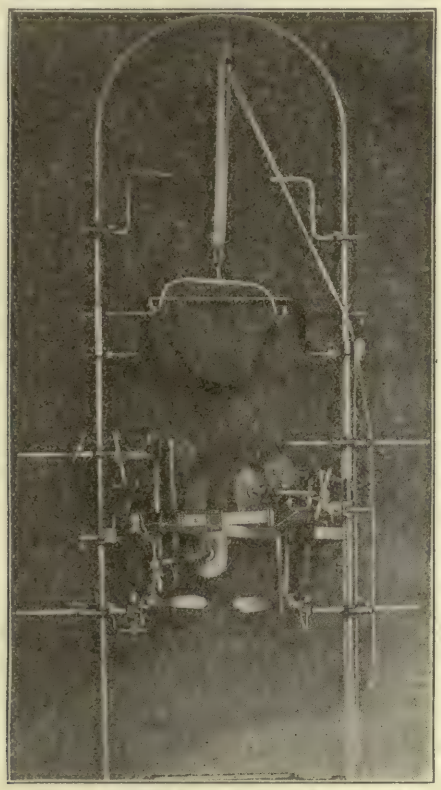
Case IV.—Flexion of thighs following infantile paralysis.



Case V.—Lateral curvature of the spine before treatment and two months after beginning treatment.

joint. The problem for the future will be to provide some suitable braces by means of which the child can walk without the aid of crutches.

CASE V.—*Lateral curvature of the spine.* A girl, aged 14, was referred by Dr. J. E. Silliman, of Erie, Pa. The only unusual feature of this case lay in the rapid and satisfactory improvement made while under treatment. The photographs are of service in showing this change. Habitual bad postures and shortness of the right leg had aided in producing the distortion. The girl is a natural contortionist, being able to place her arms and legs in almost any position, to kick high above her head and to bend backward from a standing posture until her head touches the floor. Treatment was instituted October 13, 1902, and two months later she returned home, but will continue under observation during adolescence. Her treatment



Screw pressure machine used for Case V.

consisted of exercises, which were performed under direct supervision; daily correction in the screw pressure machine; thickening of the sole of the right shoe one-half inch; and the wearing for a portion of each day a corrective leather jacket, made over a remodelled cast of the trunk of the patient. The effect of the machine treatment was to lessen the rigidity of the distorted spine. The corrective jacket continued to suggest the proper attitude. The high shoe raised the sloping pelvis to a horizontal line, and the exercises taught her to hold habitually the improved position.

REFERENCES.

[1] Babinski, Archives de Neurologie, Vol. xv, No. 43.
[2] Brissaud, Archives de Neurologie, Vol. xix, No. 55.
[3] Goldthwait, Boston Medical and Surgical Journal, August 10, 1899.
[4] Potts, Therapeutic Gazette, June 15, 1902.

CYST OF THE CEREBELLUM.

BY

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of San Francisco, Cal.

J. J. R., aged 38, began to develop an unsteadiness of gait about seven years ago. He gave no history of specific or any other venereal disease. The gait symptom began to be noticeable to others about four or five years ago, and since then it has increased. About the same time the patient began to develop most intractable attacks of headache, situated principally in the occiput and extending through to the forehead. The physicians applied blisters to the occipital region, and he had frequently to resort to morphin for relief. About four years ago the symptoms were so persistent that he went to the mountains for relief, and after a rest of about a month returned much improved. After this he worked in the harvest field and on the farm. About six or eight months ago the symptoms again increased, and his vision began to fail. He had attacks of vomiting accompanying the headaches. About this time he had a retention of urine, for which the physician advised self catheterization, but probably as a result of lack of asepsis, a violent cystitis developed. He did not sterilize the catheter in any way, and used unsterile oil as a lubricant.

The patient came under my care May 3, 1903, and at this time I took the foregoing history. He complained of all the symptoms previously described; viz., inability to walk without the aid of a cane. Violent occipital headache accompanied by vomiting. Dimness of vision. Dysuria was a very painful symptom, a few drops of urine being passed every two or three minutes. The urine contained pus in large quantities and mucus and bladder epithelia. During intravesical irrigations it was very noticeable that when pain was occasioned by the treatment, very marked and violent trembling of the whole body was produced. The various reflexes of the body were normal.

I sent the patient to Dr. Louis C. Deane for an examination of the eyes, as his vision was failing very rapidly. Dr. Deane reported the presence of choked discs with small hemorrhages in the immediate vicinity. VR was 20/30; VL was 20/40. Pupils reacted normally to light and accommodation. He suggested that a brain tumor probably existed, to which opinion I was also agreed. We concluded that it was at the base around the circle of Willis. Judging that it was also probably a gumma I administered potassium iodid, beginning with 0.65 gms. (10 grains) three times daily, and increasing to 3 gms. (45 grains) three times daily, when marked symptoms of iodism were produced. The vision improved very markedly under the iodid. Intravesical irrigations of potassium permanganate also caused great improvement in the bladder. The headaches were better at first, but later became as bad as ever. On May 15, 1903, after a very severe headache, he died.

The autopsy was performed by myself that day. On removing the brain, a cyst about the size of a small orange was found in the left side of the cerebellum. It was very close to the surface, and at one spot a small hemorrhagic area suggested the possibility of rupture preceding death. The fluid in the cyst



A, cyst in the left half of the cerebellum; B, fissure of Sylvius; C, longitudinal fissure; D, optic commissure; E, pons; F, right half of cerebellum.

was of a thin serosanguineous character. Practically the whole of the left side of the cerebellum was occupied by the cyst cavity. As the fluid ran out during the autopsy, none could be saved for examination.

By reference to the "American Textbook of Physiology," we learn that the cerebellum is not concerned with psychic functions. The removal of it does not cause permanently either paralysis or anesthesia, but the immediate effects of an extensive injury are in (dogs and monkeys) a paresis and analgesia as well as anesthesia mainly of the hind legs, and in consequence a high degree of incoordination in locomotion. In walking the dog wheels toward the side opposite the lesion and tends to fall toward the side of the lesion.

The permanent condition of the muscles after operation is expressed by atonia or lack of tonus in the resting muscles; an asthenia or loss of strength, which was measured by Luciani,

and was most marked in the hind leg; an astasia or lack of steadiness in the muscles during action, and finally an ataxia or a want of orderly sequence in the contractions of the muscle groups. At the same time there is no demonstrable permanent disturbance of tactile or muscular sensibility.

The cause of the lesion must of course be problematic. There were no other demonstrable lesions of the nervous system. He gave no history of inherited or acquired syphilis. His children were all strong and robust. The most probable explanation seems to me to be embolism of one of the cerebellar arteries, with consequent softening.

ANEURYSM OF THE COMMON CAROTID ARTERY.

BY

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of Des Moines, Ia.

E. H., a colored bachelor, aged 43; occupation, coal miner; entered my service at Mercy Hospital April 30, 1903. He had syphilis six years ago. Family history is negative. A small swelling appeared about one year ago upon the right side of the neck; it remained stationary in size for several months. Six months prior to his coming under my observation the tumor began to enlarge rapidly, and became so painful that the patient was obliged to cease work. Upon his entering the hospital the pain was so intense and his general condition apparently so grave that the house physician summoned me at once. A large firm mass upon the right side of the neck presented itself, and excruciating pain was complained of, principally in the right shoulder and radiating down the arm. The right arm was totally paralyzed. The head was inclined to the left side, and the trachea and thyroid cartilages were displaced by the tumor. The voice was husky and scarcely audible. This was probably



May 2, 1903.

due to pressure upon the recurrent laryngeal nerve. Pulsation was readily distinguished upon placing the hand over the mass and a beautiful bruit was heard over every portion of the swelling. The aneurysm appeared to have sprung from the common carotid artery. The lower border of the mass overlapped the inner third of the clavicle and upper border of the sternum. On May 2 operation was decided upon, in the hope of being able to tie off and occlude the vessels communicating with the aneurysm and do a radical operation upon the sac. In order to ligate below the sac one of two procedures had to be followed. Either the sac must be detached from its adhesion and lifted up, or else the clavicle manubrium of the sternum, and, perhaps, part of the first rib resected. The latter heroic measure was scarcely thought advisable in any event, and accordingly an incision 9 cm. in length was made along the long axis of the tumor and joining the middle of an incision 10 cm. in length along the lower border of the clavicle and upper border of the sternum. The sternocleidomastoid muscle was severed from its bony attachments below, and the flaps made by the incisions were dissected away from the sac. The adhesions were so dense that this work required much time and care. After this was accomplished, however, the sac was as immovable as before. The growth was now found to have extended downward behind the clavicle and sternum, and it was impossible to force the finger between the soft structures and the bones. Behind and internally the sac was firmly adherent to the cervical vertebras. I was thus obliged to desist from any further attempt at loosening the sac and the patient's condition at this time forbade any attempt at resection of the bones alluded to. With but little hope of accomplishing anything from a curative



Six weeks after operation, June 14.

standpoint the common carotid artery was ligated above the sac and the wounds closed. Owing to the fact that all of the landmarks were displaced and no pulsation in the artery being perceptible, some difficulty was encountered in locating the vessel. In passing through a large sac the pulse wave is frequently entirely lost. Since the operation the patient has been comparatively free from pain and his voice has somewhat improved. The paralysis of the arm remains unchanged, however, and the sac continues to enlarge. At this time, June 14, it occupies a much larger area. Ligation of the distal vessel seems to have had no effect whatever in stopping the progress of its growth, and the bruit which was at first checked is now as loud as before the operation. Large doses of potassium iodid have been used with no apparent effect.

The drawing of June 14 from life shows the present condition of the tumor. That of May 2 is copied from a photograph taken on the day of operation.

WHAT IS HOMEOPATHY?

To the Editor of American Medicine:—In your issue for July 4, at the conclusion of an editorial on "A Homeopathist on High Potency," you say, and very properly: "The time has come to ask, *what is homeopathy?*" Without attempting to argue the matter here in detail, especially as I have already done so elsewhere, the question may be answered very briefly. No matter what homeopathists may say it (homeopathy) is from a theoretic standpoint, there is something it must be, basically, fundamentally. That something is: The systematic use of drugs in the treatment of diseases on the basis of the

resemblance (similarity) of the symptoms, manifestations of each; and inasmuch as the idea of what constitutes a similarity is a negative one, the principle is of extraordinary width of application, and like any other principle, rule, or law for the application of drugs for the treatment of diseases, is absolutely subject to the clinical test. Therefore, homeopathy is nothing more or less than a method of systematized empiricism, based upon the accidental resemblance of the phenomena of drugs and the phenomena of diseases. I cannot claim that the homeopathic profession will, as a whole, accept this definition, probably quite the contrary; but to one who has practised homeopathy for 28 years, and who has given much thought to the explanation of its phenomena, the above is what it means, and explains why it is neither universal nor absolute in itself, and does not exclude any other therapeutic principle or empirical fact.

ALFRED WANSTALL, M.D.

A CASE OF BLINDNESS AND DEAFNESS FOLLOWING ECLAMPSIA IN A CHILD.

BY

G. W. BOOT, M.D.,
of Evanston, Ill.

D. H., aged 6, the daughter of an American grain buyer in a small town in Iowa, came to Chicago about a week before the onset of her present illness to be treated for recurring attacks of deafness, probably due to adenoids and nasal obstruction.

She had a very severe attack of pertussis at two years, otherwise her past history is negative. She was taken sick August 12, 1902, with diarrhea, tormina, and anorexia. A physician was called and prescribed, but at 9 o'clock the next morning she had a convulsion lasting about one minute. At this time I was called. She soon came out of the convulsion, but instead of sleeping was very restless. She seemed to see nothing and was wholly unresponsive to questions even when shouted in her ears. The pupils were widely dilated, but responded promptly to light. Touch seemed normal and efforts to draw the urine with a catheter and to give an enema were violently resisted. She called for the vessel when she wanted to defecate or urinate. She seemed to have no difficulty in maintaining her balance. She remained blind from 9 a.m. until

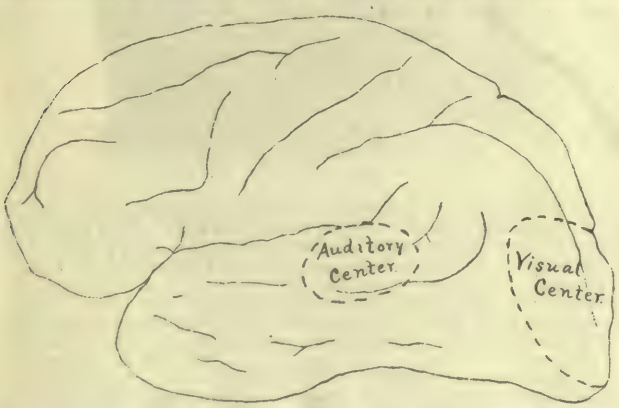


Diagram showing the approximate location of the visual and auditory centers according to Mills' new scheme of the zones and centers of the lateral aspect of the human cerebrum.

the following midnight, 15 hours. She seemed blind at 2 a.m. the next day, at which time she fell asleep and slept until 4 a.m., when she awoke with both vision and hearing restored. She had several stools of mucus and blood during the day of August 14, and perhaps a dozen the following night. There was very little fecal matter in any of these stools. From this time on, under treatment directed to the colitis, she gradually made a good convalescence.

Ashby and Stephenson have recently reported five cases of amaurosis following convulsions in infancy[1] and refer to six cases reported by others. Their five cases were all in children under 19 months of age except one who was aged 3. In all, the convulsions either lasted several hours, or were continued at intervals over several days or weeks. Most of their patients had coma of considerable duration. The blindness lasted from seven days to 140 days, except in one case, in which the duration of the blindness was unknown. One patient had weakness of the right arm and leg; one had paralysis of the right arm and leg; one had weakness of the right leg and one had paralysis of the right side of the face, the right arm and the right leg. This last patient was dumb for a month, and at five years had well-marked spastic hemiplegia and slight facial paralysis. One patient had abnormally acute hearing with the blindness. In one of the cases to which they refer in the literature of the subject the patient remained blind. These authors say: "We are not aware of any loss of hearing following on the fits of infants or children."

In counterdistinction to these cases my case presents the following:

The age, 6 years, is considerably greater than the age of the patients whose cases are reported by Ashby and Stephenson. The cause of the convulsion was an attack of colitis. The convulsion was short, only lasting a minute according to the mother's statement, and was not followed by coma. There was no paralysis, paresis, or aphasia. Speech was not disturbed in the least. The patient was totally blind for 17 hours and deaf for 15 hours. Recovery from the blindness and deafness was rapid and complete.

In explanation of the peculiar effects following the convulsion in my case the following is offered: She was a nervous child, although she had never before had a convulsion. At two years she passed through a very severe attack of whoopingcough. The spasmodic action at that time was more severe than I have ever seen in any other case of pertussis. Her father is totally deaf as a result of a blow on the head with a sandbag several years ago, although this probably has no bearing on the case unless it indicates a somewhat unstable sense of hearing in the family. The patient had lived all her life in a small country town, where there was very little to disturb the ordinary course of her life. For a week before the onset of the convulsion she had been living in the midst of the noise and bustle of Chicago, where there was much to excite her auditory and visual centers. As a result of this when she had the convulsion these centers, being in an excitable and irritated condition, had to bear the brunt of the convulsion. The proximity of the auditory and visual centers in the cerebrum and the habitual synchronous use of the senses of hearing and vision would cause one to expect after a convulsion to find deafness and blindness occurring together rather than the blindness and paralysis which seem much more common.

[1] Lancet, May 9, 1903, p. 1294.

Combating the Plague in the Philippines. — Public Health Reports contain the following: Several weeks ago a new policy of dealing with plague contacts was inaugurated. Contacts are now taken to the detention station, injected with Shiga antiplague virus, their clothing disinfected, and they are then released. Expert rat catchers are sent to the house from which the patient was taken with instructions to destroy all the rats in the immediate vicinity. The house is then disinfected with bichlorid, or sometimes even burned. An arrangement has been made whereby the Chinese residents (60,000) shall be injected with Shiga virus. Letters have been written to our officers on duty in China suggesting that unless they could certify that passengers embarking for the Philippines would not convey plague such passengers be detained until the incubation period of the disease be passed. The medical officer on duty at Amoy has made arrangements to detain steerage passengers before embarkation. Upon the arrival here of Chinese passengers the Board of Health injects them with the Shiga virus.

Serum Treatment for Tuberculosis.—The Bulletin of the Chicago Health Department says: Briefly stated in nontechnical language, Professor Maragliano claims to have produced, after more than 30 years of study and experiment, both in the laboratory and the clinic, a serum which, introduced beneath the skin of the arm, as vaccine lymph is in vaccination, produces a small circumscribed tuberculous sore, attended with slight fever for two or three days, after which the system of the subject is immune to tuberculosis or consumption, as the properly vaccinated individual is to smallpox. Maragliano is quoted as saying "there is a fact that always gives food for reflection to those who are interested in tuberculosis, viz., in spite of the enormous diffusion of the tubercle bacillus in the midst of cities, a great many persons remain unaffected by the terrible disease." This fact implies that the majority of the human species possesses a natural immunity to the omnipresent tubercle bacilius, and the problem therefore is to develop an artificial or acquired immunity in those in whom such natural immunity is lacking or impaired—such immunity as vaccination gives against smallpox.

ORIGINAL ARTICLES

APPENDICITIS AS AN INCIDENT IN DEVELOPMENT.

BY

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of Portland, Ore.

The subject of appendicitis has been the storm center of such a perfect cyclone of heated discussion, beginning with the earliest recognition of the possibility of its successful treatment, that it would seem almost hopeless to say anything either new or noteworthy upon it. But as this whirlwind of discussion has, if anything, become more tempestuous of recent years, especially since the introduction of the socalled "starvation" or Ochsner treatment, its interest certainly is not exhausted, and out of the immense accumulation of material which has been piled up, sand-dune fashion, by the tempest, sufficient matter can now be selected to form a basis for the consideration of some of the broader aspects of the question, which are of almost as great practical as of logical and scientific importance.

For a considerable period the two widely diverse points of view from which the condition could be regarded—the morphologic and causative on the one hand, and the surgical and therapeutic on the other, were apparently utterly unrelated one to the other. The first aspect presented us with the almost unavoidable destruction of a decadent, functionless and rapidly atrophying organ, without a single relieving ray of any assistance from nature in diminishing the danger of the process. From the other, or therapeutic point of view, it simply seemed a question of getting rid of and eliminating *vi et armis* the offending organ at the earliest possible date—it was to be removed just as soon as it gave any trouble, and if possible, before.

Now, however, a somewhat more tolerant and conservative spirit is coming over the minds of our surgical brethren, and it is only fair to say that this reaction has come largely from the careful, conscientious pondering over the results of their experience by the broader minds in their own ranks, and not from any nonsurgical protest. We are beginning to recognize that while abating no whit of our dictum that the appendix like Carthage, "*delenda est*," we are not utterly without some assistance from nature, which may be reckoned with, as a valuable ally in this process of destruction.

In fact, we are coming to recognize what, in my view, is the biologic law of the situation, that appendicitis is simply a more or less dangerous incident in the process of normal degeneration and ultimate atrophy of the appendix, that it is merely an accidental acceleration of a process of decadence which, starting in remote ancestral times, is going on with great rapidity in the lifetime of each individual. The consoling aspect of this view is that nature, in a considerable minority—probably even in a majority—of cases will carry through this process to its successful result, the complete obliteration of the appendix, without any assistance and without mortality.

It has been upon this fact that Ochsner, I believe quite unconsciously, and reasoning from a purely practical point of view and the results of his own bitter experience, has based that method of the treatment of appendicitis, which bids fair to revolutionize our attitude toward and our treatment of this most serious disease.

Ochsner's position is, of course, by this time familiar to all and may be briefly stated, so far as I have been able to gather it from his writings, that appendicitis is not merely a disease of a small and clearly defined organ, and hence local in its origin, but it also has strong natural tendencies to the localization of such peritoneal infection as may result from it. Lying as it does in a pouch of the peritoneum behind the cecum and comparatively cut off from the general peritoneal cavity the chief factor in the diffusion of the infection is the movement of the small intestines. If this peristaltic movement can be abolished by thoroughly emptying the stomach which, as a matter of fact in a considerable number of cases, by the reverse peristalsis which has been set up from the cecal obstruction results in removing almost the entire contents of the small intestine as well, and then all food, and as far as possible, even drink be withheld from the patient by the mouth, the inflammation in a large percentage of cases will localize itself as a walled-in abscess in the cecal region. The remarkable success of this method is testimony far more convincing to the correctness of the principles upon which it is founded than any verbal arguments could possibly be. A reduction in the mortality, based upon now nearly a thousand cases of from 14.6% to 3.4%, is one that almost carries conviction with it. The interesting circumstances under which the original comparison was made heightens its impressiveness.

It will be remembered that at the meeting of the surgical section of the American Medical Association in 1901 Ochsner, hearing that Deaver was about to present a paper based upon the results of 416 consecutive operations for appendicitis, simply turned to his own records at the Augustana Hospital of the last 416 cases operated upon and presented the results and deductions from them as a contribution to the discussion of Deaver's paper.

Deaver's 416 cases showed a mortality of between 14% and 15%; Ochsner's series of the same number barely 4%! Of course the cry was raised at once of mere coincidence, or that last refuge of the defeated therapeutist, a more severe type of the disease in the locality from which his patients came; but it is significant that though all the powers of the immediate and invariable operation school, championed by Deaver, have been directed with, in some instances, I regret to say, more vigor than courtesy toward the discrediting and explaining away of this deadly parallel, yet the total of their efforts has simply resulted in making the contrast more impressive, for from one acceptor of the new method after another has come series of statistics showing a mortality never exceeding 7%, and in many instances reaching as low as 3%, often in considerable series of cases, while the best showing that has yet been made by the Deaver school has never gone below 10%, and in the case of some of its continental advocates has even reached the appalling pitch of 33% (Broca) and even 50% (Kirmisson).

Personally, I was at first inclined to regard the claims made for the new method as excessive to the degree of incredibility, but was speedily converted by the irresistible logic of events in the practice of one of my surgical confreres here in Portland, and I think that my experience is simply typical of that of the vast majority of those who have seen this method of treatment in actual practice. To my mind the Ochsner method marks as great an advance in the treatment of appendicitis as did the Brand method in typhoid.

Now let us see for a moment upon what anatomic and pathologic basis this method appears to rest. First of all, as to the local relations of the appendix to the rest of the alimentary canal and the peritoneal cavity: Although there is probably no single organ with the position and variations of which we are more intimately and constantly familiar, we, I think, at the same time hardly adequately realize to what extent, in the process of development, or more accurately, retrogression, the appendix has been, as it were, tucked back out of harm's way. Beginning in the fetus as a simple continuation of the main cavity of the cecum, which tapers into it just as the bowl of an old-fashioned tobacco-pipe does into its stem, the rapid and disproportional overgrowth of the "bowl" of the "pipe" pushes the nonprogressing "stem" backward and upward, until finally it comes to rest upon its posterior and usually inner surface in a deep and well-marked fold, which under many con-

ditions approaches to the completeness of a pocket, or pouch, of the peritoneum, bounded by the folds of the mesentery given off from the ileum and the cecum respectively. The mouth of this pouch may open in different directions, according to the varying position of the appendix, but the fact remains that in a considerable percentage of all cases the infection of the peritoneum from an inflammation of the appendix starts, not in any part of the general peritoneal cavity, but in a more or less clearly defined pouch or angle, which may readily, by the formation of comparatively small amount of adhesions, be entirely shut off from the rest of the peritoneal cavity, and will not infrequently find its point of least resistance, and consequent burrowing of pus, *behind* the peritoneum altogether. Hence the frequency with which appendiceal abscesses may point in the groin, or be reached by careful incision without opening the peritoneal cavity at all. It was the fact of the natural inclusion of the appendix in fossas of this description, pointing for the most part behind the cecum, which gave rise to the ancient name for the disease, a curious reversionary tendency toward which was seen in the famous case of King Edward VII, when our British surgical brethren, with the invincible conservatism which is their proudest mental prerogative, declared his majesty to be suffering from "*perityphlitis.*"

It was by no means attributable to sheer stupidity or blindness on the part of our predecessors in medicine—although that is capable of accounting for many things, not merely in the past, but even at the present day—that for years, I would almost say for generations, after the discovery of these inflammations in this region, they were regarded as starting somewhere behind the cecum and outside of the peritoneal coat. The fact really is that when let alone no small percentage of these inflammations tend to take this slow but comparatively conservative direction. To give this localizing and conservative tendency an opportunity to manifest itself is, to my mind, the keynote of the Ochsner treatment. Of course, if we can succeed in seeing and clearly recognizing the disease in that stage in which the inflammation is chiefly confined to the cavity and walls of the appendix itself, it is no part of this new method to neglect the opportunity of promptly removing the entire source of danger, without exposing the patient to the possible risks of the failure of nature's aid. "Providence," as Edison once observed, when consulted by the vestrymen of a newly erected church, as to the necessity of providing its spire with a lightning rod, "Providence is apt to be absent-minded at times," and we are not going to depend on the mere possibility, or even probability of assistance from nature, when we can take the matter entirely into our own hands with comparatively little risk. Just so soon, however, as infection of the peritoneum has occurred, even if as yet it be limited to this pouch or the neighboring area of the peritoneum, then comes the serious danger, by our more or less rude and forcible interference and entry into the peritoneal cavity, of causing the wide dissemination over its entire surface, particularly into the folds at its lower limit, of the toxin of the infection, with a rapidly fatal, general peritonitis as the result.

Taking into account the fact that operations in the course of a virulent infection of the peritoneum, which has not yet become definitely localized, will result in a mortality of from 15% to 45%, and indeed, in a certain fulminant type of cases we have such records as Fenger's magnificent candor gave us some years ago, of 26 operations with 23 deaths, then we certainly are justified in giving careful attention to the possibilities of what natural forces may be inclined to do in aid of the localization of the infection.

Another important factor to be remembered in this process of localization is that hitherto, and even yet, somewhat mysterious fold of peritoneum, the great omentum. While we have but the vaguest knowledge as to what the precise function of this large and elaborately constructed serous fold may be, one or two definite facts are beginning to emerge, and one of them certainly is its power to apply itself to any inflamed, irritated or suppurating surface, and form a living barrier against the diffusion of infection throughout the peritoneal cavity. Perforations of the intestine, whether from knife, or gunshot wounds, or from ulceration from within, are found after death firmly closed by an adhesive plaster or plug of omentum, and it is the unanimous testimony of our more observant surgeons, that in any of the suppurative processes involving the cecal region the omentum is almost certain to be extensively involved.

We have, perhaps, been inclined to regard this tendency on the part of the omentum only in censorious and pessimistic light, on account of its occasionally resulting in adhesions, which themselves become later a source of danger. But there can be little question that its reparative and conservative function, in preventing the spread of peritoneal infections outweighs this latter danger at least threefold or fourfold. Ochsner has given a particularly clear and lucid description of the way in which the peritoneum, as he expresses it, wraps itself around an inflamed appendix, and serves as a mantle of protection to the rest of the peritoneal cavity. Nor, we believe, is this blocking action on its part limited solely to mere mechanic contact by such points of its surface as happen to be present in the region inflamed, inasmuch as not merely the little local section normally present, but a very considerable percentage of the whole lower border of the omentum will be found to be drawn into the fibrotic process, and it would almost seem as if its tissues had the same sort of chemotactic attraction for suppurative processes, as have the leukocytes in our bloodvessels.

Inasmuch as it is, I think, with most of us the concrete instance which carries the greatest amount of conviction, rather than the abstract balance of evidence, I may perhaps be pardoned for alluding briefly to the first case which I saw treated by this method, and which was, I am frank to admit, the means of my conversion. The patient was brought into St. Vincent's Hospital, of this city, under the care of my colleague, Dr. Andrew C. Smith, who called me in consultation. I found a man of about 35 years, of vigorous physique, in apparently a well-developed stage of prostration, bordering upon collapse. He had a distended abdomen, incessant and agonizing pain, a pulse of nearly 130, a temperature of 101°, a devouring thirst, extreme tenderness and rigidity on pressure all over the lower half of the abdomen, his knees drawn up, his tongue furred, and his whole countenance expressive of extreme distress. His condition, with the history of the attack, beginning five days previously, pointed unmistakably to a perforating and probably gangrenous form of appendicitis. We were both agreed that operation under these circumstances would give but the most desperate chance of improvement, and Dr. Smith, who had had previous experience of the method, decided to put him upon the Ochsner treatment. His stomach was thoroughly emptied, washed out, bringing out a large quantity not merely of undigested food, but toward the last of positively fecal matter. All foods or medicines by the mouth were absolutely withheld. The lower bowel was thoroughly washed out by an enema, and liquid predigested foods were administered per rectum every four hours. Within 12 hours the man no longer needed morphin; in 48 hours his temperature had come down almost to normal, his pulse had greatly improved, his tongue was clearing, and he was free from pain. In 72 hours his condition was almost normal, and except for a decided hardening and tenderness in the right inguinal region, it seemed almost impossible to believe that he had been suffering from appendicitis. At the end of a week his condition was so good that he began to get exceedingly restless, and insisted upon either being allowed to go home

or being operated upon at once. So that, rather against his best judgment, Dr. Smith consented to operate on about the tenth day. The result was most impressive. If we had had any doubts as to the character of the process, opening into the peritoneal cavity would have dispelled them instantly. The whole of the contents, large and small, of the inguinal region, with apparently nearly two-thirds of the omentum, were matted together into one confused mass by thick lymph-adhesions, rapidly organizing into fibrous tissue, and containing in every available gap or space between the viscera, pocket after pocket of thick, greenish pus, of most offensive odor. Such was the extent of the matting together that it took fully half an hour to separate and sort the different viscera and get down to the real site of the trouble, when after a good deal of searching a gangrenous appendix was found floating in a pocket of pus behind the cecum. The pus was thoroughly washed out of the region, the adhesions broken up as completely as possible, a drainage tube left in position, and the man made a complete and uneventful recovery. But I have ever since had an enormously increased respect for, and confidence in, the power of nature in limiting septic or even fecal effusions into the peritoneal cavity. If we had waited as we wished, three weeks longer, we should have probably found every drop of pus absorbed or completely encysted, and simply an appendixless cecum, with an extensive mass of adhesions connecting the cecum and adjacent parts of the small intestine and omentum.

Hitherto we have been considering the purely surgical aspects of the question. Now let us turn to the anatomic, in order to discover to what extent this natural process of obliteration of the appendix is actually carried out. If any one will take the trouble to examine the viscera of a fetus between the third and fifth months he will find a cecoappendix, which has almost one-half the caliber of the rest of the small intestine, is nearly five times as long in proportion to the rest of the intestine as it is at birth, and which in shape resembles the bowl of an old-fashioned churchwarden clay pipe; the bowl of the pipe being the proximal end or future cecum, the stem of the same, much curled upon itself, forming the future appendix. It would be absolutely impossible to decide where the cecum leaves off and the appendix begins, the gut tapering almost equally and continuously from its origin to the tip of the socalled appendix. This condition of affairs, we might say in passing, is, as we shall see later, precisely analogous to the condition of the cecoappendix in the lower animals, the appendix simply being the distal half or two-thirds of the primitive cecum, which has atrophied at a more rapid rate than the proximal third, or, to express it perhaps more correctly, which has failed to develop at as rapid a rate as has the proximal third. At birth decided progress has been made toward the adult form—the proximal third, or future cecum has begun to balloon out and grow much more rapidly than the distal two-thirds, or future appendix; but there is still an obvious and unbroken continuity between the two portions of the gut, the appendix is still clearly at the end of and a continuation of the cecum. Its proportion to the cecum is now as about 1 to 15, while at the fourth month it was about 1 to 5. As we examine throughout the years of infancy and childhood, we find this proportionate rate of growth becoming more and more marked, until finally the proximal third, now become the cecum, has overgrown and overcrowded the distal two-thirds or appendix to such an extent that the latter has become pushed upward, backward and usually inward, so as to appear as a mere spiral projection from the posterior surface of the cecum. This state of affairs is finally reached by about the fifth year, and from that time on the disproportion between the two parts of the gut remains practically about the same. However there still remain to the day of death clear traces of the direct continuity of the two portions in the course of the longitudinal bands of muscular fibers. These, as every surgeon knows, are still utilized in difficult operations as a guide to the location of the appendix, all three of them being found traceable into and converging at the point of its insertion.

But the process of development and of atrophy of the appendiceal two-thirds of the gut by no means stops here. Although the appendix does not further diminish in size an examination of its mucous coat reveals the somewhat surprising fact that a steady and constant process of obliteration of its function is going on through the whole of life. Shortly after the attention of the medical world had been so sharply focussed upon the appendix from its surgical point of view, Ribbert and other anatomists began a careful investigation of the condition of the appendix in the necropsy-room and in the dissecting-room, with the result that it was found, as has now been proved upon a basis of some thousands of cases, that there is a steady increase in the percentage of obliterated appendices with each successive decade of life. From the fifteenth year on, a small but constantly increasing percentage of all appendices is found to be either completely obliterated or to have the lumen cut off from that of the gut. By the thirty-fifth year this has reached 25% of all cases; by the forty-fifth year nearly 50% are found to be occluded; by the fifty-fifth year, 60%; and by the sixty-fifth year nearly 70%. As I ventured to point out some years ago, in my volume of studies in Comparative Pathology,[1] this percentage of age obliteration of the appendix closely and accurately corresponds with the age liability to appendicitis, steadily increasing from childhood to about the thirtieth year, and after that period as steadily diminishing, as more and more of the appendices become either completely occluded or unable to admit much of the contents of the intestine into their interior.

From the anatomic point of view, then, we have a clear and unmistakable demonstration that in appendicitis we are dealing with a natural, and perhaps it will be not too much to say, normal process of atrophy, terminating ultimately in complete obliteration of a useless and supernumerary organ.

When the surgeon removes the appendix he is merely hastening and assisting a process of nature. On the other hand, this process throws, it seems to me, an exceedingly interesting and important light upon the problem of how far nature is to be trusted to carry out this process with safety to the individual. When Ribbert first published his statistics it was supposed that this obliteration was in most cases what might be termed a purely normal process of involution, but when the individual cases were examined with greater care it was found that no inconsiderable percentage of these cases of obliterations showed scars, fibrous bands, adhesions, obliterations of normal peritoneal folds, and other unmistakable evidences of inflammatory processes. Whereupon our surgical brethren promptly chorused that most of these cases represented an attack of appendicitis, which ought to have been diagnosed and promptly operated upon. But there is again no real divergence between the anatomic and surgical points of view. It is not to be expected that an appendix will die of old age with much more frequency than does the individual that bears it. Nearly every human being, reaching the senile stage, dies as a result of some form of injury, disease, or terminal infection, and while I think this point of view should certainly not lead us to hesitate to remove the appendix which is giving trouble, whenever it can safely be done, it does at the same time give us a little more hopeful outlook as to the possibility of ultimate and spontaneous cure in the milder type of cases.

While the interval operation is so almost utterly devoid of risk, and the appendix so utterly useless, and so full of dangerous possibilities that we should urge

[1] Studies in Human and Comparative Pathology, Glaisher, London, 1900.

upon our patients the advisability of having any appendix which has ever given trouble, removed at the earliest convenient opportunity, we may, I think, at the same time, hope that in a certain percentage of cases those individuals who have regained their health under the Ochsner treatment, may possibly never need further surgical attention. In fact, I am perfectly frank to admit that from a philosophic point of view the question really is beginning to present itself to my mind, whether if by the Ochsner treatment we can save and carry through to successful termination the most furious and fulminant types of appendicitis, types upon which we dare not operate, we are not justified in relying upon this safeguard to the extent of withholding our hands until a second attack at least has occurred: though this suggestion, of course, is strictly among ourselves, and as yet entirely unfitted to be preached to the laity.

It would, I think, be well worth while to carefully collect statistics bearing upon this fact as to the percentage of patients who either refuse, or for any other reason fail to have an operation after a first attack, and who afterward have or have not a second. Upon these alone could any safe rule be based. The only data of this class of which I am aware are those of Fenger, who some years ago stated that about one-third of the severer type of cases recovering from one attack of appendicitis would probably never have a recurrence, though I am not aware as to the number of cases on which his observation was based, nor the length of time which had elapsed since the attacks. However, it is safe to conclude that Fenger, of all men, would not make such a statement as this without pretty substantial and adequate grounds.

Last of all we come to the point of view, which is to me far the most interesting and fundamental one, although I fear it will be regarded as somewhat transcendental by many of my more practical brethren, and that is the morphologic and embryologic one. It is not enough to determine what is the cause of appendicitis; we must endeavor to decide what is the cause of the appendix. That it is a remnant and vestige of former conditions is, I think, upon the face of it, obvious; and the question now arises, what, if any, was its function, and why is it no longer necessary? To this question I think we are now prepared to give a clear and almost unquestionable answer. If we could manage to get rid of the term "appendix" entirely, it would do more to clear up the question of its relationship than any other one thing, for what we term the appendix is simply the distal two-thirds of the original cecal pouch. This cecal pouch, though present in nearly all species of animals, has one clear and unvarying principle of variation, and that is the character of the food supply. Roughly speaking, it is, though present in all, largest and best developed in herbivorous animals and birds, and smallest and least developed, even to the extent of complete atrophy and disappearance, in carnivorous animals and birds. It seems to be simply a question of the increase of absorptive surface in proportion to the bulk and difficulty of digestion of the food supply. Not only may that part which we term the appendix disappear, but even the entire cecal pouch, as for instance in the *Ursidæ* (the bear, badger, otter group). It is really regrettable that so great stress has been laid in most discussions of this subject upon the fact that only two other animal forms beside man possess a "true appendix," namely, the anthropoid apes and that curious little burrowing marsupial, the wombat; because this tends to obscure the really important fact that all that is meant by the statement is that the distal two-thirds of the cecum in these animals has atrophied at a more rapid rate than the proximal one-third. In order to keep this fact clearly in mind I shall, in the discussion of this part of the question use, instead of cecum, the term "cecoappendix," for our human cecum and appendix is simply an asymmetrically atrophied cecum, and this statement will also dispose of the confusing fact which is often allowed to interject itself into these discussions, that certain of the rodents have an apparent appendix. For instance, the common rabbit, in a considerable number of instances, when the abdomen is opened is found to have at the end of its exceedingly voluminous cecum an apparently large and well-developed appendiceal portion, but its real nature is readily made visible by simply removing the gut from the body and inflating it, for purposes of preservation, when, to your great disappointment, the socalled appendix will be found to balloon out to almost exactly the same size as the rest of the gut. The apparent appendix is simply produced by a more or less chronic contraction of the muscular fibers of the distal one-third of the cecum, and this same form of false appendix is occasionally to be found in quite a number of animals, including the dog. Several other of the rodents have a certain amount of arrested development, or unsymmetric development of the distal third of their cecum, but as most of these will disappear on distention, they should not be regarded as appendices, in the human sense.

The cecoappendix first makes its appearance in the vertebrate world along with the rest of the large intestine, in the amphibia and the reptiles. The pyloric cecums of fishes, to which the origin of the organ is usually traced, are in my judgment scarcely analogous, nor even homologous, being apparently secretive rather than absorptive and more nearly foreshadowing the pancreas in function, than the cecum of mammals. Its appearance, together with that of the rest of the large gut, appears to be related to the acquisition of terrestrial habits and the necessity of avoiding unnecessary loss of water in the feces. In these two classes it remains a simple blind pouch, of value, apparently, partly as a means of arresting the excreta until they can be deprived of their water, and also with it a certain amount of nourishment, which has not been completely taken up by the villi of the small intestine. In birds, for some curious reason, it becomes double, the small intestine opening at the junction of and between the forks, and while these are of moderate size in the earlier forms of birds, such as the ostrich and the cassowary, as I have several times verified in my autopsies at the London Zoological Gardens, they soon begin to undergo characteristic changes. In the mixed feeders they remain of moderate though quite respectable size. In the hawks, vultures, and other pure carnivora, they diminish very considerably in proportion to the rest of the gut, while in the grain-eaters, especially the *Gallinæ* (the domestic fowl, pheasant, turkey, etc.), they become enormously elongated, reaching in the last-mentioned species a length of nearly 14″, and a diameter, when moderately distended, of ¾″. In no instance, however, which I have been able to discover, do they undergo the excessive degree of atrophy, which takes place in some of the mammals, and they seldom seem to become the site of disease. The only exception to this last statement, perhaps, is the case of pheasants and domestic fowls, in which tuberculous ulceration of the intestine, which is exceedingly common among them, appeared to fall with especial weight upon the cecal pouches; though, as the number of autopsies upon tuberculous members of these families was not more than 30 or 40, this liability may not be a universal rule.

In mammals the pouch remains single, as in the ichthyopsidian branch of their probable reptilian ancestors, but undergoes a much wider range of variation, all the way from complete obliteration to a balloon capable of containing three to five times as much as the entire remainder of the alimentary canal. It may, however, be said in passing, as illustrating the curious ancestral vibrations which can be set up in the development of any particular organ, that we have among mammals one or two aberrant forms which in their food closely resemble birds, which are exceedingly primitive in their other

characteristics, and which by some singular and almost grotesque coincidence, approach their avian cousins not merely in the disappearance of their teeth, but also in the development of a more or less distinct pyloric mill or gizzard, and more curious yet, in a double cecum. I have in my collection two specimens from which the wealth of the Indies would hardly part me, viz., the cecum and stomach of a Tamandua ant-eater, and of a Pangolin, both of which show well-marked central discs of tendon, with great whorls of grinding-muscle in the pylorus, making a genuine gizzard, and a beautifully forked double cecum which could scarce be distinguished from that of a carnivorous bird of the same weight. The same, I believe, is true of that other extraordinary bird-mammal, the duck-billed platypus (*Ornithorhynchus paradoxus*), although I have not been fortunate enough to secure specimens of this rare form for dissection.

The cecoappendix enters the class of mammals in a fairly voluminous form, as nearly all the marsupials have it very well developed; and while in the carnivorous members of the group it diminishes distinctly, in some of the herbivorous ones it reaches its most enormous proportion of development, for instance, in the koala, or socalled "Tasmanian bear," a small and exceedingly sleepy and inoffensive, bear-like marsupial of almost purely vegetarian habits, it reaches the astonishing length of nearly three times that of the animal's body and a capacity equal to that of all the rest of the alimentary canal. Even among them the principle underlying its over-development and under-development is clearly shown, *i. e.*, the bulk and difficulty of solution of the food, small in the carnivorous and insectivorous types, immensely enlarged in the herbivorous.

In the higher mammals, among the carnivora, these changes are chiefly in the direction of diminution. In the dog family, for instance, it has shrunk down to a small and much curved tube about 3 in. to 6 in. in length, and about ¾ in. in diameter. Roughly speaking, it is about the size and length and very much the shape of a forefinger. It is distinctly curved or coiled upon itself, especially in its distal two-thirds, the coil becoming about the shape of a letter S. But there is no distinct diminution in the lumen of the distal third, except in a few rare instances, where by a process, apparently of muscular spasm, this part of the gut will be sharply contracted down. In my study of the variations of the organ in the dog I have been much indebted to my late colleague, Dr. A. C. Kerr, of the University of Buffalo, who most kindly placed at my disposal his collection of nearly 500 mammalian cecums, chiefly canine, in addition to the series which I afterward secured in my two years at the London Zoological Gardens.

In the cat family, which is distinctly more purely carnivorous in its tastes than the dog, we find a corresponding diminution in size, the cecum of the domestic cat being a little nipple-like pouch of the alimentary canal, scarcely larger than the last joint of the little finger. In the leopard and the tiger this pouch will reach the size of a large egg, or in some cases, of a small teacup, but still quite short and simple, its only disease liabilities in either of these classes appearing to be the rather remote occurrence of ulcerative processes, resulting from the settlement in it of fragments of bones, gravel, or other indigestible materials swallowed with their food.

Bland Sutton has recorded several cases of traumatic typhlitis of this character in leopards and lions, but my own smaller number of autopsies upon these great cats did not reveal anything abnormal in any instance. Here among the carnivora the rule of greater development in the more primitive form holds, for in the hyena the pouch is comparatively large and well developed, which is also possibly in part due to the more omnivorous habits of the creature. Its most complete reduction, however, is found in the third great group of the carnivora, the *Ursidæ*. In three badgers, an otter, six civet-cats and two bears it was practically impossible to discover where the small intestine fused into the larger, all traces of the cecum or valve having totally disappeared. An almost equally complete obliteration occurred in the two seals and one sea-lion.

Among the herbivora the cecoappendix is uniformly well developed, but here we find another curious principle at work, which was first noted by Flower, and that is that its development will be in inverse ratio to that of the stomach. In the cow, the sheep and the deer, for instance, with their huge four-chambered paunches, the cecum, though well developed, is comparatively small and simple in shape; for instance, in a sheep weighing 80 pounds the cecum is a simple pouch of from 12 to 15 inches in length and about 2 inches in diameter, about the size of a medium bologna sausage. In the cow the same condition prevails, only the dimensions are greater, though not in proportion to the bulk of the animal. When, however, we come to the horse family, including the ass and the zebra, we find a surprisingly different state of affairs. The stomach is comparatively small and simple, hardly larger than in carnivora of the same size, while the cecum is an enormous balloon pouch, reaching in the horse a length when distended of nearly four feet and a diameter of nearly 12 inches, and capable of containing 2½ times the amount of the simple stomach. The same is true in the hare family and in a number of the other rodents, mice, porcupines, squirrels, etc., the stomach being comparatively carnivorous in its simplicity and size, while the cecum balloons out into a huge convoluted and folded pouch, whose wall is so excessively thin in proportion to its immense size that although I have tried at least a score of times to preserve a specimen, I have never succeeded in effectually cleaning and dilating it without rupturing the wall. One can hardly even venture an estimate of its actual capacity such as its fragility under distension, but it would not be too much to say that if completely distended with water its weight would almost equal that of the remainder of the body. Here we have clear and unmistakable evidence as to the meaning of this pouch—it is one of nature's methods of increasing the absorptive surface of the alimentary canal. If that increase of absorptive or preparative surface has been obtained in the stomach then there is no necessity for the special development of the cecum. If, on the other hand, in herbivorous animals the stomach remains small and simple, then nature provides the excess of absorptive surface and capacity for retention of the food which is required by ballooning the cecum. Every part of the alimentary canal in every species has attained just that relative degree of development or diminution which is found necessary for the best interests of the animal in the struggle for existence.

To trace briefly its direct ancestry in our own species, beginning with our marsupial predecessor, the pouch unquestionably passed through our presumptive rodent-like ancestor, and reached in him its highest development. In the lemur, which at one stage our ancestral organism unquestionably closely resembled, it has become a moderate-sized and much pleated pouch, at least treble or quadruple its relative proportional capacity in our own species. In the New World monkeys it has become smaller, and is beginning to show some signs of tapering toward its distal one-third. In the Old World monkeys this condition of affairs is still better marked, the distal third of the large-pouched and thick-walled cecum having a matting together of the long bands, which is distinctly suggestive of a prospective shrinkage of this part of the gut. In a number of the monkeys coming to autopsy at the Zoological Gardens the distal third of the cecum would be distinctly shrunken when the abdomen was opened, but upon distension for purposes of preservation that contraction largely disappeared. The pouch, however, is distinctly more subject to tuberculous ulceration whenever that process attacks the alimentary canal in

the monkey. Finally, in the anthropoid apes, of which only five or six members came under my observation, the cecoappendix has attained almost the complete human form. It is still, however, considerably larger in proportion to the body weight, a 50-pound orang-outang, for instance, having a cecum quite as large as that of a 150-pound man, and the appendix is larger, longer and less coiled upon itself.

In a word, I think that the survey of the conditions of the cecoappendix in different forms of life points irresistibly to the conclusion that in our own ancestry, beginning as a large, voluminous, and actively functional pouch, the concentration of nutritive qualities of the food-supply; the dropping of the purely herbivorous or granivorous diet in the rodents; the acquisition of a diet of chiefly fruit, nuts, insects, small birds and their eggs in the lemur and in the monkey, and finally of a diet almost purely of nuts, fruit, and small birds in the anthropoid apes have resulted in its constant and steady diminution in size and importance, and unfortunately for us, in the last two steps of the process in a markedly disproportionate degree of recession in the distal two-thirds of the pouch.

As has already been said, this progress can be traced in each individual in the embryo, beginning at about the stage of development normal in the Old World monkeys and continuing not merely until birth and maturity, but even to the day of our death in the direction of eliminating and completely obliterating a superfluous and no longer useful part of our alimentary tract. Nature is the strictest economist known, equaling even the far-famed New England housewife, and any remnant of tissue, no matter how insignificant, which no longer serves a useful purpose in the struggle for existence, is sooner or later doomed to complete extinction. Our function as a profession is as usual merely that of a handmaid to Nature; first, intelligently discovering what she intends to do, and second, helping her to the best of our ability.

BRADYCARDIA AS A SYMPTOM.

BY

ROLAND G. CURTIN, M.D.,

of Philadelphia.

Bradycardia may be defined as a condition, more or less transient, that results, probably through some influence of the nervous system, in a reduction of the pulse-beat below that number which is accepted as normal—64 to 72.

The study of bradycardia does not properly include those cases in which the patient's pulse-beat is naturally slow. Some persons have acquired a slow pulse by inheritance. In such cases this symptom is present all the time when the patient is in health. I have seen two examples of this kind in the children of drunkards.

The interest in bradycardia has greatly increased within the last few years. The older textbooks have nothing to say on the subject or give it but a passing notice. The only articles of importance referring to it that I have seen are in the works of Dr. Sansom, of London, and a recent book by Dr. Robert H. Babcock.[1] The attention given to bradycardia in this book indicates an increased interest in it by clinicians. During the past 10 years I have made some observations, which are embodied in this short paper, and presented for discussion, primarily, to assist in adding to the literature and to call attention to the importance of placing this interesting symptom in its proper position—I call it a symptom as it cannot, *per se*, be called a disease in the light of what we now know of it.

Dr. E. W. Watson and I were, I believe, the first to point out the slowing influence of influenzal poison upon the heart—not of course, in every case, but as an occasional manifestation of this strange disease.

In an article read before the American Climatological Association, in session at Washington, D. C., September, 1891, we made note of the fact that "The heart was often irregular, slow, and feeble. These symptoms indicated want of nerve power rather than impaired muscle, since recovery was so generally rapid."

Again, in another paper read January 13, 1892, before this Association, we said that "in 1889 and 1890 several cases were seen of irregular, rapid, and slowed heart." The slowing of the heart did not seem to be influenced by the temperature, but was apparently the effect of a toxin upon the nerves of the heart. The influenzal poison rarely excites the heart in an uncomplicated attack. Ordinarily the temperature may be 103° or 104.5° and the pulse at the same time 70 to 85, generally about 78 to 84. Since the publication of these articles I have seen many cases of influenza with marked bradycardia.

In one of these the patient, a man of 60, had for a month a marked attack of influenza, with bronchial catarrh and great nervous prostration. His temperature had for six days ranged from 103° to 105°, and his pulse during the same period had been about 30. After that it went up to the normal point.

In another case a physician had an attack of influenza in which his pulse ranged from 35 to 40 for three months. At the same time he had a temperature from 1° to 2,5° below normal. He also had marked glycosuria, which has continued off and on since, making its appearance after indiscretions in diet. Following the early attack he had transitory anginose symptoms.

These cases are given as examples of the influence of the influenzal poison as a cause of slowing of the heart by means of its toxic effect upon the inhibitory nerves of the heart.

You will observe that although one of these patients had considerable fever and the other a persistent subnormal temperature the same symptom bradycardia was associated with both.

In the Philadelphia Hospital, in the fall of 1902, a man was admitted with acute lead-poisoning accompanied with marked bradycardia. The nervous symptoms in this case were very pronounced. His pulse was slowed to below 30 and 40 during the period in which he was in the hospital. There were no symptoms of renal complication. After having been in the ward for about six days, he died of nervous exhaustion in which delirium had been a pronounced symptom.

I desire to mention briefly four cases of Stokes-Adams' syndrome—a group of symptoms prominent among which are paroxysmal bradycardia, faintness, syncope or epileptiform convulsions with partial or total respiratory failure.

I have the notes of a case in which the patient, a man in advanced life, an inveterate tobacco chewer, had a severe carbuncle a year and a half ago. Since that time his pulse has been from 35 to 40. This bradycardia came on during his convalescence and has continued since then. He has had many attacks of marked faintness. A few days ago, he fell down in the street. He is extremely weak. Otherwise, he seems to be in good health. He has since died—in 1903.

In the fall of 1902, a man of 84 was found unconscious in the street and was brought to the Presbyterian Hospital. He had several convulsions after being admitted, which were tonic in character. During the time that he lived he had about 18 of these convulsive attacks. His pulse ranged from 13 to 104. He had used both alcohol and tobacco to excess. He had a slight systolic murmur and distinct arcus senilis. His arteries were markedly atheromatous. The case was diagnosticated as one of Stokes-Adams' disease. There was a trace of albumin and a few hyalin casts found in his urine.

The following patient was seen in the Philadelphia Hospital:

A man of 62, born in Ireland; had used alcohol to excess at times. There was no venereal history. On admission he complained of giddiness, nausea, palpitation, and anorexia. The most prominent physical signs were cyanosis, anasarca, and

[1] The Diseases of the Heart and Arterial System, published by D. Appleton & Co., of New York City.

slow pulse. Under observation his pulse would fall to 30, or below, during periodic attacks of vertigo. Without warning he was seized at the dinner table with a tonic convulsion lasting one minute. The following day he had a similar seizure during which the pulse could not be felt or the heart sounds heard. Respiration also ceased. Under active stimulation, oxygen and artificial respiration he became conscious and lived in comparative comfort for 50 hours, when he died in a convulsion.

I was called recently to see a woman of 77, who had a pulse ranging from 30 to 60, generally below 40. The heart sounds were sharp and quick but almost inaudible. She had had three attacks of convulsions, involving the muscles of the mouth and hands, the first in last October, followed by one on November 28, and another on May 16 of this year. She did not remain unconscious for any length of time.

Bradycardia has been observed as occurring during the course of many acute and chronic diseases—typhus, typhoid and rheumatic fevers, pneumonia, diphtheria, influenza, erysipelas, dyspepsia, gastric ulcer, gastric and esophageal cancer, debauch and delirium tremens, malaria, acute and chronic lead-poisoning, apoplexy, chlorosis, anemia and pernicious anemia, gangrenous enteritis, jaundice, appendicitis, seasickness, diabetes, brain tumors, meningitis, paresis, insanity, specially melancholia, hysteria, hypochondriasis, homesickness of young soldiers, after exhausting fatigue, confinement, and excessive sexual excitement. It may also be associated with diseases of the cardiovascular system, arteriosclerosis, Stokes-Adams' disease, and angina pectoris. It has been my experience that bradycardia is very rarely noticed in uncomplicated diseases of the valves or orifices of the heart. When present it can usually be ascribed to large doses of digitalis.

The late Dr. Esteridge, of Denver, in his article on "A Study of the Temperature, Pulse and Respiration in the Diagnosis and Prognosis of Certain Diseases of the Brain,"[1] makes the following statements in regard to slow pulse in intracranial conditions:

A slow pulse in organic brain disease generally indicates increased intracranial pressure. There is a probable exception in abscess of the brain, in which intracranial pressure often seems not to be increased. The slow pulse in this disease has been attributed to the poisonous and depressing effects of toxins on the brain, especially inhibiting the vital centers. It must also be remembered that a sudden increase of the intracranial pressure to such an extent as to overwhelm the functional activity of the brain, the heart uncontrolled, is allowed to beat away at its own "sweet will." A slow pulse of 60 to 80 is the rule in the exudative stage of acute meningitis. A pulse of from 40 to 60, especially if irregular and intermittent, as it usually is, denotes great cerebral disturbance and rapid progress of the disease. These are the cases in which sudden death often occurs, apparently from the exudate either directly or indirectly, affecting the cardiac and respiratory centers. The slower the pulse in apoplexy, the greater the probability is that the stroke is due to hemorrhage. The typical pulse of abscess of the brain is a slow pulse until that stage is reached in which the functional activity of the brain is greatly impaired. In traumatism of the brain a slow pulse denotes in the majority of instances either hemorrhage or a depressed fracture, and if the pulse is irregular or intermittent that the respiratory and cardiac centers are affected.

It would be interesting to study in detail the irregular and intermittent pulse in organic disease of the brain, as illustrated by a number of well-observed cases, but time will not permit. Suffice it to state that neither a rapid nor a slow pulse in many cases has more significance in weighing the probable outcome of a case than the degree of irregularity or intermission of the pulse. The greater the prominence of these variations from normal the graver the prognosis.

The value of bradycardia as a help in diagnosis and prognosis can be stated in a few words. Enough has already been said to indicate that a symptom which is so common and which occurs in such a multitude of widely different diseases can be of but small diagnostic value. As an aid in prognosis it would appear that given a constitution not undermined by disease, and a gradual subsidence of the primary cause of the slow pulse, bradycardia need not necessarily be regarded as a particularly grave symptom. On the other hand, however, if it is associated with or caused by a depressing chronic condition, especially of the cardiovascular system, it becomes a most serious symptom. When accompanied by anginose symptoms it is frequently followed by sudden death.

[1] Reprinted from the New York Medical Journal, August 31, Sept. 7, 21 and 28, 1901.

A STUDY IN ASTIGMATISM.

BY

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AND

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When the essayists some 14 or 15 years ago were beginning their studies in ophthalmology the teaching that astigmatism was a fixed quantity and invariable was generally accepted, and that if on a second examination a departure from the first findings was discovered, this proved simply that the first examination was incorrect. Acting on this teaching a patient would be told that glasses prescribed for astigmatism would last until the age of presbyopia. Disappointing results, however, soon brought conviction that this teaching was erroneous. The fact also that after the presbyopic age the meridian of greatest refraction was more apt to be in the horizontal than in the vertical, tended to show that either the theory of an unchanging astigmatism was wrong or that all the exceptions to the rule were finding their way into our offices.

The following case occurring in the practice of one of the writers served to shatter all faith he ever had in this erroneous teaching:

D. L., aged 24, a Jewess, single, and engaged in dressmaking, was ordered the following lenses May 27, 1893: Both eyes $+0.75$ sph. $\bigcirc +0.25$ cyl. axis 90°, for headache and asthenopia. They were worn with perfect comfort until January 4, 1896, when there was a return of symptoms. On examination there was found to be a slight increase in the hyperopia, no change in the amount of astigmatism, but a remarkable switching of the axis from 90° in the right eye to 165°, and from 90° in the left to 30°. She was ordered R. E. $+1.00$ sph. $\bigcirc +0.25$ cyl. axis 165°. L. E. $+1.25$ sph. $\bigcirc +0.25$ cyl. axis 30°. These she wore with absolute relief of all symptoms.

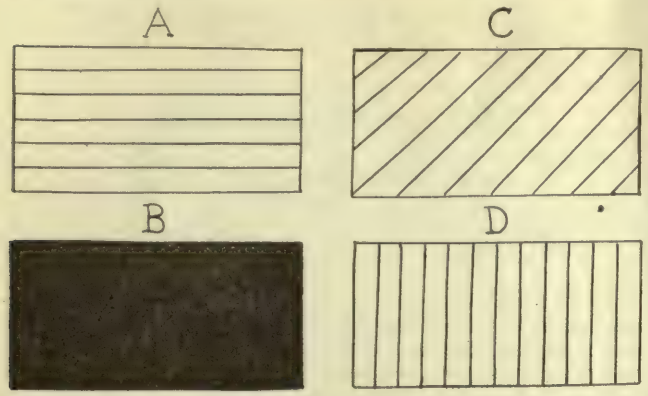
It is the custom to speak of an astigmatism as being "with the rule" when the meridian of greatest refraction is vertical, and "against the rule" when the meridian of greatest refraction is horizontal. This study of astigmatism was undertaken to investigate this rule and determine, if possible, what ground there exists for assuming that it is generally true.

We have examined and analyzed the records of 7,665 astigmatic eyes occurring in the private practice of Dr. Bennett. Practically, all these eyes were examined under a cycloplegic, age alone not being considered any bar to its use. Retinoscopy confirmed by the test case was the method generally employed, but the subjective findings were always accepted if any difference existed between these two.

In classifying these astigmatic eyes it was obviously impracticable to make a separate class for each variation in axis, so the eye was mapped out into four regions—the vertical, the horizontal, the nasal oblique, and the temporal oblique—the vertical region lying between 65° and 115°; the nasal oblique from 65° to 20° in the right eye, and from 115° to 160° in the left; the temporal region from 115° to 160° in the right eye and from 65° to 20° in the left. The horizontal region ranges from 0° to 20°, to 160° to 180°.

The eyes were further classified as to age, each class comprising a decade from the first to the seventh, and one class of over 70, making eight in all.

Again the kind of astigmatism makes another classification. Hyperopic astigmatism (either compound or simple) ought not to be included with myopic or mixed, as the pathologic changes in the latter classes introduce an element absent in the first. To determine if the amount of the astigmatism had any effect in the change of the axis these eyes were again subdivided into six



A, axis on horizontal region; B, temporal oblique region; C, nasal oblique region; D, vertical region.

classes: Those having an astigmatism not exceeding one diopter; those whose astigmatism ranged from one to two diopters, and those over two diopters. This was done only in the hyperopic and myopic, the mixed cases being too few to permit of such subdivision. As this investigation was made simply as to the astigmatism no attention was paid as to whether it were compound or

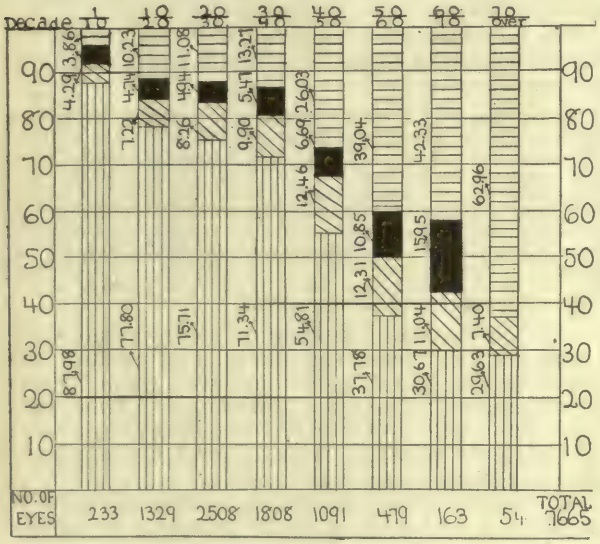


Chart 1.—Astigmatism of all varieties.

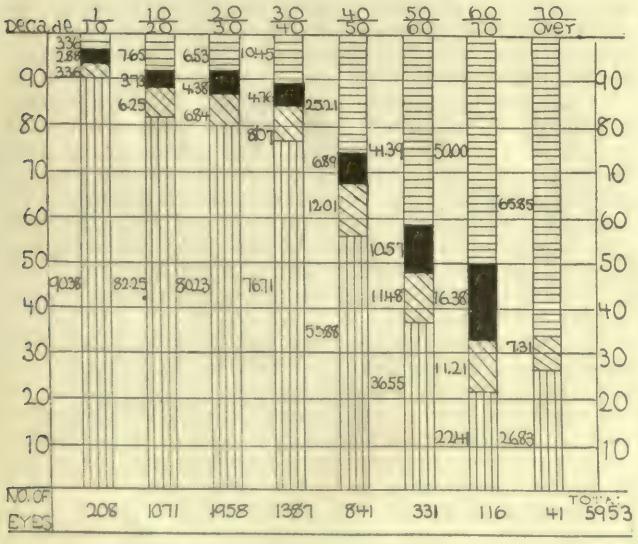


Chart 2.—Hyperopic astigmatism.

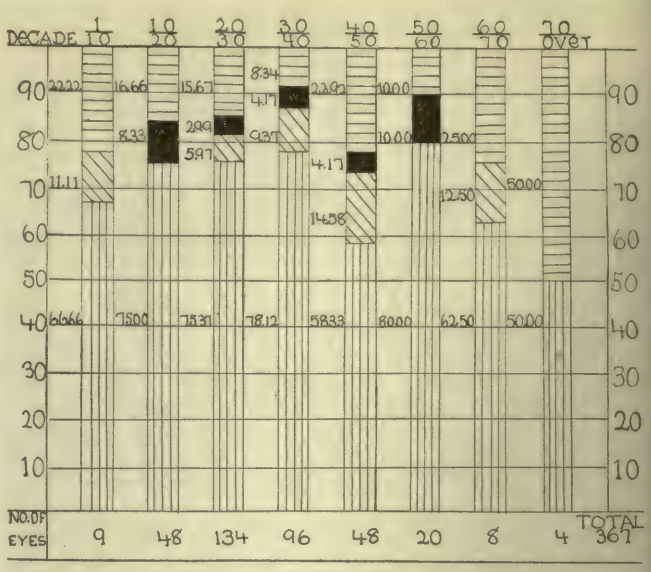


Chart 3.—Mixed astigmatism.

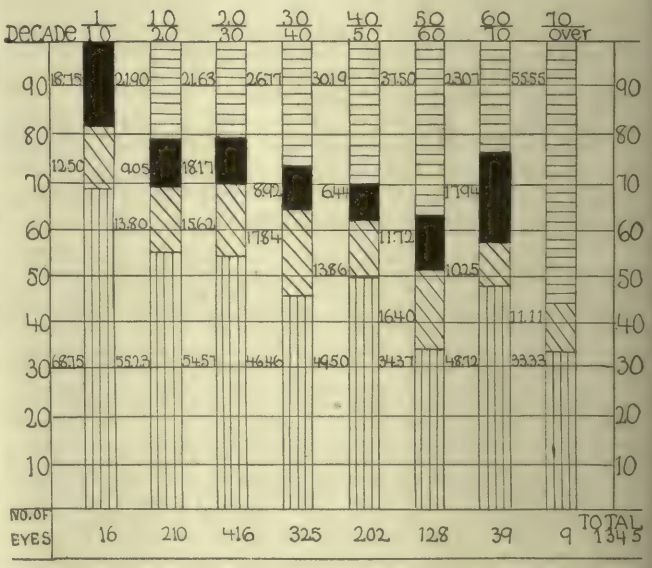


Chart 4.—Myopic astigmatism.

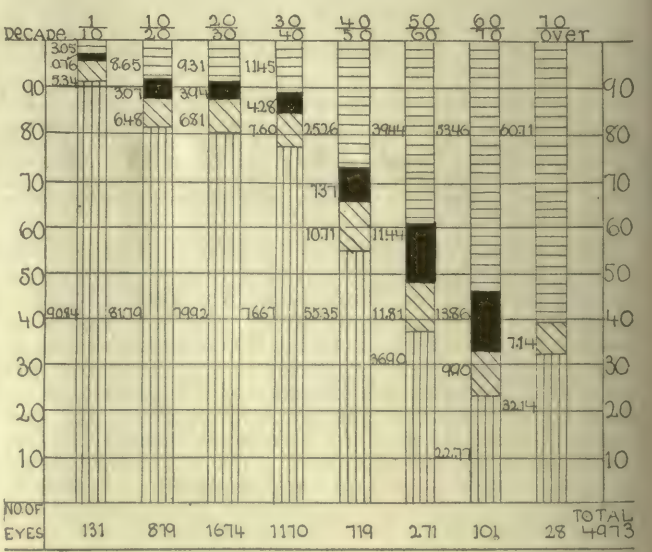


Chart 5.—Hyperopic astigmatism of one diopter and under.

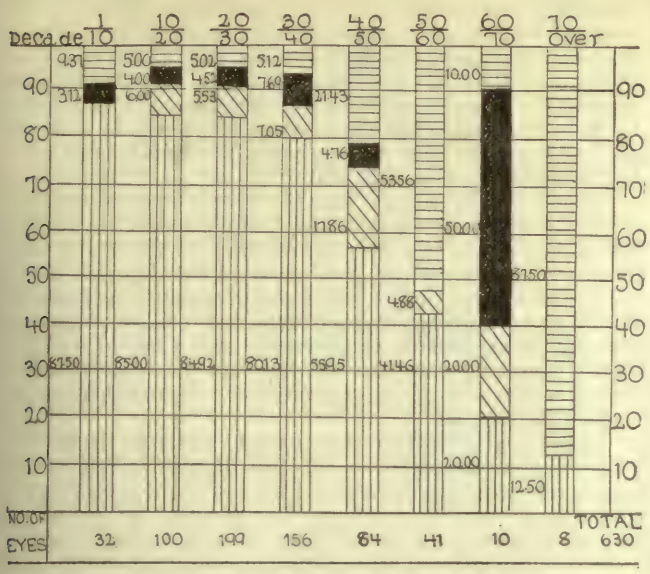


Chart 6.—Hyperopic astigmatism from one to two diopters.

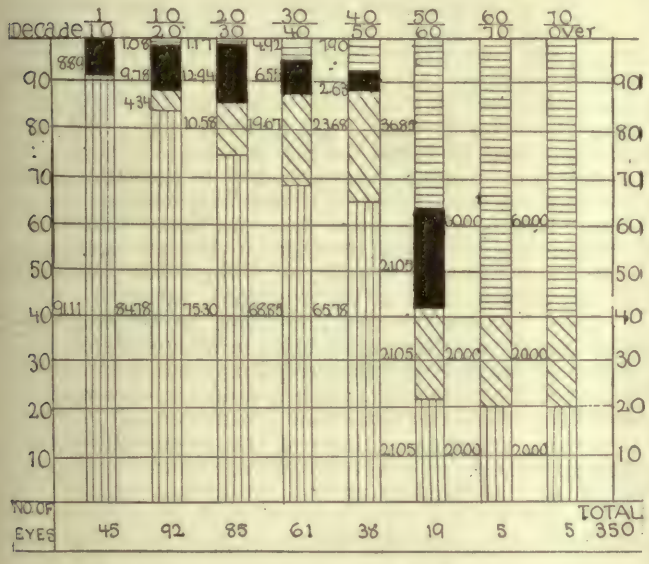


Chart 7.—Hyperopic astigmatism, over two diopters.

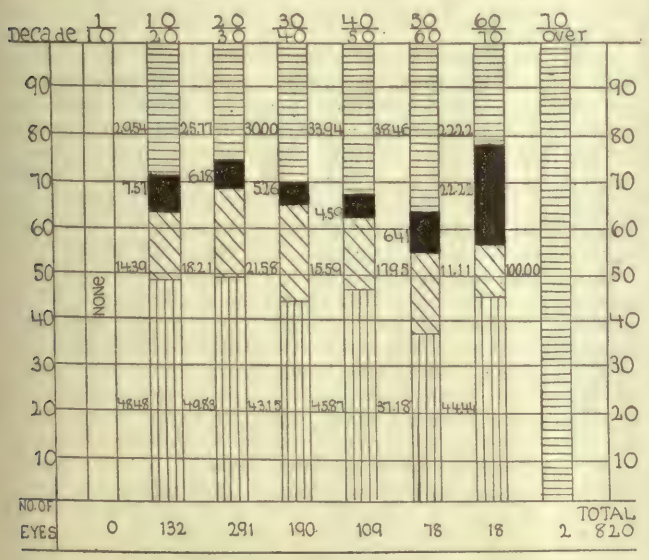


Chart 8.—Myopic astigmatism of one diopter and under.

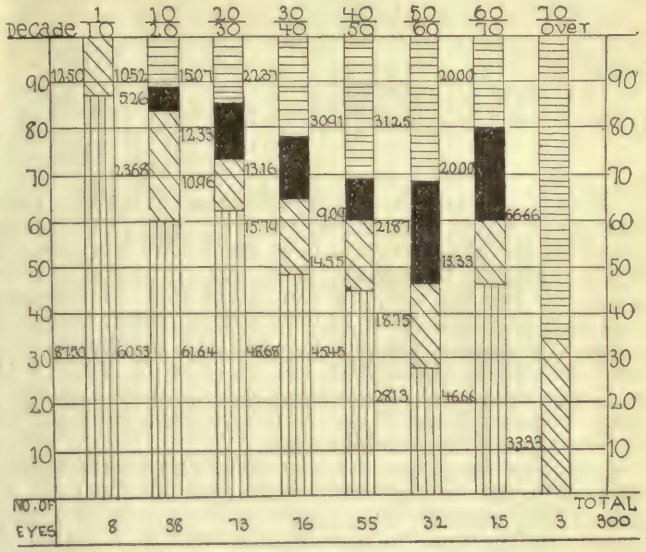


Chart 9.—Myopic astigmatism from one to two diopters.

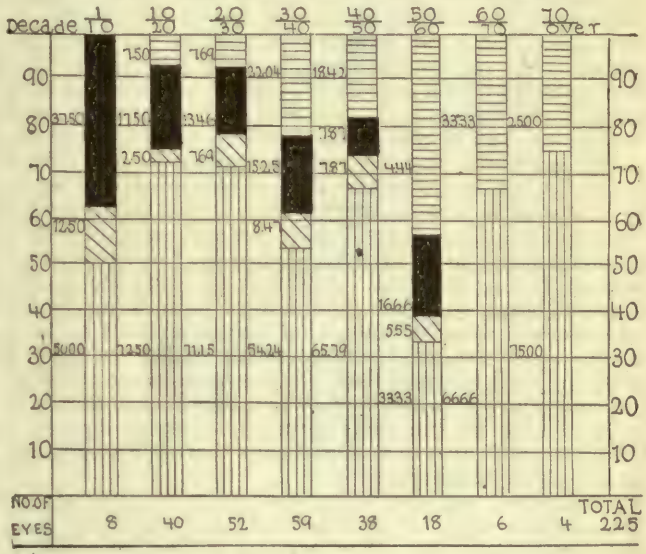


Chart 10.—Myopic astigmatism, over two diopters.

simple, as this was not considered essential to the point at issue and it would bring in so many more classes and only tend to obscure the end in view. We have as it is 224 divisions.

We found our 7,665 astigmatic eyes divided as follow:

Hyperopic	5,953
Myopic	1,345
Mixed	367
	7 665

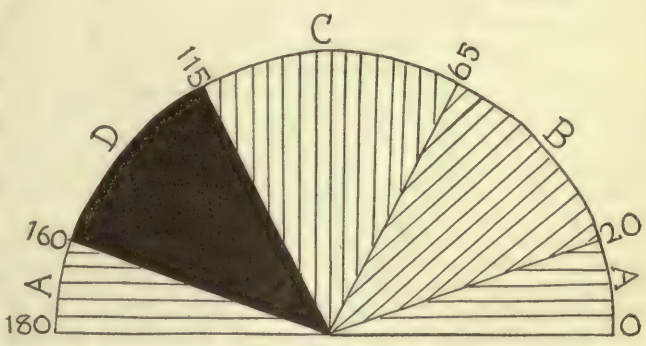


Diagram showing the regions into which the eye was mapped out. For the left eye the temporal and nasal regions will be reversed. A, A, horizontal; B, nasal oblique; C, vertical; D, temporal oblique.

The hyperopic up to 1 diopter	4,973
" " from 1 diopter to 2	630
" " over 2 diopters	350
	5,953
The myopic up to 1 diopter	820
" " from 1 diopter to 2	225
" " over 2 diopters	300
	1,345

The mixed cases were not further subdivided. Taking the eyes first without any subdivisions as to kinds or amounts but only as regards to age, Chart No. 1 shows diagramatically the percentage of each variation of axis in eight decades. It will be noted that in the first decade nearly 88% occur in the vertical region and that there is a progressive decline until in the eighth less than 30% are in this region. It will also be noted that as the percentage of the vertical axis declines the horizontal gains, but not so fast as the vertical loses, as the percentage of the obliques also advances, but in a less degree than the horizontal. In the second decade nearly 78% occur in the vertical region, but in the next 20 years little change takes place; however, in the fifth decade at the onset of presbyopia there is a decline of 16.53% and in the next decade a further decline of 17.03% and a marked increase in horizontal and oblique regions. A peculiar fact will be noted that in the last decade not one case of temporal oblique astigmatism was found in a patient over 70, but this is probably due to the fact that the majority of the records of patients over 70 had to be thrown out owing to the fact that so many had cataractous lenses, and it was deemed wise not to include any such records nor any cases of traumatism of the cornea.

Chart No. 2 shows the first of the subdivisions, all the cases of hyperopic astigmatism, and as the hyperopic variety comprises over 77% of all our cases it follows that this chart will naturally be nearly the same as the chart showing the total. In the first decade the vertical region claims 90.38%. The lowest point is reached in the seventh decade, when the percentage falls to 22.41, rising again slightly in the eighth to 26.83. Again it will be noted that but little change takes place until the presbyopic age is reached, when there is a decline of 20.83% and in the next decade a further decline of 19.33%. It is also to be noted that there is a steady gain in the horizontal region.

Chart No. 3 shows the cases of mixed astigmatism. This differs very much from the two preceding—until the presbyopic age. The vertical region increases its percentage, but immediately this age is reached there is a decline of 19.80%, nearly the same as in the hyperopic variety, but only in the next decade to increase again and mount to the highest point reached in this chart. As there are but 32 cases of this variety of astigmatism occurring after 50 years of age we consider them too few to draw any conclusions.

Chart No. 4 shows the percentages of myopic astigmatism, and proves the wisdom in separating the different varieties. In only the first three decades does the meridian of greatest refraction occurring in the vertical region exceed 50%, and in only the first does it exceed 60. The marked decline seen in the hyperopic eyes at the presbyopic age does not appear here; in fact, there is a slight increase, but at the sixth decade there is a decline of 15.12½%, with a rise in the next decade of 14.35%. The tendency to oblique astigmatism is also much more marked. There is also a general rise in the percentage of the horizontal region after the third decade, with the exception of the seventh.

The first subdivision of the hyperopic astigmatic eyes is shown on Chart 5, which represents 4,973 eyes with an astigmatism of one diopter or less. This chart conforms very closely to Chart 2, which illustrates the total numbers of hyperopic cases. The same remarks will apply here as were made on Chart 2.

The second subdivision is of hyperopic eyes, astigmatic from one to two diopters. As pointed out in the preceding hyperopic eyes, the greatest decline in the vertical region takes place at the onset of presbyopia. Between the ages of 30 and 40, over 80% of the cases had their meridian of greatest refraction in the vertical region, but between 40 and 50 less than 56% are found in this position, a fall of over 24%. There is a steady decline from the first decade when the percentage is 87½ to the eighth, when it is only 12½.

Chart No. 7 shows the hyperopic eyes astigmatic over two diopters. Again we find a general decline in the percentage of the vertical region. In the first decade 91.11%. In the eighth, 20% occur in this region. There is not the abrupt drop here at the presbyopic age as seen in the preceding hyperopic charts, but it takes place during the next decade, there being here a fall of 44.73%, and a marked increase in the oblique astigmatism. There is also a progressive increase at each decade in the horizontal region.

Chart 8, the first of the myopic variety, those eyes possessing an astigmatism of one diopter or less. This chart, representing 820 eyes, does not contain one in the first decade, and only two in the eighth. If we eliminate these two eyes in the last column, a very remarkable difference from any of the preceding varieties will be noted. The percentage of cases with the axis of greatest refraction in the vertical region in no case is 50%, though in the third decade it approaches this figure very closely, viz., 49.83%. The change in axis is also slight, the lowest that it falls being only 37.18%, a difference between this and the highest of 12.65%. The difference between the second decade and the seventh is only 4%. Nor is there that increase in the horizontal meridian that we found in the hyperopic varieties, the highest it ever mounts being 38.46% in the sixth decade as compared with those occurring in the second decade, is only a gain of not quite 9%. As noted in Chart 4, representing the total number of myopic astigmatic eyes, the percentage of cases of oblique astigmatism is greater than in those of the hyperopic variety.

Chart 9 shows 300 eyes presenting an astigmatism of from one to two diopters of myopic astigmatism. This differs somewhat from the preceding; still the same tendency may be observed, the percentage of eyes with the meridian of greatest refraction in the vertical meridian is not so great as in those of the hyperopic variety; although there is a general decline through the decades, it is not so marked at the presbyopic period. The increase of the horizontal region is also less pronounced, and again the percentage in the oblique regions is greater.

Chart 10 is the most irregular of this series. It represents 225 eyes possessing an astigmatism of over two diopters. It is so irregular that we present it without comment.

This is presented as a preliminary paper, as we hope and expect to make a further study of this subject. Although some deductions may be drawn from the study of 7,665 astigmatic eyes, still we feel that they are all too few and that to make a really exhaustive analysis at least 100,000 eyes ought to be examined. When so few eyes are classified under 224 heads some of the classes will receive an insufficient number to make the analysis of very much value. We think it hardly possible for any one or two men's practice to furnish this number, and the only way it can be done would be by several to abstract and classify their cases, and have them all tabulated together. We feel the shortcomings of this paper, and if the work were to be done again would make some changes. Instead of dividing the ages into decades we would tabulate them in epochs of life, as, for instance, infancy up to 7, childhood from 7 to 14, adolescence 14 to 24, adult life 24 to 40, middle life 40 to 60, old age 60 and over. The regions of astigmatism also might be more evenly divided into exact amounts of 45° each, but these points were only thought of when the paper was nearly completed, and the work already done had taken many weeks.

THE TEACHING OF PERSONAL HYGIENE.[1]

BY

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of Philadelphia.

Assistant Surgeon to Wills Eye Hospital.

Strange as it may seem, the one subject which every fairminded person admits should be taught to schoolchildren, namely how to keep healthy, has been largely neglected by educational reformers. There is continual bickering and babbling about what should be taught and what omitted. Every little while a new educational fetish is urged or adopted, and each year sees the demolition of many. The pupils complain of the excessive study required and the parents protest that their children seem to learn very little. But with all the agitation for educational reform there remains largely the same indifference to the proper teaching of the care of the body, regarding which Herbert Spencer lectured the pedagogic world over 40 years ago.

Mr. Spencer proved that knowledge may have intrinsic value, and that the value of some knowledge must be greater than that of others. In our brief lives it is most necessary to distinguish and give precedence to the useful, real, and effective over the nonuseful, conventional, and ornamental; or, to use a Baconian phrase, "we must determine the relative value of knowledges." All knowledge passes into action, and that knowledge that leads men to better physical lives is a communal as well as an individual gain. Mr. Spencer says that, in the order of their importance, the leading kinds of activity which constitute human life, are:

1. Those activities which directly minister to self-preservation.

2. Those activities which, by securing the necessaries of life, indirectly minister to self-preservation.

3. Those activities which have for their end the rearing and disciplining of offspring.

4. Those activities which are involved in the maintenance of proper social and political relations.

5. Those miscellaneous activities which make up the leisure part of life, devoted to the gratification of the taste and feelings.

In other words, a rational order of subordination is: Education which prepares for a direct self-preservation; that which prepares for an indirect self-preservation; that which prepares for parenthood; that which prepares for citizenship; and that which prepares for miscellaneous refinements.

It is stated with great emphasis that without doubt the actions and precautions which from moment to moment secure self-preservation are of primary importance; and that, "as vigorous health and its accompanying high spirits are larger elements of happiness than any other things whatsoever, the teaching how to maintain them is a teaching that should yield in moment to no other whatever."

Fortunately, knowledge subserving direct self-preservation is largely provided for by Nature. The common animal instincts give warning against gross dangers. The inquisitive, timid, restless infant is chiefly concerned in hourly acquisition of the primitive faculties of coordination, estimation of distance, size, consistency, and weight, the avoidance of things likely to cause pain, the assimilation of food, etc. Throughout childhood and youth there is a further elaboration of these primal requisites. But more than this is necessary, for beside the mechanical dangers there are the evils following breaches of physiologic laws. Unfortunately, so profound is the innate ignorance of these laws of life, that it is often not even known that our sensations are our natural and most trustworthy guides. The less evident but no less real dangers arising from the complexities of modern social life and the attendant evil habits are continually present, despite all innate instincts of warning. The pernicious influence of improper food and bad air, the abuse of stimulants and narcotics, the modern dissipations and vices, etc., can only be modified by proper and timely education.

It has been said that "health is man's birthright; that it is as natural to be well as to be born," and that from ignorance and transgressions of physiologic and hygienic laws arise all disease and tendency to disease. Yet, today so tardy has been the recognition of the importance of instruction in the fundamental principles of applied physiology as a means to complete living, that a thoroughly well person after middle life is the exception in every community. On every side we find chronic complaint, physical weakness, weariness, and overwhelming gloom, which might have been prevented by proper timely instruction.

A striking example of the sacrifice of health from avoidable and preventable suffering is the great number of physical and moral wrecks, the victims of the very prevalent habit of worry. So close are the relations of the mind and body that one of the most prolific sources of suffering is continuous worry, and one of the surest ways to restore health that is threatened is to keep the mind cheerful and hopeful. Excessive ambition, misdirected energy, longing for the unattainable, regret for the unalterable, anticipation of future happenings, lack of a sense of perspective, fretting over nonessentials, indecision, reopening of troublesome questions already settled, greed, avarice, selfishness, excessive emotions, uncontrolled passions, and the actual cultivation of the melancholic state, are some of the important causes of mental anguish and subsequent physical suffering that are not commonly associated with the breaches of hygienic laws to be demonstrated by teachers of practical physiology. The most lamentable thing about worry is its utter futility. With those who are physically or mentally defective we have the patience to reason and to make allowance for, but little sympathy or guidance is offered to the practically normal person who is gradually becoming the slave of a cultivated habit of worry, letting the minor trials and troubles of a day shut out much of the sunshine and happiness of life. The spiritual sin of worry should be made plain, but its association with chronic ill-health needs more discussion in both schools and churches. Observance of such teaching would do much to lessen the great American army of neurasthenics.

Besides the individual suffering from preventable illness, time and money are ruthlessly wasted, commercial and artistic instincts are curtailed, good parenthood and citizenship are rendered impossible, appreciation of amusement is dulled, and, besides being immensely deteriorated, life is markedly shortened. "Is it not clear," asks Mr. Spencer, "that the physical sins—partly our forefathers' and partly our own—which produce this ill-health deduct more from complete living than anything else? and to a greater extent make life a failure and a burden instead of a benefaction and a pleasure?"

It is not merely the teaching of the rules of hygiene that is needed, nor the ordinary course in school-physiology. Personal hygiene is applied physiology, and a proper understanding of certain elemental truths must be acquired before they can be applied. Knowledge of the normal functions of the body and the simple methods of keeping them in healthy action is the one thing that no educated person should be excused from possessing; yet most of our children reach maturity without sufficient parental or scholastic instruction in many essential matters of health. Men and women who would be greatly chagrined to be corrected in the pronunciation of a popular foreign proper name, or who would resent as an insult any imputation as to

[1] Opening paper at the Symposium of the American Academy of Medicine, on the "Teaching of Hygiene in the Public Schools," in Washington, D. C., May 11, 1903.

their lack of general culture or learning, show not the slightest embarrassment at their ignorance of the common physiologic functions of digestion, circulation, respiration, etc. Persons of intelligence continually furnish thoughtless recommendations of purely "quack" remedies and unscientific instruments and apparatus; and advertisements of these articles may be seen in the best general and religious periodicals.

Unfortunately, this lack of knowledge is not confined to the laity; for we meet medical students and graduates who do not appreciate such an important physiologic truth as the compensatory strain of the ciliary muscle in the subjective correction of hyperopia and astigmatism. I have been frequently told by advanced medical students that atropin was used by oculists in testing the eyes for correcting lenses, because, it dilated the pupil; never hinting at its action on the ciliary muscle—an inexcusable ignorance of the mechanism of eyestrain. From a reading of Dr. George M. Gould's "Biographic Clinics," it seems most likely that Mr. Spencer himself, as well as his colleague, Mr. Huxley, who was especially noted for his physiologic learning, both suffered all their lives from reflexes consequent upon uncorrected or improperly corrected ametropia.

Concerning the popular desire of the British University patrons for the classic instruction, Mr. Spencer says: "While anxious that their sons should be well up in the superstitions of 2,000 years ago, they care not that they should be taught anything about the structures and functions of their own bodies—nay, would even disapprove such instruction. So overwhelming is the influence of established routine! So terribly in our education does the ornamental override the useful!" Is this not a fairly applicable arraignment of not a few American parents?—especially as to the daughter's education; yet it is to the mothers of today that the regimen of the nursery, the rearing of children, the preparation of food, and the problems of domestic hygiene are largely left.

Most cases of illness are preventable, and Mr. Huxley says we should look upon them as criminal. Illness following disobedience of physiologic laws should be regarded as the punitive result of reprehensible conduct and not as a simple grievance. There is such a thing as physical morality, and the preservation of health should be considered a sacred duty. Persons who treat their bodies as they please, and transgress rules of personal hygiene of which they should have a definite understanding, are physical sinners; and they are not only committing a crime against themselves, but often against their dependents and future generations.

Returning to the practical teaching of personal hygiene, we find that the ordinary instruction in physical education, physiology, dietetics, and exercise is not sufficient, and often faulty. It is not desirable to produce athletes, physical culture fanatics, or practitioners of new-fangled and erratic "systems" and "pathies." What is needed is simple instruction by capable teachers in the proper care and use of the body, authoritatively based upon the best available modern anatomic, physiologic, and hygienic data. We should not have "every man his own physician," as seems often the object in lectures, periodicals, and books relating to health; rather give every man fundamental knowledge that will enable him to understand, and, if necessary, formulate the requisite rules of health, and to distinguish scientific medicine from quackery. Stripped of its superfluous technicalities this knowledge may be imparted to any one of average intelligence and education, and we should strongly urge more literature and personal explanation in this direction from the American medical profession. The subject is much too important to be left entirely in the hands of lay teachers and writers. Public hygiene may be enforced, but personal and domestic hygiene must be taught. No law can compel citizens in times of epidemics of typhoid fever or cholera to boil their drinking water and cleanse food that is to be eaten without cooking, but persistent warnings from the health-authorities, public lectures, and literature from physicians, and newspaper and periodical discussion will be of the greatest service in combating the spread of disease. General sanitary improvement is dependent upon the intelligence of the community as well as upon efficient health-officials, and one of the important duties of the latter should be to strengthen public confidence and disseminate more widely, knowledge concerning public, domestic, and personal hygiene.

The literature for the laymen pertaining to personal hygiene is in great measure unsatisfactory and irresponsible. Many of the socalled "health books" are of very questionable authorship, often the compilation of a layman, perhaps an amateur pathologist, an inaccurate physiologist, a moralist of vague opinions, with unfortunately a tendency to cater to the prurient. Such books make hypochondriacs of their readers, and if they include advice as to self-treatment, they may do great harm.

Granted that one of the most important functions of a physician is to instruct the public on necessary social and medical matters regarding which by nature of his profession he is especially informed, he must proceed with great caution, neither making his science too popular nor his popular exposition too scientific. In a recent editorial in the *British Medical Journal*, there is given the following pertinent advice to medical lecturers or writers on hygienic subjects: "In addressing the laity the physician should, above all things make it clear that his function is not either primarily or secondarily that of an itinerant preacher of as much of the gospel of medicine and hygiene as he is able to put in popular form, and induce his hearers or readers to accept. Any such attitude is fatal to the respect owing him by the public, to whom he stands as a learned man. When he recognizes a morbid attitude on the part of humanity at large with regard to things hygienic, his duty is to stem and correct it where he can, but certainly not to add to it on the pretext of giving it satisfaction. If we may speak for parents in the medical profession, it is impossible to suppose that wise fathers and mothers could desire to suggest to their sons or daughters either certain problems raised or in many cases the explanations proffered. There is a multitude of the best parents who think that their way is not made easier by the socalled moral reformer, but rather the reverse. And there are many of the most wholesome-minded boys and sweetest girls who hate him with a perfect hatred. The rest would probably do very well without him."

It is necessary to begin the instruction of personal hygiene before habits of carelessness and indifference are formed, and for this reason the preparatory school is by all means the place where the Gospel of Health should first be promulgated. The prevention of disease and disorders of the body ought to be among the first lessons in every rational scheme of education. In the lower grades textbooks and home-study are not necessary. If the teachers are properly trained, they can readily impart to their youngest pupils many of the most important lessons in practical hygiene; for instance the principles of the prevention of contagion—that they must not kiss strangers on the mouth, put dirty fingers, pencils, and other similar objects in their mouths, spit on their slates or on the floor, or rub a cut or sore with soiled fingers or rags. Similarly the salient principles of the hygiene of digestion, proper breathing, the care of eyes, ears, and skin, etc., may be impressed firmly on the child while the mind and character are in the developmental stage.

If conversations with many public-school teachers, inspection of many socalled "school physiologies," and examination of the scholars in the lower schools may be taken as a guide, the common idea of a course in physiology and hygiene for school children consists in: first, a mass of intricate and useless anatomic data; second, a

long exposition of the pernicious effects of alcohol and tobacco, often distinctly without scientific authority; and third, a system of calisthenics, which is sometimes made such a fetish as to be substituted for the very necessary play recess.

We have said much of the system, and as yet, little of the teacher. Emerson once wrote to his daughter, "It matters little what your studies are, it all lies in who your teacher is." But unfortunately, the ordinary teachers, like the parents, have not been trained to impart the proper knowledge of personal hygiene. Recently attempts have been made to correct this pedagogic fault; for instance, there has just been inaugurated at the new Teacher's College of the Columbia University in New York City, a praiseworthy attempt to train teachers "to teach Health." They will not be trained as physicians or nurses, but as capable teachers of the proper care and use of the human body.

In editorial comment upon this innovation, a prominent magazine[1] says: "It may not be extravagant to say that this same movement is of larger possible benefit than anything which has hitherto been done in the name of Education, for if it should ever come to pass that every pupil in the public schools should be brought naturally to a proper understanding of health, and its relations to every other part of life and conduct, such a chance for the advancement of the human race would be given as no considerable section of society has yet ever had. If all easily preventable physical troubles were prevented, such an addition would be made to the energy and the good sense of the people as defies description. A merely incidental item of such social progress would be the incalculable saving of the money spent on quackery, and of the waste of energy that quackery causes."

AN IDEAL METHOD FOR DRAINAGE IN CHOLECYSTOSTOMY.

BY

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If the surgeon has reviewed carefully the literature on gallbladder surgery, he knows that cholecystostomy is the operation of choice and should be performed under circumstances in which drainage is indicated. His technic in the operation of cholecystostomy has been perfect from beginning to end; and it is only after his successful operation has been completed and the necessary dressings applied that we are able to criticise and find fault with his work. He has failed to provide a satisfactory reservoir for the bile which flows continuously through the drainage tube, the inner end of which he has firmly fixed in the gallbladder by means of a purse-string suture.

Every surgeon who employs drainage after a cholecystostomy is fully cognizant of the fact, that not only the dressings but the patient's bed become stained and saturated very soon with the characteristic highly-colored bile. This necessitates the application of clean dressings and the changing of the bed linen every few hours. Such work is not only annoying to the patient, but it involves much extra and unnecessary work on the part of the attending surgeon and nurse.

Kehr has overcome these objectionable features by using a drainage tube of sufficient length so that its end can rest in a urinal placed on the floor at the side of the bed. This is a good method and yet it is not free from objections.

An ideal and perfect method for drainage of the gallbladder after cholecystostomy is the one devised and practised by Dr. George J. Cook, Professor of Gastro-intestinal and Rectal Surgery in the Medical College of Indiana. This method was devised by Dr. Cook more than a year ago and has since been employed by him and myself in all our cases. It is performed as follows:

The drainage tube employed should be of large caliber and possess firm walls so as to be not easily compressed. Its proximal end is firmly fixed in the gallbladder by a pursestring suture. Its distal end should not project more than one and one-half to two inches beyond the edges of the wound. To this end is firmly tied an extra large and extra thick condom or rubber sac. The gauze dressings are next applied; upon these is placed the condom or rubber sac and this is well surrounded and covered with cotton. All are retained in position by a binder-bandage snugly adjusted. It can readily be seen that by this method we have produced an artificial gallbladder and it lies in close proximity to the gallbladder which is to be drained. This socalled artificial gallbladder is removed once or twice every twenty-four hours, emptied, and thoroughly cleansed, after which it is again placed in position.

Dr. Cook's method possesses the following advantages:

1. It is ideal and complete in every detail.
2. It is simple and easy of performance.
3. It is cleanly.
4. It enables the patient to change his or her position without the assistance of the surgeon or nurse. (Kehr's method does not possess this advantage.)
5. The bile is collected in its pure state as it flows from the gallbladder and cannot in any way become contaminated by external influences. This enables one to make use of it for experimental work in the laboratory.
6. It enables one to study the influence of the socalled cholagogues on the bile secretion.

This method is so far superior to the one employed by Kehr that it is unnecessary to even compare the two. It is my belief that as soon as the Cook method becomes known it will be practised by every surgeon who does gallbladder surgery. A careful perusal of the literature has failed to reveal mention of the described technic; therefore full credit is to be given Dr. Cook for this very simple and perfect method, which he has devised for draining the gallbladder following the operation of cholecystostomy.

A CASE OF METASTASIS OF MUMPS TO THE BRAIN.

BY

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of Princeton, N. J.

Mr. N. F. C., aged 20, presented himself at my office on January 20, 1903, suffering with parotitis of both glands. He was sent to the Infirmary and confined to bed, being ordered divided doses of calomel, followed by a saline. The surface of the glands was covered with absorbent cotton, and applications of camphorated oil were ordered should the glands be painful.

On the fifth day after admission, through unadvised exposure, he caught cold; and, as a result, metastasis to the left testicle occurred. The testicle became swollen and tender, and exhibited all the signs of an acute orchitis. An application of guaiacol in lanolin was ordered, and this gave rapid relief, the orchitis subsiding very quickly. The swelling, pain, etc., disappeared and the testicle reached its normal size and condition in five days.

On February 1, 10 days after his admission, the patient had no fever; the pulse, respiration, bowels, and kidneys, were in normal condition; and the patient's general state was entirely satisfactory, except for a feeling of languor. The mental faculties were quite normal. During the afternoon of this day I was hastily summoned, and found the young man in severe convulsions of an epileptiform type. There had been no chill and no other warning, except a slight confusion of ideas when attempting to converse with a fellow-patient.

When seen, the patient exhibited marked opisthotonos; the limbs were rigid; there was no response of the pupils to light; the pulse was very weak, but normal in frequency. The convulsion lasted for only a few minutes; but there was a slight return an hour later. The patient could be made to swallow, although with some difficulty. Soda bromid was given and digitalis was administered hypodermically. A long, narrow mustard-plaster was applied from the base of the brain down the spine; and fly-blisters were placed over the parotid glands.

Soon after the convulsion the temperature began to rise,

[1] World's Work, February, 1903.

and that evening reached 103° by rectum. The pulse was 98; the respirations, 32. On the following day at noon the temperature was 105.4°; the pulse, 128; and the respirations, 40. Ice was applied to the head and abdomen. The patient was stupid, but could be roused sufficiently to be made to swallow; and 20-grain doses of soda bromid were continued every three hours. He was catheterized periodically, and the urine contained no trace of albumin. The bowels responded feebly to a simple enema. Calomel was given in ½-grain doses every hour, until 3 grains had been used. This was followed by cascara, and the bowels were freely moved.

The temperature, which had continued at about 104°, gradually declined from the third day. It became normal on the fifth day and remained so. The pulse during the first 24 hours of the attack ranged from 90 to 140. It became normal on the second day and continued so, but was still weak. The respirations were normal after the first day. The pupils did not readily respond to light for four days. The patient's mental faculties and his ideas remained more or less confused for nine days. During this period he suffered continuously with some frontal headache.

From the third day on, 5-grain doses of potassium iodid were administered every four hours, and the soda bromid was reduced to 10 grains every four hours. Subsequent to the time mentioned there was a rapid and uninterrupted convalescence; and the patient was discharged on February 21, entirely well. During the whole course of his disease the lungs, which were repeatedly examined, were entirely normal.

SPECIAL ARTICLES

THE PRESENT METHODS OF EDUCATION FROM THE STANDPOINT OF THE PHYSICIAN.

BY

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With each successive change in national life are evolved new laws, new customs, and new environments for the individual. The evolution of individual character necessarily wrought by national development brings us as physicians face to face with new diseases and new phases of disease. This fact is typically exemplified in the results of the strenuous life of modern times. The mad rush for wealth and position and the ever-increasing rivalry in business and social affairs result in disorders affecting principally the nervous and cardiovascular systems. That phase of the strenuous life occurring in school children is the subject proper of this paper. The increasing demands upon the adult to meet the requirements of the times call for a keener and more varied training in the formative period of life and the child is thus compelled to endure a burden relatively quite as heavy as that imposed in after years.

No further proof of this is necessary than a glance at the prescribed course of study in most of our public schools, the requirements for entrance to the best colleges, and a comparison of these to the time usually allotted to such a course. For the average student to accomplish this task in a thorough manner and suffer no physical or mental consequence is almost an impossibility. The constant strain to achieve the impossible, accompanied as it usually is, by threats and fear of failure, not only precludes any sort of mental discipline or development, but on the contrary, results in physical and perhaps also mental deterioration.

Before determining the amount of mental work which can with safety and propriety be required of a child, there are certain well-known and generally accepted facts which should be considered.

The delicacy of the nervous system in childhood and its readiness to respond to reflex disturbances, depends upon clearly determined anatomic and physiologic facts. As pointed out by Gowers, at the time of birth only parts of the cerebrospinal system are structurally complete. Extensive tracts of fibers have not yet acquired their white medullary substance, and until the axis-cylinders are thus clothed the fibers have but little conducting power. The lower centers are further advanced than the higher, and are, in consequence, imperfectly controlled. According to Jakob, medullation begins during the fifth fetal month, and is not complete until adult life.

The relative size of the brain as compared to the other organs is much larger in the growing child than in the adult, and it does not assume a fixed relation to these organs until the eighteenth or twentieth year. During the period of rapid growth children should do less mental work than when growth is completed or less rapid.

That children are easily fatigued has been demonstrated by certain physiologic experiments upon their mental processes. According to Dr. Robert Lovett, of Boston, "there was an increase of 33% in mistakes in dictation tests given early in the morning and after a few hours of study and recitation. In pupils from 12 to 13 it was found that there was a markedly lessened ability to apply themselves after the third quarter of an hour of continuous work. Taking five hours of interrupted work, such as the ordinary school routine furnishes, it was found, in a ten-minute test taken every succeeding hour, that the amount of work increased up to the third and fourth hour, but diminished in the fourth or fifth, and that the number of pupils making no mistakes decreased from the first to the fifth hour."

Ignatieff found that 191 out of 243 children lost on the average of 3½ pounds during the examination period. Christopher, in tests made in schools in Chicago, established the fact that endurance decreases toward noon, increases again after the noon hour and diminishes again toward night.

Another well-established fact is that recovery from mental fatigue is much slower than from physical fatigue, and yet the working hours of school children, taking into account the amount of study done at home, approximate very closely those of the legal working day of the ordinary laborer. There is also during the period of development and rapid growth a diminution in the power to resist fatigue, either physical or mental. Not only is resistance to fatigue lessened by overwork in schools, but the same holds true of resistance to disease. It is claimed by competent observers that chronic disorders are more frequent among children who attend school during the whole day than those who go in the morning only. It has also been found that acute diseases are more prevalent during the examination period, when fatigue is greatest and resisting power the least. The vast difference existing in school children, as they are ordinarily brought together, not only in physical strength and development, but also in mental capacity, is a most impressive fact. And yet all degrees of bodily perfection or imperfection and of mental capabilities are subjected to the same standard of requirements.

The individual is lost sight of and the cruel law of survival of the fittest works sad havoc with those who for any cause are lacking in physical or mental vigor. The element of sex is also completely ignored and the delicate girl at one of the most critical periods of her life is forced to endure a strain wholly incompatible with her physical resources. Disorders of the nervous system are probably the most common results of the high pressure and disregard of physical laws in our school system, but the special organs and viscera suffer to no small degree. The effect of nerve tension as a predisposing cause of visceral disease is being constantly recognized more fully.

A prolonged high arterial tension is likely to result sooner or later in changes in the internal organs. Especially is this true of some of the various kidney lesions. It is no uncommon thing for a person of good habits, guilty of no excess in eating or drinking, to become the victim of kidney trouble, brought about solely by the mental strain of work and worry. That the tension of school life can predispose to such a condition, if not actually cause it, is by no means improbable.

Menstrual disorders are especially common in young women in school. Dr. Jane Kelly Sabine, of Boston, in observations of 2,000 young college girls found such troubles to exist in 75% of them.

Various forms of eye trouble, especially errors of refraction, are so commonly found that crude examinations of eyes by means of test-types are systematically made by the teachers

in certain schools. This I understand has been recently done in the public schools of Philadelphia.

Defects in speech and hearing, gastric and cardiac disturbances, spinal curvature, and imperfect lung development go unrecognized and are aggravated by the conditions and environments of school life. That tuberculosis is often unwittingly communicated in this manner needs no demonstration in the light of our present knowledge of the tubercle bacillus and its method of propagation.

But the body does not alone suffer, for in the thoughtless haste to cram the young brain full of facts, the memory is overtaxed and the mental discipline, the judgment, the power of logical and deliberate reasoning are lost sight of entirely. Before an attempt is made at cure, an accurate diagnosis is necessary and before remedies are applied to the educational system, the exact factors responsible for the existing conditions, should be definitely understood. The most apparent of these factors seem to be:

First.—A multiplicity of studies.

This is a natural outgrowth of the material tendency of the times. A consideration of the branches to be taught, involves an understanding of the real objects of preliminary education. From the simple idea of mental discipline or mental gymnastics which prevailed among the Greeks and Romans and the monastic schools of the Middle ages, the practical view of education has been gradually developed, which considers the acquisition of facts rather than the discipline of the mind as the real object in view. That the pendulum has swung too far and that mental discipline rather than memorizing of facts is of the first and most vital importance, is voiced by many authorities on educational matters and by many profound thinkers.

Second.—The baneful effect of examinations.

The mental worry and physical torture resulting from the system of examinations as well as their inadequacy as a test of standing, is so well understood by teachers themselves that they are being abandoned in many schools where a proper average of daily work has been maintained by the student. That great educator and finished scholar, Professor Hiram Corson, of Cornell University, speaks as follows on the subject:

"Examinations are the bane of literary study. . . . I have been present at literary examinations which brought out answers, acceptable indeed to the examiners, but which no more evidenced the students' knowledge of the works on which they were examined than the boy Bitzers' definition of a horse in the second chapter of Dickens' 'Hard Times,' evidenced that he knew anything of the noble animal he defined, though it was entirely satisfactory to Thomas Gradgrind, the examiner on the occasion, who believed that facts alone are wanted in life. The definition was as follows: Quadruped. Graminivorous. Forty teeth, namely, 24 grinders, 4 eye-teeth, and 12 incisive. Sheds coat in the spring; in marshy countries sheds hoofs too. Hoofs hard, but requiring to be shod with iron. Age known by marks in mouth."

If the present methods of examination could be entirely abolished and the incentive of conscientious daily work substituted, it would be another step in advance.

Third.—The imperfect classification of scholars both as regards physical condition and mental aptitude.

Not only should the exact physical condition of every scholar be determined and the proper remedies applied, but also a classification should be made on a psychologic basis. This would prevent much of the evil arising from the association of children of different abilities, and would preclude the possibility of having those in public schools who should properly be in institutions for the feeble-minded.

This could only be accomplished by a frequent and thorough examination of all school children by competent physicians. A beginning has been made on this line in this State in the cities of Orange, Plainfield, and Camden, and, so far as I am able to learn, with very satisfactory results.

While the foregoing causes are the most responsible for the defects in the present school system, there are many more which might be alluded to if time permitted. School hygiene, the establishment of a department of physical education, and the development of vital statistics as relating to the school population are especially worthy of consideration.

The medical profession has a duty to perform in regard to the health and wellbeing of school children. It is a question which deeply interests us both as men and physicians. We desire to see the youth of our land grow up into well-rounded men and women, developed into the fullest and soundest, mental, moral and physical life possible. As men we may be even touched by a more tender interest, for I doubt not there is more than one of us who has seen a son or daughter, a brother or sister, fall by the wayside, a physical wreck, a victim of nerve strain while in school.

As physicians the subject is of interest to us as affecting the wellbeing, not only of the present generation but, through heredity, of future generations as well. In many ways we can let our influence be felt in this matter—by awaking a deeper interest among teachers and parents, by having, as far as possible, a competent representative of our profession upon Boards of Education, by influencing legislation and by its more frequent discussion in representative medical bodies.

THE WORLD'S LATEST LITERATURE

Journal of the American Medical Association.

July 25, 1903. [Vol. XLI, No. 4.]

1. Closure of Wounds. Miles F. Porter.
2. A Case of Acute, Nontraumatic, Multiple Osteomyelitis, Produced by the Streptococcus, Occurring in a Male Adult. John T. Bottomley.
3. Further Experience with the Vertical Overlapping Operation for the Radical Cure of Umbilical Hernia William J. Mayo.
4. Report of Operative Treatment of Graves' Disease. T. C. Witherspoon.
5. Pathology and Treatment of Smallpox: An Analysis of Over 2,000 Cases and of Over 50 Autopsies. Nelson D. Brayton.
6. Clinic at Charity Hospital, New Orleans. Conducted by Isadore Dyer.
7. Limitations of Nonsurgical Treatment in Acute Intestinal Obstruction. Joseph Rilus Eastman.
8. Bacillary Dysentery (Shiga). Charles F. Mason.
9. Malarial Dysentery. William Britt Burns.
10. Traumatic Pneumonia. W. T. English.
11. Vernal Conjunctivitis. William Campbell Posey.

1.—See *American Medicine*, Vol. V, No. 26, p. 1021.

2.—See *American Medicine*, Vol. V, No. 21, p. 819.

3.—See *American Medicine*, Vol. V, No. 21, p. 820.

4.—See *American Medicine*, Vol. VI, No. 1, p. 10.

5.—Pathology and Treatment of Smallpox.—N. D. Brayton adopts Osler's classification. In purpura variolosa he has found blood in the vitreous chamber in profuse quantity. Nothing pathologic has been determined in these cases. The blood is thin and dark and clots slowly. Death occurs before the appearance of an eruption. In variola pustulosa hemorrhagica the eruption always develops more or less. Lesions in the respiratory tract cause much distress. The hemorrhage is into the lesion and not interstitial or subcutaneous, as in the previous variety. In variola confluens extensive pharyngeal, laryngeal, nasal, and bronchial lesions are always present in severe cases. The writer has demonstrated lesions almost coextensive with the trachea itself. Too much emphasis cannot be placed on proper therapeusis to prevent pulmonary involvement. Slow pustulation is not only dangerous to the patient, but means extensive scarring. Health officers who have advocated isolation and disinfection as efficient prophylaxis have since retracted. Repeated vaccination is the only means of prevention. In hemorrhagic cases opium should be given unstintedly. Hot baths or hot packs should be given as soon as the eruption appears. As soon as the pustules are fully formed their contents should be cureted away and an antiseptic bath be given. Prevention of scarring is largely beyond the power of the physician. A 3% or 4% salicylic ointment increases epithelialization. Hot cloths to the face and oils and salves also do good. The constitutional treatment is symptomatic. Ammonium chlorid and aromatic spirits of ammonia liquefies the mucus when the respiratory tract is affected. There is little doubt of a hydremic state of the blood in the pustular stage, and Brayton recommends intravenous saline infusions. The red-light treatment has proved a failure. [H.M.]

7, 8.—See *American Medicine*, Vol. V, No. 20, p. 772.

9, 10.—See *American Medicine*, Vol. V, No. 20, p. 771.

11.—See *American Medicine*, Vol. V, No. 20, p. 783.

Boston Medical and Surgical Journal.

July 23, 1903. [Vol. CXLIX, No. 4.]

1. The Shattuck Lecture before the Massachusetts Medical Society, June 9, 1903: The Sources, Favoring Conditions and Prophylaxis of Malaria in Temperate Climates, with Special Reference to Massachusetts. THEOBALD SMITH. (Continued from No. 3, p. 64.)
2. Studies on the Action of Alcohol in Disease, Especially Upon the Circulation. RICHARD C. CABOT.

2.—See *American Medicine*, Vol. V, No. 27, p. 1020.

Medical Record.

July 25, 1903. [Vol. 64, No. 4.]

1. Some Cases Treated by the X-Ray. WILLIAM JAMES MORTON.
2. Congenital Laryngeal Stridor. JAMES E. NEWCOMB.
3. Perichondritis of the Larynx, with Report of a Case. EMIL MAYER.
4. Gouty Phlebitis. A. A. GETMAN and R. W. AMIDON.
5. Hybrid Malaria. J. LINDSAY PORTEOUS.
6. "Authority and Facts." J. R. CLEMENS.

1.—Cases Treated with Röntgen Rays.—W. J. Morton reports his results in treating cases of epithelioma, carbuncle, keloid, acne, alopecia areata, sycosis, fibroid tumor, psoriasis, and lupus, with the Röntgen rays. He has obtained the usual good results in treating epithelioma. He reports the speedy cure of a carbuncle, and the complete disappearance of two large keloids under Röntgen ray treatment. In a very aggravated case of acne the final results of treatment were good. The treatment is asserted to have caused new hair to appear in alopecia areata. It is claimed that a large fibroid uterine tumor has been caused to reduce one-third in size and the symptoms attendant upon it relieved by the rays. In treating lupus he uses the sound skin as a control. [A.B.C.]

2.—Congenital Laryngeal Stridor.—J. E. Newcomb describes this as a stridor coming on within a few days of birth, continuing generally for months, sometimes for years, apparently not doing the child much, if any, injury and finally subsiding of its own accord without sequels. No therapeutic measures have seemed to modify its course. As happens in rare diseases, writers have endeavored to establish too rigid a symptomatology. The epiglottis has been curved or rolled on itself or the aryepiglottic folds have not their usual firmness, their free ends nearly touching, or protuberances have contracted the upper part of the larynx, acting like supplementary cords. As a rule, there has been no cyanosis or air-hunger and the health is generally good. The sound varies. The writer discusses the various theories as to etiology and its differential diagnosis. A general tonic treatment is all that is called for. [H.M.]

3.—Perichondritis of the Larynx Following Typhoid Fever.—E. Mayer reports the case. The patient was a woman of 28. Over three months previously she suffered from a severe attack of typhoid fever. Pleurisy, abscess, and phlebitis of the arm complicated the typhoid attack. She developed hoarseness, and examination showed the following condition: On the right half of her larynx was a large mass beginning on a line with the ventricular band and extending down into the trachea, narrowing the lumen to a mere chink. Temperature 101½° F., pulse 126, respirations 36. The diagnosis of posttyphoid laryngeal perichondritis was made and immediate tracheotomy was advised, This was agreed to, and at 1 p.m., two hours later, under chloroform, tracheotomy was performed. Various subsequent troubles arose, forcible dilation of larynx and intubation being necessary. The patient is not yet fully recovered. A short review of the eight cases collected by J. P. Crozer Griffith is given. He further states that the study of these cases with his own leads him to believe that early tracheotomy, subsequent dilation and intubation is the best method of treatment. His own case has features of interest: The early development of laryngeal symptoms during the disease, the enormous submucous infiltration, both before and after tracheotomy, the success that followed dilation, making intubation under anesthesia easy, and the subsequent ease of deglutition with the tube *in situ*. [A.B.C.]

4.—Gouty Phlebitis.—Getman and Amidon report that a woman of 39, who had previously suffered from gouty phlebitis fell from a street car, landing heavily on her heels. The next day there was pain and tenderness in the right leg, more marked along the saphenous vein. Swelling and dusky discoloration became marked and pain was continuous. The condition was diagnosed peripheral neuritis and treated accordingly. Tense, brawny swelling persisted. Remembering Paget's essay having to do with gouty phlebitis the diagnosis was made clear. Restricted diet free from uric-acid-producing properties, laxatives and prolonged rest in bed have resulted in almost a complete cure save some enlargement from obstructed circulation in the leg. [A.B.C.]

5.—Hybrid Malaria.—J. L. Porteous describes a disease caused by a specific poison allied to that of typhoid and malaria. Most of the cases were considered pure typhoid but failed to respond to the Widal test. All had many symptoms of typhoid and some of malaria. The most prominent symptoms of both these diseases were wanting. It is differentiated from paratyphoid by having no age limitations, no subnormal temperature at the beginning of the attack, no purulent nonarticular arthritis appearing on the fifth day, as is said to be the case often in typhoid. It is distinguished from typhoid by its more rapid onset, freedom from complications, absence of iliac pain or gurgling, and by the eruption coming not in crops but clusters, appearing in the first week and remaining several days, then disappearing gradually; by the sudden subsidence of fever and rapid recovery, and by negative Widal tests. It differs from malarial fever by absence of intermittent febrile conditions, the appearance of a rash, and the absence of chill. Calomel and Warburg's tincture give the best results with acetozone for obstinate diarrhea. [H.M.]

6.—Authority and Facts.—J. R. Clemens quotes the textbooks to contradict them in three particulars: 1. That early albuminuria in cases of sore throat suggests diphtheria rather than scarlet fever. This generalization is worthless. There is an albuminuria of fever. How are we to tell what part the angina and what part the fever has in bringing about the albuminuria? 2. Absolute constipation is confirmatory evidence of intestinal obstruction. Some patients are accustomed to evacuations only every third or fourth day. It is only when the patient volunteers the statement that he thinks if he could pass flatus or have a motion that he would be better that absolute constipation becomes a valuable sign. 3. In the headache of chronic renal disease the chief indication is to lower the arterial pressure. We must first ask whether the headache is a manifestation of uremia or of high tension. [H.M.]

New York Medical Journal.

July 18, 1903. [Vol. LXXVIII, No. 3.]

1. Artificial Immunity in Experimental Tuberculosis. E. L. TRUDEAU.
2. A Statistical Report of Gastrotomies for Removal of Foreign Bodies from the Stomach. JULIUS FRIEDENWALD and L. J. ROSENTHAL.
3. The Subcutaneous Use of Paraffin in Deformed Noses, with a Supplementary Report. HAL FOSTER.
4. A New Obturator for the Urethroscope. I. H. JACOB.
5. Subconjunctival Medication, with Special Reference to the Use of Salt-sugar Solution in Acute Affections of the Anterior Portion of the Eye. HOWARD MCI. MORTON.
6. A Case of Black Hairy Tongue. R. H. JOHNSTON.
7. The Temperature in "Summer Complaint." WILLIAM F. WAUGH.

1.—See *American Medicine*, Vol. V, No. 23, p. 895.

2.—Gastrotomy for Foreign Bodies.—A statistical report of 90 gastrotomies for the removal of foreign bodies from the stomach is given by Friedenwald and Rosenthal. One foreign body was found in 68 instances, more than one in the remaining 22. The majority of foreign bodies found were metallic and had usually been swallowed in fits of insanity; others were swallowed as a means of obtaining a livelihood. The foreign bodies varied greatly, nails in large numbers, safety pins, hat pins, pieces of broken wire, lead pieces, broken sword blades, button hooks, forks, knives, false teeth and hair masses. In three cases the stomach tube was broken off and had to be removed by gastrotomy. In one case a Murphy's button remained after gastroenterostomy. Operation should be insisted on immediately after the foreign body has been swallowed for the changes enumerated so frequently weaken and debilitate the patient as to make the operation serious. During preantiseptic times 19 patients were operated on, with 78.9% recoveries. During antiseptic and aseptic times 71 patients were operated on. In 28 cases the operation was performed early (at

least 10 days after the foreign body had been swallowed) with 92.7% recoveries. In 29 cases the operation was late with 86.2% recoveries. In 14 cases the time of operation is unknown, recoveries 92.7%. A series of charts are appended giving the details of the cases. [C.A.O.]

3.—Subcutaneous Use of Paraffin.—Hal Foster has made use of the subcutaneous use of paraffin in 3 cases of deformed noses and reports good results. He believes that the commercial paraffin is the best grade to use. The cases suitable for its use are "saddle-back nose," from any cause; sunken-in nose, from perichondritis; congenital or acquired luetic nasal deformities; also where the septum has been destroyed or crushed in, as in atrophic rhinitis. A metal paraffin syringe should be used, the needles of which are much larger and longer than those of an antitoxin syringe. A temperature of 105° F. will suffice if the operator acts quickly after the warm syringe is charged. [C.A.O.]

4.—A new urethroscopic obturator is described by I. H. Jacob. It consists of a catheter with a central eye and a mandrin, upon which a small hollow cylinder slides. When closed the catheter projects over the tube about 1 centimeter, while the mandrin will overlap the tube by about 4 millimeters. Upon introduction the end of the catheter assumes the curvature of the urethra. The straightening process is effected by the end of the mandrin. When the cylinder is in position the mandrin and then the catheter may be removed, showing a view of the whole posterior urethra. [C.A.O.]

5.—Subconjunctival Medication.—H. M. Morton advocates the use of a physiologic salt solution with 3% sugar solution in such cases as the injection of mercury, or later hetol, would seem to be indicated. In severe uveitis attendant upon articular rheumatism, from 2 to 4 gms. (30 to 60 grains) of this solution results in greater comfort and assists in recovery. The use of this solution has been confined to cases of pneumococcus ulceration of the cornea, to forms of plastic iritis associated with rheumatic disease, especially where entire involvement of the anterior portion of the uvea exists, and to traumatic infected ulcer of the cornea, as well as in dendritic ulceration. In all these inflammatory processes the writer uses injections of from 2 to 4 gms. (30 to 60 grains), or even to 6 gms. (90 grains) of the solution of salt sugar. The fluid is injected with an ordinary hypodermic syringe, so that it fills the subconjunctival space about the cornea. [C.A.O.]

6.—A case of black, hairy tongue is reported by R. H. Johnston, in a man of 56. Protrusion of the tongue showed a black discoloration, almost round, measuring about 10 mm. ($\frac{2}{5}$ in.) in both diameters. The patch was situated in front of the circumvallate papillas in the center of the tongue. The black area was covered with hairs about half an inch long. The hairs were found to consist of hornified epithelium, one cell upon another. There was no swelling of the filiform papillas. The duration of the trouble was two months. [C.A.O.]

7.—The Temperature in "Summer Complaint."—W. F. Waugh describes two widely divergent types. In one there is a subnormal temperature in the axilla, possibly a little elevation in the rectum, but the whole aspect of the child indicates profound depression and relaxation. The skin is pallid and moist, the eyes sunken, the abdomen depressed; the child lies relaxed and nerveless, its eyes half closed, the whites rolled up. There may be some heat over the epigastrium, but there is scarcely ever any in the forehead. In this condition the benefits of atropin are immediate and marked, if enough is given to produce any manifest effect. This should be followed with brucin, cautiously repeated in small doses until the tonicity of the pulse has been reestablished, and the intestinal musculature and mucosa restored to resistant vitality. In the other group of cases, the epigastrium and forehead present a pungent heat, the pupils are contracted and there is hyperpyrexia. The child is restless, tossing, or jerking, and convulsions may occur. Calomel, gr. $\frac{1}{20}$, should be given every quarter of an hour for five doses, the stomach and bowels washed out with safe antiseptic solutions and the pulse and temperature should be controlled with minute doses of aconitin, or of veratrin if the renal excretion is markedly diminished. Zinc sulfocarbolate should be pushed to the full effect—that is, give from $\frac{1}{8}$ of a grain to one grain, with a grain of bismuth subnitrate and one of saccharated pepsin or other digestive ferment, every quarter hour until the danger is past. The child should go into a warm bath, which should be gradually cooled down by pouring in cold water, and iced cloths should be applied to the child's head. Give no food. [C.A.O.]

Medical News.

July 25, 1903. [Vol. 83, No. 4.]

1. Studies on the Action of Alcohol in Disease, Especially Upon the Circulation. RICHARD C. CABOT.
2. Malignant Tumors of the Testis. WILLIAM B. COLEY.
3. Alcoholism in Women. AGNES SPARKS.
4. Alcoholic Toxemia: Its Pathology and Treatment. THOMAS D. CROTHERS.
5. Infant Feeding—a Science and Art. JOHN F. CONNORS.
6. A Case of Panophthalmitis in Typhoid Fever. W. WHITEHEAD GILFILLAN.

1.—See *American Medicine*, Vol. V, No. 27, p. 1020.

2.—Malignant Tumors of the Testis.—W. B. Coley has observed 18 cases of tumor of the testis, of which 17 were sarcoma and one teratoma. In regard to age he says: More than one-half of his cases were young men between 20 and 30; two were 19, none being younger than that. Nine were between 20 and 30; five were between 30 and 40; one was between 40 and 50; one was 55 years old. These figures do not bear out the statement of some, that sarcoma of the testis is a disease of childhood and old age. In 50% of his cases there was a history of traumatism. Involvement of the inguinal and retroperitoneal glands takes place very early. The writer has in no instance observed a cure, though he quotes Kober as recording 9 cures out of 105 cases of malignant tumor of the testis. In the latter's list of cases 56% of the patients dying, succumbed within the first five months after operation, and 83% within the first 12 months. He insists on early diagnosis and operation as the only hope of effecting a cure. In addition to this he would use the mixed toxins of erysipelas and *Bacillus prodigiosus* for two or three months after operation. His patient with teratoma of the testicle is well two years after operation and there is no evidence of recurrence. The cases are reported in some detail, and diagnosis is considered at length. [A.B.C.]

3.—Alcoholism in Women.—A. Sparks finds that woman is more often exempt from its heredity than man. She seeks relief from ill-health in alcohol. Secret drinking is the rock on which her life is wrecked. The need of careful search in obscure and recurring illness to settle the question of secret drinking is obvious. The writer reports a case in which epilepsy, paraplegia, and other nervous disorders resulted, but which remarkably improved under treatment. [H.M.]

4.—Alcoholic Toxemia.—T. D. Crothers notes that the pathologic changes which follow alcoholism resemble those from traumatisms, infectious fevers, inflammations and some other acute diseases. In all cases followed by delirium, there are clearly states of narcosis for which toxins are largely responsible. When the symptoms take the form of socalled delirium tremens it shows that organic changes of a serious character have occurred. Alcohol acts first on the bloodvessels, paralyzing the vasomotor nerves, breaking up the uniform flow and diminishing the nutrition of the artery and resulting in sclerosis. The red cells are reduced and the white increased, while the cell life is shortened. It acts on nervous tissues, producing neuritis. Experimentation shows the same changes that occur in excessive fatigue. Statistics show that mortality from delirium tremens has been reduced from 50% to 10%, while mortality from other forms of alcoholism which used to be 10% has increased to 50%, 60%, or 70%. No shock is caused by entire and immediate withdrawal as is sometimes contended. The toxins should be expelled by salines and baths. Narcotics and food should be withheld until elimination has taken place and the acute stage has been passed. During convalescence chloretone in large doses is the best hypnotic. For the alcoholic craze strong infusion of quassia is effective. Cinchona and arsenic are valuable tonics. [H.M.]

5.—Infant Feeding.—J. F. Connors states that it is impossible by any process to make cow's milk a perfect substitute for mother's milk. The formation of a soft curd is necessary to the development of the motor function of the stomach. For this reason peptonized milk is unsuitable. A ration may be chemically right but practically wrong. Palatableness is an

important factor in successful feeding. The aim in feeding should be to get the infant to take plain cow's milk as soon as possible. The simplest method of modifying is to dilute top milk and add sugar. Direct trial is the only way to find the proper strength. To bring the sugar up to the necessary amount 5% is added for all dilutions greater than one part of milk to two parts of diluent. The writer gives a table showing how much diluent and sugar must be added to increasing quantities of top milk. As vigor depends on the proteid stored up methods of increasing its digestion should be employed such as dilution with cereal gruels. Dextrinized gruels add considerable proteid to the food. Whey is a valuable temporary substitute for milk, but does not develop the motor power of the stomach. Poisonous bacteria come from filth. Infants thrive on the lactic acid bacteria of buttermilk. A small quantity of lactic acid toughens curds. A large quantity prevents their formation. Pasteurization is useful in hot weather because it kills the acid producing bacteria which make the milk curds less digestible. Pasteurized milk a day or two old may cause vomiting and diarrhea from putrefactive bacteria not destroyed. When top milk is out of the question whole milk may be diluted two to six times and sugar added. If this cannot be properly prepared condensed milk is the best substitute. In digestive disturbances stop all milk, wash the stomach and feed on thin barley water, after several days gradually adding a little milk. [H.M.]

CLINICAL MEDICINE

DAVID RIESMAN A. O. J. KELLY

EDITORIAL COMMENT

Report of the Malaria Expedition in Southwest Africa.—As a colonial power, Germany has not been a great success, at least, not commercially; but she has made good use for the advance of science of the opportunities offered in her tropical possessions. The governmental commission headed by Professor Koch has had an excellent effect in stimulating the study of malaria and of other endemic diseases of man and animals. The center of attack of the expedition was Franzfontein. The first blood examination, made on 151 persons, showed malarial parasites in 103, or 68%. In only 31 of these were there transient rises of temperature. In the examination subsequently conducted, there were positive results in 75% of the negroes in Franzfontein, and in from 28% to 71% of the tribes inhabiting the surrounding towns. These figures show the intensity of the infection, and would seem to offer but little hope of successful attack. Vagedes, the head of the expedition, believed with Koch that the destruction of the mosquito was impracticable. In the first place, water is so scarce in the section of country in question that it seemed unjustifiable to contaminate the pools used by man and beast with chemic substances. Furthermore, it would have been impossible to discover all of the swampy places in time to prevent the breeding of the anopheles. The only way in which it was possible to break the vicious circle of the transmission of malaria was by killing the parasite in the human being; and in this the expedition was successful. During the year following the campaign only fifteen cases of malaria were discovered in Franzfontein—a remarkable result. Of these, four were imported cases.

The Combat with Malaria in Puntacroce.—During Professor Koch's visit to Brioni island, recently referred to by us, he was requested to extend his antimalarial campaign to Ossero and Puntacroce, two malarious settlements—on the main coast of Austria. Dr. Bludau was entrusted with the task of stamping out the disease in Puntacroce; and, by following the methods advised by Koch, he was entirely successful. The disease was found chiefly among the children—a point emphasized by Koch as epidemiologically important; for it has been shown that where malaria is endemic, it is especially a disease of childhood. Of the 42 children in the village, Bludau found that 27 were suffering with malaria and that only 4 were entirely free from parasites. From January until March 28, 1901, there were 8 deaths among children in Puntacroce; while between March 28, and September 1, 1901, comprising the period of the campaign, not a single death occurred, nor was there any malaria whatever after September 1. It is, of course, impossible to state that the extermination of the disease is permanent; further observations will probably be published.

REVIEW OF LITERATURE

Gangrenous Pharyngitis Associated with Gangrenous Appendicitis.—On the eighth day of an attack of gangrenous pharyngitis and tonsillitis from which streptococci were isolated a patient of W. Mayer's[1] was seized with symptoms of appendicitis. Operation on the third day revealed a gangrenous appendix with four small perforations and a beginning general peritonitis; only the colon bacilli could be found in smears from the appendix. Mayer believes the two to be connected etiologically in spite of the difference in bacterial findings. He thinks the streptococci started the inflammatory process and were destroyed by the large number of colon bacilli inundating the field. [E.L.]

False Aneurysm of the Common Carotid.—A case of this rather infrequent affection is reported by W. Prianishnikoff.[2] The patient was a young woman who had in early childhood suffered from tuberculosis of the right cervical lymph glands. The tumor was round and smooth, covered with normal skin and pulsating to the touch. The pulsations were expansile and ceased on compressing the artery above the tumor. The age of the patient (20), the absence of trauma or syphilis in the history, and the lack of any indication of arteriosclerosis rendered the existence of a genuine aneurysm extremely improbable. On the other hand, the history of tuberculous adenitis spoke in favor of a spurious aneurysm produced by rupture into the artery. An operation was performed, but the attempt to excise the sac failed on account of its adhesions and extension into the deeper structures. The carotid was, however, ligated and cut between two ligatures. An interesting discovery was incidentally made, namely, the presence of a calcareous concretion next to the carotid. This stone, evidently a calcified product of the degenerated lymph-glands, may be held responsible for the aneurysm, since it is not at all improbable that by pressure on the vessel local tissue-necrosis and subsequent perforation would be produced. The postoperative period ran a rather eventful course. Severe secondary hemorrhage occurred owing to a slipping of the arterial ligatures. Later a series of cerebral derangements appeared—vertigo, headaches, leftsided facial paresis, and obstinate hiccough lasting 2½ weeks. All these phenomena are wellknown sequels of ligating the carotes. It is interesting to note that the hiccough resisted all measures for two weeks, until a strong faradic current was inadvertently turned on during the electric seance. A powerful contraction of the diaphragm and sudden fright followed, with the unexpected effect of putting an end to the hiccough. This accidental discovery may possibly be utilized in similar instances. The final result of operation was satisfactory, the tumor having become much smaller and harder. [L.J.]

Fecal Vomiting of Hysteric Origin.—Fazio[3] reports the case of a girl of 19 years, who suddenly began to vomit yellowish-green masses with a fecal odor. Her bowels had moved daily by the use of laxatives and enemas. There was slight pain in the region of the ascending colon. She claimed to have had repeated convulsions associated with loss of consciousness and frothing at the mouth. At times her whole body would lie in convulsive movements for some time; these attacks would be followed by sleep lasting a variable length of time. She was very excitable, and presented zones of hyperesthesia over both ovaries and over right shoulder. Pelvic and abdominal massage within a few days caused a cessation of the vomiting. The

[1] Münchener medicinische Wochenschrift, February 3, 1903.
[2] Chirurgie, March, 1903.
[3] Riforma Medica, 1902, Vol. xviii, No. 250.

author considers this a case of hysteric fecal vomiting, due either to a spastic or paralytic state of the intestines associated with antiperistaltic movements. [E.L.]

Traumatic Spinal Meningitis.—In view of the disputed etiologic potency of trauma in causing meningitis, a case recorded by W. F. Tchish[1] acquires unusual interest. A strong and healthy boy of 14 was beaten on the back with a piece of wood. He was taken ill almost immediately after with obscure symptoms. Severe pains in the back appeared, with fever, difficult respiration, vomiting, paresis of the left hand, later paralysis of the right hand. Respiratory failure supervened and the boy died three days after his injury. A medicolegal investigation took place and resulted in considerable disagreement as to the cause of death. The court therefore appointed experts, whose final verdict gave spinal meningitis as the cause of death. Sentence was passed accordingly. In illustration of the traumatic origin of meningitis the author mentions a wellknown procedure employed in various parts of Russia in dealing with horse thieves. A large board is tied to the back of the culprit and with a hammer a series of moderately heavy but frequent blows showered upon the board. The victim is then released. Although his back shows no traces of violence, the unfortunate man invariably dies three to five days later in terrible pains, most probably owing to a traumatic meningitis. [L.J.]

Is Lupus Erythematosus a Tuberculide?—A. Gunsett[2] says it is not; it is neither a bacterial tuberculide nor a toxic tuberculide. To support his opinion he reviews critically 19 cases of the disease which came to autopsy, adding to them a case of malignant disseminated lupus erythematosus which came under his own observation. In only 9 of these cases was tuberculosis found, thus excluding the possibility of considering it a tuberculous process. To do this tubercle bacilli or tuberculous foci from which toxins can emanate must be found. His patient presented a bronchopneumonia, a struma, and general enlargement of the lymph-glands, but at no point could a tuberculous focus be discovered. The histologic picture was one of lupus erythematosus. [E.L.]

Human and Bovine Tuberculosis; the Possibility of Infection from Cattle.—N. Raw[3] admits that the great body of experimental evidence is in favor of Koch's contention that the two diseases are distinct. From clinical and pathologic observations, he thinks primary intestinal tuberculosis, tabes mesenterica, and other affections of serous membranes in children are probably bovine tuberculosis, conveyed by milk, and are not in any way related to human tuberculosis, although the bacilli are indistinguishable. Bovine tuberculosis is more virulent for children than human tuberculosis. Phthisis pulmonalis is essentially a disease of young adult life. Out of 2,000 cases he has seen the glands and joints affected in only six cases. The intestine and peritoneum are involved in only the late stages. Since the two diseases cannot exist together in cattle, may not this be true of man? Might not the serum of an affected cow have a curative effect in pulmonary phthisis exactly on the same lines as smallpox and cowpox? Legal enactments are needed to prevent the sale of tuberculous milk. [H.M.]

Absorption from the Large and the Small Intestine.—To determine the relative value of gelatin and Liebig's pepton, with and without salt solution, in rectal alimentation, and the relative power of absorption from the large and small intestine, F. Reach[4] performed a series of experiments which are described in full. He draws from them the following conclusions: Less of the fluids are absorbed from the large than the small intestines; albumoses are better absorbed from the large intestine than gelatin. Normal salt solution added to gelatin increases its absorption, making the two almost equal; if added to the albumose solution, irritation of the mucous membrane and diminution in absorption results. In the small intestine gelatin is better absorbed than albumoses. Sodium chlorid solution does not affect the gelatin absorption, but retards that of albumose by inflaming the mucosa. We can deduce from this, that the addition of gelatin in physiologic salt solution, instead of pepton, to rectal enemas may be an advantage. [E.L.]

Chemic and Physiologic Properties of Plasmon.—C. Douglas[1] presents a general analysis showing that the fats and carbohydrates are very low compared with the proteids. The caseinogen of the milk used is precipitated only after the fat has been thoroughly removed. He gives its physical and chemic characters, its chemic reactions, its effect on digestive ferments, and on the urine. The amount and density of the latter are not affected, but urea and phosphoric acid are increased. It is not a food calculated to yield heat or mechanic energy, but to repair and prevent tissue wash and to promote internal processes of oxidation. It is useful in convalescence from typhoid, rheumatism, tuberculosis, and gastric conditions, in which ordinary nitrogenous foods are not well borne, and is a good substitute for milk when fluids should be avoided. It may cause some renal irritation from excess of phosphoric acid. It would be well if it could be rendered tasteless. [H.M.]

Acidity and Sugar Contents of Stools of Nurslings.—L. Langstein[2] examined the stools of normal infants in regard to their total acidity, using for this purpose Rubner's test, which he describes fully. He found that 100 grams (3½ ounces) of feces required for their neutralization from 2.1 cc. to 3.7 cc. of decinormal soda solution. This corresponds very close with the results of observers using the same method, but not all with those of others using different methods. Using Fehling's solution quantitatively he could not find even traces of sugar in a single case, but found distinct traces repeatedly using the osazon test qualitatively. The fermentation test was always positive, but this due to the presence of diastase, which, during fermentation, changes to sugar. This latter test therefore is of no diagnostic importance in the cases of infants. [E.L.]

Röntgen Rays in the Early Diagnosis of Tuberculosis.—D. T. Vierushski[3] employs radioscopy for this purpose with considerable success. A diminished translucency of the lung is noted whenever the organ contains less air than normally or when the air is displaced by fluid or inflammatory products. Thus areas of consolidation, tumors, pleuritic exudates, hydrothorax, etc., can be recognized. Radioscopy should not be relied upon to the exclusion of our other methods, but rather practised in conjunction with them. Employed with such precautions the Röntgen ray becomes a valuable addition to our diagnostic armamentarium. Several case histories are adduced to illustrate the occasional efficacy of radioscopy; in one instance a chronic pleuritic condition was revealed; in another a lung abscess following pleuropneumonia discovered, and in a third pulmonary tuberculosis recognized, all three presenting insufficiently reliable physical signs. [L.J.]

Cancer à Deux.—A. Martin[4] reports the case of a man afflicted with an epithelioma of the neck. When asleep he always placed himself into the position of greatest comfort to himself; he rested against the chest of his wife in such a way as to touch her breast with his cancer. Some time after she developed an epithelioma, in exactly the same location which was touched by his dressings. [E.L.]

Epiphrenal Diverticulum of the Esophagus.—Diverticulums are rarer in this position than in the upper part of the esophagus. B. Olivetti[5] reviews the literature, and reports an additional case. In his case there was found at autopsy a carcinoma of the esophagus in its middle part, and a diverticulum below this, just above the diaphragm. The diverticulum was on the right side of the esophagus, and was about the size of a hen's egg. It communicated with the lumen by an oval opening. Its walls contained all the layers of the esophageal wall. The diverticulum is regarded by the author as a congenital anomaly. [B.K.]

Sublingual Granuloma in a Child with Whooping-cough.—Bernheim-Karrer[6] reports such a case in a child 9 months old, which had whoopingcough for eight weeks. The

[1] Obosrenie Psychiatrii, etc., February, 1903.
[2] Münchener medicinische Wochenschrift, March 3, 1903.
[3] Medical Press and Circular, March 11, 1903.
[4] Archiv. für d. Gesammte Physiologie, Vol..lxxxv, p. 24.

[1] Scottish Medical and Surgical Journal, March, 1903.
[2] Jahrbuch für Kinderheilkunde, 1902, Vol. lvi, p. 350.
[3] Russki Vratch, April 26, 1903.
[4] British Medical Journal, 1902, Vol. ii, p. 436.
[5] Archiv für Verdauungs-krankheiten Bd. ix. Heft 2.
[6] Wiener klinische Rundschau ,1902, p. 702, Vol. xvi.

child was illnourished and rachitic. During its illness it had its right femur fractured without any known violence. The granuloma was situated on the frenum immediately beneath the tongue, and developed from a sublingual whoopingcough ulcer. The small mass presents all the characteristics of sublingual granulomas as described by Italian authors. The appropriate treatment is excision; in this case long-continued painting with silver nitrate produced a cure. Bernheim says this is the first case of its kind reported from Germany, all other cases having been seen either in Italy or France. Some of the observers have considered them true tumors, but Bernheim believes in their inflammatory nature. [E.L.]

Physical Investigations in the Stomach and Esophagus.—P. Schlippe[1] finds in the esophagus a negative pressure of about 3.5 mm. of mercury. In the sitting position the stomach contains a positive pressure of 4 mm. The pressure falls in the esophagus during inspiration, and rises during expiration. If the upper end of the canal be kept open, air streams in and out during respiration; and during a deep inspiration about 20 cm. may be sucked into the esophagus. In the stomach during quiet inspiration the pressure rises and falls during expiration. During deep inspiration, however, the pressure first falls, and then rises; and the same occurs during forced expiration. The author also found that the lumen of the cervical part of the canal, 2½ cm. (1 in.) in length, is ordinarily closed; the thoracic part, about 36 cm. (14½ in.) is open; while the abdominal end, beneath the diaphragm, 3—4 cm. long, is also usually closed. [B.K.]

Lichen Scrophulosorum and its Connection to the "Tuberculides Cutanées Darier."—Beck and Grosz[2] report a case of lichen scrophulosorum in a child of five; its lesions were distributed over legs, thighs, scalp, face, and abdomen. They give an accurate macroscopic and microscopic description of the lesions. The disease seems closely related to tuberculosis, as proved by the microscopic picture, and the fact that many of the patients died later of tuberculosis, but as tubercle bacilli were not found either in stained specimens, by culture, or animal experimentation, they believe that the local manifestations of the disease are not produced by the tubercle bacillus, but rather by toxins conveyed to the skin along the lymph vessels. The authors, therefore, prefer to class it with the cutaneous tuberculides of Darier. [E.L.]

Physiology of the Large Intestine.—Under the auspices of Professor Pawlow a series of experimental researches has been carried out on animals and the results embodied in a dissertation by G. B. Berlatsky.[3] The conclusions are thus summed up by the author: 1. The secretion of the cecum is markedly alkaline in reaction and is composed of mucus and fluid. During starvation the secretion is diminished in quantity. 2. The quality of food has no influence over the amount of secretion, which appears to depend on the rapidity of motion of the intestinal contents. 3. The juice of the cecum is inactive in respect to egg-albumin and fibrin and contains no kinase; on the other hand it exerts a strong action on starch. Besides a diastatic ferment, cecal juice contains a proteolytic ferment which splits up albumoses and peptones (Cohnheim's erepsin). 4. Milk and all articles of food prepared with milk (soups, gruels) rapidly pass the small intestine and appear one to two hours after ingestion in the large bowel in quantities equal to one-half the amount ingested. 5. The large intestine assimilates nitrogenous substances; during a milk diet about 20% to 26% of the total nitrogen-amount consumed with food is assimilated in the large bowel. This fact has important clinical bearings. It explains, for instance, the wellknown nutritive value of milk enemas; furthermore, it accounts for the pernicious action of milk in diseases of the large intestine, especially in the colitis of childhood; similarly, in dysentery a milk diet is empirically known to be injurious; all these data are explained by the assimilation of milk in the large bowel, which should be given rest in disease. On the other hand, when the large intestine is sound while the stomach or the small intestine is affected, a milk diet is indicated and well borne. Theory and practice are in this case in unison. [L.J.]

[1] Deut. Archiv für klin. Med., Bd. lxxvi, p. 450.
[2] Archiv für Kinderheilkunde, 1902, xxxiv, 25.
[3] Dissertation, St. Petersburg, 1903.

The Etiologic Connection of the Eczema of Infants to the Intestinal Tract.—Basing his deductions upon a clinical experience of six cases, J. G. Rey[1] concludes that the eczema of nurslings is not a skin disease which is traceable to external causes but rather to disturbances of digestion. The disease is very stubborn to external treatment alone, while dietetic and antiseptic medication directed to the intestinal tract is usually crowned with good results. The eczemas do in reality not belong to the parasitic and artificial eruptions of childhood, but are a class in themselves. Through extension and secondary infection they may alter their character and require external treatment in addition, but even then the internal medication is the most important. Strauss, answering this paper, disagrees with Rey. He states these eczemas to be a catarrhal inflammation of the skin, and should be treated accordingly. [E.L.]

On the Nonexistence of the Neutrophiles of Ehrlich in the Blood of Man and Monkeys.—F. Marino[2] contends that there are no such things as leukocytes with neutrophile granulations; all the leukocytic granules except the basophilic, whether fixed with heat or not, being acidophilic. The method of fixing employed by the author is as follows: 1. Fixing by passing 10 times through the flame, or fixing at 110° for from five to six minutes. 2. Staining with an acid stain (10% watery solution of fuchsin.) 3. Counterstaining with a basic stain (brilliant-kresylblau), either in watery solution (1:5,000), or in an alcoholic solution in 1:200 absolute alcohol. Marino proposes to substitute for the names eosinophile and neutrophile leukocytes macrogranular and microgranular leukocytes; and for the terms eosinophilia and neutrophilia, macrophilia and microphilia. [D.R.]

Gonococcic Pneumonia.—Bressel[3] reports the case of a man of 32, who in the course of an attack of acute gonorrhea developed violent headache, high fever, pain over the precordia, and on the sixth day definite signs of lobar pneumonia. The disease terminated by lysis; the pulse frequency was never over 80; the urine contained albumin for a few days. Blood cultures were made at three different times, gonococci were cultivated the first and second times, the third set of cultures remained sterile. [E.L.]

Diabetes Insipidus.—E. Pribram[4] analyzes 10 cases of diabetes insipidus. One case followed diabetes mellitus; otherwise no origin could be assigned for the polyuria. Almost all the patients showed some affection of the central nervous system, especially optic atrophy; at times also sciatica and other peripheral nerve affections. The patellar reflexes were often increased and the sexual function almost always disturbed. Arrest of development occurred frequently in young patients. Perspiration was diminished, and where tuberculosis complicated the diabetes, no night sweats occurred. In some cases the pulse-rate and the polyuria varied in inverse ratio, and occasionally an increased temperature would accompany the increase in the pulse-rate. Frequently there was observed a marked weakness of the apex-beat and radial pulse. In one case the hemorrhagic diathesis was present. In another case involuntary micturition was a symptom. Experiments carried on in three case showed that the water taken into the body was excreted more slowly than in healthy persons, a condition called "bradyuria." The results proved that the kidneys in diabetes insipidus excrete more regularly than in health, and are not capable of sudden increases in the urinary secretion. Improvement was accomplished in most cases by administration of ergotin and gradual withdrawal of water from the diet. No permanent cure was effected. [B.K.]

Normal Blood-serum in the Treatment of Scarlet Fever.—The treatment of scarlet fever by means of blood-serum from individuals having recovered from the disease has been attempted several times. In default of this, Engel[5] had recourse in a grave case of scarlet fever to subcutaneous injections of normal blood-serum. The patient, a boy of 6, was suffering with scarlet fever complicated with a diphtheric sore

[1] Jahrbuch für Kinderheilkunde, 1902, Vol. lvi, pp. 298 and 303.
[2] Ann. de l'Institut Pasteur, Vol. xvii, No. 5, May 25, 1903.
[3] Münchener medicinische Wochenschrift, March 31, 1903.
[4] Deut. Archiv für klin Med., Bd. lxxvi, p. 197.
[5] La Semaine Médicale, 1902, p. 312.

throat, hyperpyrexia, etc. Antidiphtheric serum proved of no avail, and a fatal issue seemed imminent. As a last resource Engel injected 8 cc. of fresh blood-serum from a healthy man. Amelioration resulted and ultimately a recovery. The author is of the opinion that normal blood-serum should be used in all infectious diseases; it should be injected at the onset of the disease in large quantities. [E.L.]

Influence of Dwelling-houses on the Spread of Tuberculosis.—Romberg and G. Haedicke[1] have found in the town of Marburg that 75% of all deaths from tuberculosis occurred in the poorest fifth of the population. In this latter class 4.7% are tuberculous, while in the better classes only 0.2% are affected. One-third of the houses inhabited by the poorest population contributed 59.2% of the cases of tuberculosis occurring in that class. The frequency of tuberculosis in these houses does not depend on their situation, plans, or number of inmates; nor has filth any influence in itself. The chief factor in the spread of the disease is the repeated absorption of tubercle bacilli by persons living with a carelessly expectorating tuberculous subject, especially in a dirty dwelling. The battle against tuberculosis should therefore be waged in the houses of the poorer classes, the object being to prevent the continual spreading of infectious material. [B.K.]

Influenza.—W. Ebstein's[2] extensive article gives a very complete description of influenza, historically and clinically. The epidemics occurring since 1889 are discussed very fully from all standpoints, especially in relation to the cases at Göttingen. He differentiates three types: the nervous, respiratory, and intestinal variety. Nearly all of the cases present symptoms belonging to all the systems. The complications of the disease come in for a good share of the discussion, and he notes that the deaths from influenza are usually due to some preexisting disease being complicated by the intercurrent infection, or through a pneumonia arising during the infection. The marked and lasting depression of the circulatory and nervous systems is mentioned. Pfeiffer's influenza bacillus, although definitely proved to be the cause of the disease, is not isolated from every case, and the diagnosis of the condition depends more upon the clinical than upon the bacteriologic findings; nor can a case be called influenza simply because the bacilli are isolated; it is absolutely necessary for the symptoms to set in acutely to be stamped as influenzal symptoms. He finishes his article by emphasizing complete rest for such patients, perfect isolation and disinfection of all their clothing, wash, etc. [E.L.]

Gastric Achylia and Pernicious Anemia.—M. Einhorn[3] reports three cases of gastric achylia in which a return to the normal condition occurred. He describes three other cases in which a hyperchlorhydria abruptly changed to achylia, and after considerable intervals returned to a normal state. In 11 out of 15 cases of gastric achylia the blood was practically normal, and in one case only was there pernicious anemia. In one case that showed at autopsy total atrophy of the gastric mucous membrane, there had been no signs of anemia during life. In three cases of pernicious anemia examination of the stomach showed increased secretion of HCl. Achylia and pernicious anemia may coexist, but such cases are in the minority, and both affections may be due to a common cause. Also in severe anemia atrophic changes may develop in the stomach, as in other organs. Einhorn is therefore opposed to the theory that pernicious anemia arises from atrophy of the stomach. [B.K.]

Paludismus without Malaria.—Celli and Gasperini[4] report of the existence of regions in Italy, once overflowing with malaria, and now without any change in territorial conditions, almost devoid of the disease. Stagnant waters are to be found in canals, rice fields, moors, and marshes all over the district; the inhabitants sometimes live in the midst of these. Mosquitos exist in very large numbers, and do not differ from the malaria-producing mosquitos elsewhere. Malaria is often brought there from without, and the inhabitants take the disease very easily when they go away from home; but individuals living there never contract it while staying at home. The authors are not able to give an explanation for this peculiar exception from the new etiologic and epidemiologic malaria theory. [E.L.]

Hematogenous Miliary Tuberculosis of the Lungs.—K. Sawada[1] finds by experimentation in rabbits that the hematogenous tubercles in the lungs invariably arise from the lymph nodules. The circulating tubercle bacilli cannot find lodgment in the wide alveolar capillaries, unless they are agglomerated. They may be caught in the lungs, however, if they pass from the alveolar vessels into the narrow capillaries of the lymphatics. The lymph nodules are not completely developed in man until the fourth to the seventh year of life. This incomplete development in childhood probably accounts for the fact that the pulmonary form of tuberculosis occurs much more rarely in children than in adults. If the disease does not develop in the first years, it is, perhaps, due to the presence of large numbers of very virulent bacilli. [B.K.]

Tetany of Gastric and Intestinal Origin.—Tetany, in the course of gastric disease, is a very grave omen, usually occurring in patients with marked obstruction of the pylorus and duodenum, and corresponding gastric dilation. Patients threatened with it are usually markedly cachectic, and give the impression of being devoid of all fluids. In patients whose body-weight and daily quantity of urine diminishes in spite of suitable diet and absolute rest, we must consider the possibility of tetany; any disturbance, such as violent vomiting or lavage may bring on the first attack. The honor of showing the importance of tetany in such diseases belongs to Kussmaul, but Morgagni already reports attacks of tetany in a case of gastric ulcer, associated with pyloric stenosis. W. Fleiner[2] gives the details of this case, and after calling attention to five cases previously reported by him, publishes the histories of two others. In the first, the attacks followed upon gallstone disease; in the second, upon gastric ulcer. A typical attack of tetany is described, but their variability regarding intensity, extent, and duration, is emphasized. There may be simple muscular cramps, true tetany, epileptoid attacks are always preceded and followed by sensations of parasthesia; they may be symmetrical, unilateral, or localized to one extremity only. The disposition once developed, volitional movements may bring on an attack at any time. The disposition itself, in all cases, seems to be produced by a stenosis of the pylorus, which in its turn causes a dilation of the stomach, a hypersecretion of gastric juice, inordinate vomiting, and therefore impoverishment of fluids and inspissation of blood. The reflex theory has been disproved, and the theory of autointoxication has not been proved. The indications for treatment are those of gastric dilation, particularly lavage, and if necessary gastroenterostomy. If tetany already exists, all food by mouth is stopped, liquid is given by the rectum and cutis; after the stomach becomes tolerant, Vichy water is started with. The mortality rate is 50%, but this can be lowered if operations are performed earlier. He also reports a case of tetany, the origin of which he traced to intestinal catarrh, this producing a chronic diarrhea and inspissation of blood. [E.L.]

[1] Deut. Archiv für klin Med., Bd. lxxvi, p. 309.
[2] Münchener medicinische Wochenschrift, March 17 and 24, 1903.
[3] Archiv für Verdauungs-krankheiten, Bd. ix, Heft 2.
[4] Zentralblatt für Bakteriologie, Vol. xxx, p. 523.

GENERAL SURGERY

MARTIN B. TINKER
A. B. CRAIG C. A. ORR

EDITORIAL COMMENT

Paronychia.—In dispensary service one is impressed with the frequency of whitlow or felon, and the disastrous results consequent upon neglect and improper treatment. Paronychia appears in two varieties, viz.: superficial and deep. The former usually arises from traumatism or infection about a hang-nail, and is characterized by an inflammatory process which involves the soft tissues and matrix at the root of the finger-nail. It usually goes on to suppuration and neglected cases may continue for weeks. Treatment should be prompt and vigorous. Palliative measures are rarely successful. The inflamed soft tissues should be freely

[1] Deut. Arch. für klin. Med., Bd. lxxvi, p. 343.
[2] Münchener medicinische Wochenschrift, March 10 and 17, 1903.

incised, pus evacuated, the undermined root of the nail trimmed away and granulation tissue removed. Iodoform gauze should be packed lightly between the ulcerating soft tissues and the nail to establish free drainage, and a moist dressing applied. Deep paronychia as the name implies occurs in the deeper structures of the finger. It most frequently begins on the palmar aspect of the ungual phalanx, but not infrequently in the second phalanx. The intensity of the pulsatile pain, especially with the hand in the dependent position is remarkable. The great tendency for the suppurative process to involve the theca, tendons, periosteum and even bone to the degree of complete destruction and sloughing, is the dangerous feature of the condition. In this palliative treatment is even more fruitless than in superficial whitlow. Prompt, deep, and extensive incision is indicated. In the ungual phalanx the knife should go to the bone with a free incision; nearer the hand proper the incision should go to the tendons and if there be evidence of suppurative tenosynovitis the theca should be opened freely. It is not the layman alone who temporises; in many instances the physician delays proper treatment until bone and tendon destruction results, whereas prompt and vigorous interference is the humane procedure.

REVIEW OF LITERATURE

Inguinal Lymphangiectasis of Filarial Origin.—M. J. Bouglé[1] relates the case of a man of 35, who had been ill since his sixteenth year; he then had filariasis, orchitis, and later abscess of the testicle. He had relapses every two or three months thereafter until his twenty-fourth year. He had no further attacks until his thirty-fourth year; a hernia developed, and since then he has had constant paroxysms. A blood examination showed filarial embryos. Examination showed a hard mass in right inguinal region, which is tender, easily reduced, and disappears spontaneously when patient lies down. There is no impulse on coughing; the spermatic cord gives sensation of a varicocele; when patient rises the structures refill like a sponge absorbing water. The glands of both groins are enlarged. A diagnosis of rightsided lymphangiectasis due to filaria was made. The dilated lymph vessels were resected between two ligatures; recovery. A microscopic description of the specimen is given in detail. Three members of the patient's family died of lymphangitis. [E.L.]

Foreign Bodies in the Respiratory Tract.—A case is reported by A. M. Orloffsky,[2] in a boy, aged 2. Cricotracheotomy had to be performed and the offending seed was coughed up. The author speaks of the necessity of immediate operation in similar instances. Before introducing instruments into the wound it is advisable to excite cough by means of irritating the mucous membrane. In this way the foreign body is often expelled. The ideal operation requires removal of body and closure of wound. Children are especially liable to this accident, and the entering bodies are usually lodged in the bronchi. [L.J.]

Omentosplenopexy in the Treatment of Some Hepatosplenic Diseases.—The name of "the surgical development of a double complementary circulation" has been given by B. Schiassi[3] to the results of an operation practised by him in certain hepatosplenic lesions. So far as the origin of toxins carried to the liver is concerned there are really two portal veins—the superior mesenteric and splenic. Hence, Schiassi adds to the omentopexy the operation of splenopexy. The latter expedient lessens the pressure in the "splenoportal" vein, diverts from the liver some of the toxins elaborated in the spleen, and allows more rapid metabolism in the latter organ. The technic of the operation is described in seven steps and is made plain by 11 unusually good illustrations. A right-angled incision is made to the right across the median line and downward 15 cm. or 20 cm. (6 or 8 inches) from the junction of the left midclavicular line and the costal margin. The tissues down to the peritoneum are reflected toward the umbilicus and a transverse opening made through the peritoneum just below the horizontal skin incision. Through this the omentum is drawn and spread over the right portion of the exposed peritoneum and sutured in place. A vertical opening is then made in the peritoneum near the vertical skin incision and the spleen exposed. A piece of iodoform gauze is placed under each pole of that organ, and by means of a long curved needle from three to six catgut sutures are passed through the organ, these including also the peritoneum and all the superficial structures except the skin, this being closed later. Schiassi believes this operation is indicated in (1) primary splenomegaly with hepatic cirrhosis of the type of Banti; and (2) in malarial splenomegaly with hepatic cirrhosis. He has practised it three times, one case belonging to the first type, the other two to the second type above mentioned. All three had ascites. The results were favorable in all, the ascites disappeared, hypertrophy of the spleen has much diminished, the functions of the liver are improved, and the general condition of the patients, after one or two years, is good. Schiassi believes that splenopexy alone, in the manner described, is indicated in (1) splenic anemia of adults and children; (2) in the preascitic period of Banti's disease; and (3) in the splenomegalic cirrhosis of the type of Popov-Gilbert. [A.G.E.]

Cholecystitis, Cholangitis, Hepatitis, Subphrenic Abscess, Operation, Recovery.—G. Naumann's[1] patient had suffered since childhood from a weak stomach and had had several attacks of acute gastritis; the last attack was associated with jaundice. These symptoms were believed to be due to cholelithiasis from childhood, with repeated occurrence of bile duct inflammation. Symptoms of sepsis developed. An operation was performed; it showed a thickened, shrunken gallbladder without gallstones. The septic symptoms persisting, the eleventh rib was resected, and instead of the suspected hepatic abscess a cavity was found in the liver the size of a duck's egg. This "sequestrating hepatic inflammation" was clearly the result of a necrosis of the liver tissue following a suppurative cholangitis. [E.L.]

Gunshot Wound of the Abdomen.—G. T. Zworikin[2] agrees with those authors who recommend early laparotomy in cases of gunshot wounds of the abdomen. Many fatal results are in all probability due to tarrying and late interference. He reports the case of a man who received a revolver bullet into his back, an inch above the left iliac crest. Bleeding was slight; general condition good. Laparotomy was performed and the bullet found to have perforated the descending colon in two places. These wounds were accordingly sutured with silk. The peritoneal cavity was well dried with sterile gauze and closed down to the lower angle in which a gauze-strip was inserted. A good recovery followed. The bullet had evidently been lodged in the abdominal wall, where it was left imbedded, since it produced no troublesome symptoms. [L.J.]

An Unusual Form of Vesicle Lithiasis.—Dr. Rafin[3] reports a case of this condition occurring in a woman of 21 with a negative family history. Twenty months after the onset of the condition she suffered from frequent micturition, which was slightly painful. At first the urine was bloody. The kidneys were not movable, nor were they painful, although at times there had been some pain in the region of the right kidney. The bacteriologic examination did not reveal the presence of the bacillus of Koch. A cystoscopic examination showed a red edematous mucous membrane. and at the base of the kidney and around the neck numerous yellowish-gray areas which were slightly raised and which seemed to be composed of thin crystals. The patient was operated upon and incision made in the hypogastric region. The bladder was small, the walls thickened, and upon the mucous membrane there were numerous incrustations of a yellowish color. These were removed by tampons of gauze, and in some instances by means of the curet. It was found that in certain places the epithelium was deeply infiltrated with the crystals. The patient made a speedy recovery, and remained well until two months after the operation, when she complained of some renal pain, bloody

[1] Bull. et. Mem. d. l. Soc. Anatomique de Paris, 1902, Vol. iv, p. 611.
[2] Chirurgia, February, 1903.
[3] La Semaine Médicale, May 27, 1903.

[1] Nordiskt mediciniskt Arkiv, Vol. xxxiv, No. 10.
[2] Chirurgia, February, 1903.
[3] Lyon Méd., p. 1,030, 1903.

urine, and frequent micturition. The cystoscope did not show anything abnormal in the bladder, but the right kidney was found to be painful upon pressure. The debris obtained by operation was examined and proved to be composed of uric acid and the urates of ammonia. The latter was probably a secondary phenomena. This is a rare condition, and seems to be the only case of this nature on record. [J.H.W.R.]

Obscure Pyemia.—E. P. Baumann,[1] on reviewing the literature, finds that pyemia is most commonly mistaken for acute rheumatism, enteric fever, ulcerative endocarditis, meningitis, and uremia. Sometimes malaria, typhus, syphilis, and smallpox have been suspected. Gonorrheal pyemia has attracted attention only of late. There is hardly a tissue in which the gonococcus has not been demonstrated. It is not always possible, however, to find it in generalized infection. In some cases the examination was thought to have been made too early, in others too late, or the infection was considered due to absorption of the poisons alone from the urethral tract. The course does not differ clinically from pyemia of pyogenic origin. The process does not always go on to the formation of metastases. In the case reported the leukocyte count negatived septic infection, no rigors occurred, and careful examination revealed no localized suppuration. Autopsy exhibited prostatic abscess and abscesses in the abdominal wall containing the gonococcus and other abscesses in the kidneys. There was no pain until the day preceding death. [H.M.]

Resection of the Small Tarsal Bones.—O. Jutsewitch[2] recommends warmly a method devised by Obalinsky for resecting the tarsal bones. The originator thus describes his operation: "Facing the sole of the foot I grasp with my hand the last two toes in operating on the left foot and the first three toes in operating on the right foot, while an assistant retracts the remaining toes. With an amputation knife of medium size I now split all soft parts of the foot between the third and fourth phalanges down to the cuboscaphoidal articulation. Under strong retraction I open this articulation and prolong the incision a few centimeters. Thus the entire foot down to Chopart's articulation is split in two parts. Pulling these halves asunder I obtain a clear view of the cuboid, scaphoid, third cuneiform, and two metatarsal bones." This operation is called resectio longitudinalis minor and has been successfully employed 13 times by the originator and twice by the author. It is said to be simple, rational, and elegant, offering numerous advantages over other methods. [L.J.]

Diverticulum of the Esophagus; Radioscopy after Bismuth.—H. Dufour's[3] patient, a man of 55, had for four years been vomiting shortly after each meal, and always the first portion of what he ate. This was always done without the slightest effort, a bending forward of the head being sufficient. The remainder of his meal was never vomited. An examination of the esophagus revealed a constriction 7½ cm. (3 inches) below its beginning, and acting upon the supposition that the vomiting was due to the existence of a diverticulum, which would fill up at the beginning of a repast and then permit the rest of the food to glide past it. He had the patient swallow several powders of bismuth. The second powder could be seen with the radiograph to rest not above the first, but along side of it, thus confirming the supposed diagnosis. The constriction must be considered as the primary disturbance. [E.L.]

The Surgery of Wandering Spleen.—Conservative measures are justified, according to A. N. Sacharoff,[4] only in mild instances of movable or displaced spleen. All severe cases call for operative treatment. Three operations are in use: exosplenopexy, splenopexy, and splenectomy. The first being impracticable, it is customary to limit the choice to the last two. Concerning splenopexy or anchoring of the displaced spleen, it may be urged that an enormously enlarged organ can hardly be retained by means of sutures in the normal situation, therefore this operation is adapted only to a moderately enlarged spleen, and even in such cases the results thus far obtained are not sufficiently convincing. This leaves splenectomy as the only reliable procedure in all severer forms of movable spleen. We know by this time that removal of the spleen is not followed by any deleterious consequences, while on the other hand the displaced organ may at any time sustain a torsion of its pedicle and thus seriously jeopardize the owner's life. During the postoperative period of splenectomy, two interesting facts have been noted: One is the occurrence of malarial seizures, denied by many observers; the other is the appearance of a ravenous appetite in some instances. [L.J.]

The Value of Arthrotomy in the Treatment of Certain Joint Lesions.—P. L. Mummery[1] believes that all that is said in favor of early operation in septic peritonitis applies with equal force to septic joint lesions. With early opening, irrigation and draining stiff joints may be avoided. Subacute arthritis may follow sepsis after pregnancy, acute fevers, or gonorrhea. Operation greatly reduces the time during which the patient is incapacitated, and prevents further damage. The joint can be used freely in 10 to 14 days. In more chronic cases massage and movement should first be tried. In many cases with firm fibrous adhesions, opening the joint and dividing the bands is often better than breaking them by force. Arthrotomy is the best treatment after hemorrhage into a joint. In the knee-joint the best incision is vertical on the outer side, 2½ inches long. Here the scar is less likely to adhere to the bone. At the ankle a vertical incision should be made behind the outer malleolus. Hot water or saline solution should be used for irrigation. Drainage is often unnecessary, except in acute cases. Gauze wicks are best. These can be removed in 24 to 48 hours. No splint should be applied, as slight movements assist drainage. Firm pressure by cotton wool prevents reaccumulation of fluid. Daily voluntary movement should be used, or massage if the muscles are wasted. [H.M.]

Suture of the Femoral Vein near Poupart's Ligament and Its Indications.—A. Schoenwert[2] tore the femoral vein in the neighborhood of Poupart's ligament in three cases of suppurating inguinal glands. In each case he closed the laceration by means of a continuous suture of catgut, and in spite of the suppuration a perfect cure resulted without demonstrable thrombosis, edema, or secondary hemorrhage. On the strength of these results he advises suture not only in aseptic cases, but also in cases where the suppuration is stationary and is localized to the glands and their immediate vicinity. At all other times ligature will be preferable. [E.L.]

Pancreatic Cyst.—A. P. Dalinger[3] describes a case occurring in a woman of 35, who first noticed the abdominal tumor as a young girl. After her marriage, at the age of 16, the tumor began to grow more rapidly. Pains and digestive disturbances brought her to the author, who proposed an exploratory laparotomy. This led to the discovery of a pancreatic cyst. For various reasons the cyst could not be removed, and a simple incision was made, the clear, strongly albuminous fluid drawn off and the sac tamponed. Three months later the patient, after a somewhat eventful postoperative period, had recovered completely. [L.J.]

Disarticulation of the Hip-joint.—A. Hannecart[4] reports four cases of successful amputation of the thigh with the aid of the tourniquet, in which there was little loss of blood. By this method Hannecart claims that amputation of the thigh offers no greater difficulty than an ordinary amputation. Adding two cases of Lepage, a cure has been effected in each case of six operations. [J.H.W.R.]

Primary Multiple Myelomas.—A. T. Abricossow[5] contributes a thorough discussion of the various pathologic and clinical problems in connection with the socalled "primary multiple myelosarcoma." He concludes that this affection is an entirely independent disease of the bone marrow, distinct from other hypertrophic conditions of the latter. In its structure, distribution, and course, myeloma shows many analogies with lymphosarcomatous growths, and we are therefore justified in regarding it as a peculiar neoplasm of the lymphosarcomatous type. The clinical symptom-complex of multiple myeloma is

[1] Glasgow Medical Journal, March, 1903.
[2] Chirurgia, March, 1903
[3] Bull. et, Mem. de la Societié des Hôp. de Paris, 1902, Vol. xix, p. 105.
[4] Medizinskoe Obosrenie, lix, No. 6.

[1] Medical Press and Circular, March 18, 1903.
[2] Münchener medicinische Wochenschrift, March 3, 1903.
[3] Medizinskoe Obosrenie, lix, No. 2.
[4] Jour. Medical de Bruxelles, 1903, No. xxi, p. 321.
[5] Chirurgia, March, 1903.

composed of the following elements: (1) Severe pains in bony structures (notably in bones of the thorax); (2) local changes of the bones, such as thickening or softening, spontaneous fractures, curvatures, etc.; (3) the appearance of "Bence-Jones bodies" in the urine an early symptom; (4) general anemia; and (5) data of radiography. The "Bence-Jones bodies" are heteroalbumoses, and their constant presence in considerable quantities is a certain indication of myeloma. [L.J.]

Cutaneous Ulcers of Gonorrheal Nature.—O. Solomon[1] reports in a girl of 20 years two deep ulcers of the labia minora, from the pus of which gonococci were isolated in pure culture. Recovery followed the use of cleanliness and applications of silver nitrate. The ulcers, in the author's opinion, were produced by the gonococcal infection. [E.L.]

Removal of Prolapsed Spleen.—It is a well-established fact that the spleen can be removed from the body with comparative impunity, its functions being assumed by the lymphatic system. P. F. Gegalkin[2] reports an additional instance in a child His patient was a boy, aged 5, who fell on the spikes of an up-turned harrow and ripped his abdomen open. Through the wound a tumor was found protruding, which was proved by various tests to be the prolapsed spleen. It was decided to remove the organ; a ligature was accordingly passed around the pedicle and the spleen cut loose. The stump was then replaced in the abdominal cavity and the wound closed by sutures. Healing took place by first intention. A week later the boy was stricken down with croupous pneumonia (independently of operation), but recovered completely. [L.J.]

The Practical Value of the Arterial Suture.—F. Lejars[3] has collected 23 cases of lateral suture, and 4 cases of circular suture. Of the former, the axillary artery was sutured 7 times, the femoral 6 times, the popliteal and axillary 3 times, the common iliac and the external iliac, the common carotid, and the internal carotid once. Thrombosis and peripheral embolism frequently follow. Thrombotic occlusion of the artery was not frequent. However, it may be stated that arterial suture can be followed by immediate and definite success. While the lumen of the vessel may remain intact when the wound is infected, the operation is hazardous, and when complete asepsis cannot be realized then it is better to ligate at once. He concludes: (1) That when there is a small wound in a large artery suture is to be recommended; (2) that suture of the carotids is not without danger but is indicated when absolute asepsis is possible; (3) that in cases of removal of tumors at the base of the limb when a large vein and artery are injured at the same time it is important to preserve the permeability of the artery if possible; (4) that suture is indicated in certain traumatic aneurysms, arterial or arteriovenous. [J.H.W.R.]

Recovery from Tetanus.—A boy, 10 years of age, developed tetanus on the seventh day after wounding his foot with a piece of wood. The symptoms, particularly those depending on muscular rigidity were severe. B. Herrmann[4] gave him several injections of tetanus antitoxin without checking the symptoms the slightest. They yielded to narcotics, however, and the patient recovered. He was given 70 grams (18 drams) of chloral per rectum and large quantities of bromids in a period of 10 days; during the first three days 2½ grams morphin. He was etherized to deep narcosis four times during the first eight days without any special disturbance. [E.L.]

False Reposition of Hernia.—B. S. Koslowsky[5] emphasizes the dangers of bloodless reduction in the treatment of incarcerated hernia. Manipulating blindly, as it were, the surgeon can easily reduce an inflamed or gangrenous intestinal coil, which may allow microbes to pass through and attack the peritoneum; or, beside this danger, the entire sac with its contents may be pushed into the abdominal cavity (reduction *en bloc*). In a series of 283 operations for hernia the author encountered the second complication three times. The reposition in all three cases was performed by the patients themselves, and the subsequent symptoms of incarceration led to operation and exact diagnosis. The author recommends laparotomy for false reposition whenever the diagnosis remains doubtful and obstruction is present; on the other hand, when the condition is unmistakable, he advises to take the route of the inguinal canal, because the shock is less and a radical operation for hernia may be immediately performed in notable cases. Having selected laparotomy, our attention must be directed toward protecting the peritoneum from contamination with hernial contents. When such contamination is inevitable drainage after Mikulicz should be instituted. [L.J.]

Traumatic Uncomplicated Luxation of Extensor Tendons of the Fingers.—Three cases of this rare accident are reported by A. Becker.[1] While attempting to grasp a large object a man felt a crack and a slight pain over the extensor tendon of his right middle finger; this recurred each time that he attempted to flex the finger. The tendon could be seen to glide into the interphalangeal space at the ulnar side. At the operation the connection between the tendons of the middle and index finger was found to be torn, thus allowing the ring finger attachment to pull the tendon toward it at each motion. This latter attachment was severed and the loose connective tissue sutured around the tendon. Permanent recovery resulted. The other two cases did not differ from this. [E.L.]

House Epidemics of Syphilis.—Extragenital transmission of syphilis seems to be comparatively frequent in Russia and leads to veritable little epidemics. A nurse, a servant, a midwife, is usually the source of infection, and by dint of kissing, sleeping together, marital connections, and the like, a whole family becomes "syphilized" in a short time. A. P. Jordan[2] contributes two original observations of this character. One of them deals with a group of five syphilitics, a young woman and four children; two of the children belonged to the woman, while the other two lived in the same basement though in separate rooms. The kitchen, however, was the meeting-place of the three families, consisting in all of 17 persons. The disease was ushered into the house by a syphilitic aunt of the children. Later, one more member became affected, a small child, making six cases in one apartment. [L.J.]

Comparison of Old and New Mercurial and Carbolic Preparations.—F. Hammer[3] has tested a number of these by exposing anthrax and staphylococcus cultures to solutions of varying strength for 5, 15, and 60 minutes. He found mercuric chlorid by far the best bactericidal agent, next came cresolsoap and cresol, carbolic acid, sublamin, mercury oxycyanate, etc. [E.L.]

[1] Münchener medicinische Wochenschrift, March 3, 1903.
[2] Medizinskoe Obosrenie, lix, No 6
[3] La Semaine Médicale, No. 14, p. 109.
[4] Münchener medicinische Wochenschrift, March 10, 1903.
[5] Chirurgia, March, 1903.

GYNECOLOGY AND OBSTETRICS

WILMER KRUSEN FRANK C. HAMMOND

EDITORIAL COMMENT

The Status of the Bossi Dilator.—The forcible dilation of the intact or partially dilated cervix is occasionally necessary in obstetric practice to facilitate speedy delivery, and since the days of antisepsis it has been the means of saving many valuable lives. The best method of producing this dilation, whether manual or mechanical, and if mechanical the best instrument to employ, is ever an interesting subject to the obstetrician. If the cervix is soft and the internal os partially dilated, manual dilation by the method of Harris, or the bimanual method as advocated by Edgar is satisfactory, if rigid aseptic technique is observed. But if the cervix is hard and rigid, particularly in primiparous women, instrumental interference is required. Among the methods is the use of rubber or steel bougies or the metallic dilator of Reynolds, or the rubber bags of Barnes, McLean or Tarnier, or the Champetier de Ribes' conical rubber balloons; or, if the rapid delivery is urgently indicated, Duhrssen advises deep incisions through several portions of the cervical canal. The recent introduction of a powerful instrument employed by Bossi produced much discussion in obstetric circles and the value of the instrument is still a mooted ques-

[1] Münchener medicinische Wochenschrift, March 24, 1903.
[2] Medizinskoe Obosrenie, lix, No. 5.
[3] Münchener medicinische Wochenschrift, March 3, 1903.

tion. Ostreil thinks that it is invaluable and that the fear of hemorrhage from laceration of the cervix by its use is unfounded. Ballantyne has used it in three cases of albuminuria and believes that if we accept the principle of early completion of labor in eclampsia the Bossi dilator enables us to do this more quickly than any other means and is safe, if properly used. Helme has used the instrument successfully in eclampsia, dilating the cervix in 20 minutes. DeLee thinks that it has a small field of usefulness and possesses advantages over the hand in that it can be rendered surely aseptic and is less tiring to the obstetrician. On the other hand, Zangemeister is convinced of the frequency of vaginal and cervical tears and warns the obstetrician against any dilator which is worked with a screw. He thinks that in indicated cases there is less danger of infection from cervical incisions. Cullmann in discussing the subject prefers manual dilation and thinks that the metallic dilators lighten the purse and make heavy the instrument case. Jewett objects to the instrument, because the hand cannot be passed along the blade to watch the dilation and the degree of dilation cannot be gauged. Of metal dilators he prefers the Gau modified by omitting the ratchet clasp in which the extent of force is measured by the muscular sense. Edgar condemns both of these instruments because of the danger of uterine injury and also the inability to pass the hand and watch the amount of tension. Grandin believes that manual dilation is better than instrumental in cases in which urgent indications are present. Further authorities might be quoted for and against this powerful device, but we believe the consensus of opinion to be that manual dilation in appropriate cases and Duhrssen's method of cervical incisions in difficult cases are preferable procedures. In this connection, it is interesting to note that the the eleventh Congress of the German Gynecological Association, which will convene at Kiel in 1905 under the presidency of Professor Werth, has appointed as a special subject of discussion "Methods of Artificial Dilation of the Pregnant and Parturient Uterus," and the profession will await with much interest the conclusions of this learned organization.

REVIEW OF LITERATURE

Carcinoma of the Vagina.—G. W. Maly[1] reports a case of primary carcinoma of the vagina in a working woman aged 66 years. She had borne a child 40 years before, 9 months after which the beginning of prolapse was observed, due probably to an unrepaired perineal laceration. On account of the accompanying pain a soft rubber ring-formed pessary was introduced, which she had worn for 39 years. That the ring might be easily removed for cleansing it was placed in the lower part of the vagina. The woman had felt well until 8 months previously, at which time there was a moderate hemorrhage and an outflow of pus. In 10 weeks these symptoms increased, accompanied with swelling of the external genitalia, and she sought a hospital. A dark rough-surfaced tumor was found on the anterior wall of the vagina. The vagina ended in a blind sac, the portio not being perceptible. The small atrophied uterus was palpable only per rectum. In consideration of the advanced stage of the carcinoma and the age of the patient only palliative treatment was used. Maly has no doubt the cause of the cancer was the irritation and erosion of the mucous membrane resulting from the use of the pessary. He quotes similar cases from literature, though none in which the pessary had been worn more than 12 years. Whether the irritation of a pessary will cause cancer depends on many factors, of which the durability, continuity, and intensity of the inflammation and the resisting power of the tissue, the vitality and proliferating power of the cells, the age of the individual, and the locality all play a part. [W.K.]

Can anything be Done to Diminish the Frequency and Lessen the Mortality of Cancer of the Uterus.—J. K. Kelly[2] calls attention to the severe and frequent irritation to which the cervix is subjected from being crushed, bruised, and torn in labor. Cancer starts from long-continued local irritation. Plenty of time should be allowed for dilation, and if laceration occurs, especially if it extends into the fornix, it should be sutured at once. He considers catarrh of the cervix also of great moment in the causation of the disease. The irritant applications so common add fuel to the fire. It should be treated as catarrhs elsewhere. Lacerations should be repaired, cysts punctured, vaginal douches given. Gonorrhea is probably a cause of the frequency of cervical catarrh. Our only hope of lessening mortality is by recogniziug cancer at an early stage. In many cases no opportunity is given, as women think lightly of uterine hemorrhage and pelvic pain and do not consult a physician. Any one complaining of either bleeding, pelvic pain, or a fetid discharge should be examined immediately, especially in middle life. In the early stage cancer appears as a hard patch or ulcer. The nodule shades off toward ill-defined edges, and is hyperemic, not pale, as compared with the neighboring mucous membrane. Actual ulceration of the cervix is generally cancerous. Tuberculous and syphilitic ulcers are rare. The ulcer of prolapse is easily accounted for. The socalled erosions so common are velvety and raised, quite different from the excavated, harsh surface of an ulcer. In early stages cancerous growths differ so slightly from normal tissue that microscopic examination may be able simply to rouse suspicion, but the case must be watched for definite manifestations. The writer advocates dissemination of knowledge among women by the medical profession of the signs and symptoms of this form of cancer. [H.M.]

Hyperemesis Gravidarum and Hysteria.—B. Feinberg[1] reviews at length the theory of some medical authorities that the hyperemesis of pregnancy is a form or manifestation of hysteria, refuting their position by argument and illustration. He quotes the case of a young primipara suffering severe hyperemesis, which all ordinary means failed to relieve. Two consultations led to the conclusion to wait and use suggestion. Finally, when the patient was moribund pregnancy was interrupted, but she succumbed in 24 hours. The obstetrician must not wait too long before interrupting pregnancy. The first and chief care of the physician is to cure; the fear of assuming responsibility comes later into consideration. Feinberg also reports two cases from his own practice. One was a young, well-built, healthy primipara with no signs of hysteria in herself or family. She became weak and emaciated from a pernicious hyperemesis, which yielded to no medical treatment. There were signs of bleeding, and induction of abortion followed with recovery. She had considerable metritis and anteflexion of the uterus, which he considered as the causes of the hyperemesis. The second case was similar, except that she was in the second pregnancy, her previous pregnancy resulting in a normal delivery. The hyperemesis was finally overcome by induction of abortion. In this case there was a retroverted uterus and endometritis, but no evidence of hysteria. Windscheid says that he holds it false to call all things which we cannot explain hysteria. Thereby we advance no further. [W.K.]

Complete Nephroureterectomy.—E. Reynolds[2] reports seven cases of this operation, none of them being included in the table of 17 cases recently collected by Bovée. That the operation has been done so infrequently since it was brought to the attention of the profession must be due to one or both of the two reasons: (1) The belief that the persistence of the less accessible lower half or two-thirds of the ureter is in reality of but little detriment to the patient; (2) an impression that its removal is unduly difficult for the surgeon or dangerous to the patient. Reynolds discusses these two points, neither of which is valid, and then gives in detail his technic for the operation. He uses the anterior extraperitoneal incision and has discarded the use of the pillow under the patient to help force out the kidney, using gravity dilation and retractors in delivering the kidney and exposing the ureter. The patient is placed on her side on a hard table with the legs extended nearly in a line with the body and is then rolled as far backward as is possible without losing negative pressure in the abdomen. The incision begins a half inch in front of the lower costal cartilages, runs down-

[1] Zentralblatt für Gynäkologie, July 4, 1903.
[2] Glasgow Medical Journal, April, 1903.

[1] Zentralblatt für Gynäkologie, June 20, 1903.
[2] Bulletin of the Free Hospital for Women, June, 1903.

ward and outward parallel to their edge, and terminates at about the level of the anterior superior spine and an inch inside of it. The remainder of the operation is minutely described and cannot be profitably abstracted. Brief notes of the seven cases, all ending in recovery, are given. [A.G.E.]

A Case of Intestinal Injury in Instrumental Perforation of the Uterus.—E. Ullmann[1] gives the history of a case of abortion in the fourth month and removal of the fetus by abortion forceps. In the after examination with the finger the physician felt something soft above, which he thought to be a part of the fetus, but which proved to be a portion of intestine, whose mesentery was torn loose. He shoved this back into the uterus and apparently into the abdomen, tamponed the uterus and vagina, thus giving an opportunity for the transference of the patient to another part of the hospital under the care of Ullmann. Fifteen hours after the accident Ullmann found her in a state of collapse with a pulse of 140. The introduction of a sound showed the perforation of the uterus. Laparotomy was performed, the irregular perforation with crushed edges was found, resected, and sutured in two layers, muscular and serous. Then the injured intestine was resected to the length of 24 cm. (9½ in.) and the ends united. The abdominal wound was closed with a few sutures leaving space for drainage with iodoform gauze. The pulse remained 140 that day, rising to 148 the next day, after which during the following 14 days it gradually subsided to 120. The drainage strips were shortened and finally withdrawn, the wound healed and the patient was restored to health. [W.K.]

Pregnancy and Nephritis.—Heinrich[2] reports 4 cases of pregnancy complicated with nephritis, 3 of which had uremic convulsions. In one case scarlet fever was the cause of the nephritis, in the other cases it was directly traceable to the impregnation. He blames the scarlet fever for the death of the former; the other 3 recovered. He considers the sovereign remedy in such cases to be pilocarpin given in hypodermic injections of 15 milligrams (¼ grain). He advises the early induction of premature labor if the patient does not respond to the pilocarpin. [E.L.]

A New Anesthetic—Anesthol.—W. Forster[3] states that among the after effects of anesthol, nausea and vomiting are very rare; bronchitis and pneumonia have never been observed, and no changes in heart, lungs or liver. It is composed of pure chloroform, Vol. 43, 25; sulfuric ether, Vol. 36, 75; misce ethylchlorid, Vol. 20, 5, used by inhalation. A colleague says of anesthol: "It gives no distress, one does not feel sick." [W.K.]

Postrectal Fibrosarcoma.—W. H. Baker[4] reports the case of a woman of 50, who complained chiefly of swelling of the legs, particularly the left, which had troubled her for 14 months. Examination revealed a solid mass posterior to the rectum, which had crowded most of the viscera out of the pelvis. Operation consisted in complete oophorohysterectomy followed by removal of the tumor, a part of which had to be removed by morcellation before it could be enucleated. No attempt was made to remove the fibrous capsule. Examination showed the tumor to be a fibrosarcoma. The patient was doing well six months after operation. [A.G.E.]

Icterus of Pregnancy.—L. Brauer[5] describes a case of icterus during the fourth month of pregnancy of a 25 year-old patient, with nervous symptoms, sleeplessness and unrest, pruritus, and severe abdominal pain. Urine showed abundant bile elements, no hemoglobin, $\frac{1}{200}$ albumin. One and a half weeks after delivery there was considerable improvement with no trace of albumin or sediment in the urine. Accidental complications, such as cholelithiasis, catarrhal icterus, or cirrhosis of the liver, were certainly excluded in this case. There can be no doubt that the pain described had a direct etiologic connection with the progress of pregnancy, and that the icterus in this case is to be placed in that varied group of diseases which we, with the greatest probability, consider result from the peculiar assimilative processes taking place during pregnancy. [W.K.]

[1] Wiener klinische Wochenschrift, June 11, 1903.
[2] Deutsche medicinische Wochenschrift, February 26, 1903.
[3] Zentralblatt für Gynäkologie, June 13.
[4] Bulletin of the Free Hospital for Women, June, 1903
[5] Zentralblatt für Gynäkologie, June 27, 1903.

TREATMENT

SOLOMON SOLIS COHEN
H. C. WOOD, JR. L. F. APPLEMAN

REVIEW OF LITERATURE

The Use of Acid Sodium Phosphate in Alkalinity of the Urine.—Robert Hutchison[1] has carried on a series of experiments with different drugs to determine the reaction upon the urine. His first observations were made with mineral acids, HCl sulfuric and phosphoric. He found that the influence of these, even in the largest doses which could be administered safely, were extremely slight. The reasons for this, he says, is that the mineral acids are neutralized in the liver or circulation, partly by fixed alkalies and partly by ammonium carbonate. Accordingly he found that the ammonia excretion was much increased after their administration. Organic acids were tested, among these were tartaric, acetic, citric and lactic, with a slight but distinct tendency to increase the acidity of the urine, but the effect was never great. Benzoic and boric acids had no influence on the reaction of the urine. Acid sodium phosphate being the chief cause of the acid reaction of the normal urine, it was reasoned that the administration of this drug should increase the normal acidity of that fluid. This proved to be correct. The administration of acid sodium phosphate had a more direct and marked influence on the reaction of the urine than any other substance tried. This drug has also the advantage of being very soluble in water and easily administered. It may be given in doses of from 2 to 4 grams (30 to 60 grains) every three hours, but it is better given in smaller doses and more frequently. A convenient plan is to dissolve 2 drams in a pint of water and allow the patient to drink a small quantity of this from time to time. He has found this drug a useful adjuvant to urotropin because the latter acts better in an acid urine. [A.B.C.]

The Inefficacy of Disodicmethylarsenate (Arrhenal) as a Therapeutic Agent.—T. R. Fraser[2] insists that if arsenic is so united with other bodies as to be incapable of producing toxic (extreme pharmacologic) action, it is not capable of therapeutic effect. To obviate the alliaceous odor, gastric disorder and congestion of the kidneys caused by the cacodylates Gautier has introduced arrhenal. This fails to produce the reaction of an arensite with silver nitrate, although containing 34.5% of arsenium. The enthusiastic praises it has received justify examination. Fraser reports a case of eczema, in which the patient in the course of 43 days took enough arsenium in this form to kill 45 adults if it had been given in any of the older compounds. There was neither toxic nor therapeutic effect. A case of chorea, which was treated with enormous doses without result, yielded promptly to liquor arsenicalis. The urine was Marshed without deposit until oxidized with sulfuric and nitric acid, showing the firm union with organic matter. Experiment shows there is no special retention in the body after its administration. The conclusion is that arrhenal is practically inert. [H.M.]

Glycoheroin for Cough.—L. T. W. Haas and G. A. S. Saxe[3] report results from the use of glycoheroin in the various types of cough. They found the most satisfactory way of administering heroin was in the glycerin solution combined with expectorants and stomachics and finally began the use of the above trade preparation. By its use in 20 cases of cough, 12 were cured, 7 greatly improved, and 2 unimproved. The writers conclude: (1) In glycoheroin we have found a perfectly satisfactory mode of administering heroin; (2) it is especially valuable in whoopingcough, small doses of it are easily borne by children and even by infants, and the results obtained are prompt and permanent; (3) we also have found glycoheroin useful in the treatment of pulmonary tuberculosis, in reducing the cough, night-sweats, fever, pain, and dyspnea in adding to the general well-being of the patient without disturbing his appetite and digestion; (4) in asthma it gives relief which compares very favorably with the effect of the depressant narcotics usually given in such cases; (5) it was always found satisfactory in

[1] British Medical Journal, May 30, 1903.
[2] Scottish Medical and Surgical Journal, March, 1903.
[3] Buffalo Medical Journal, July, 1903.

acute bronchitis, while all but the most obstinate cases of chronic bronchitis yielded readily to its influence. [A.G.E.]

Treatment of Pulmonary Tuberculosis.—E. M. Dupaquier[1] describes the method of administering creosote that he has employed with good results in 244 cases of pulmonary tuberculosis. He begins with five drops and increases one drop each week until 20 drops are taken. The dose is then diminished in the same gradual way until the original amount is reached. This ladder-like procedure is repeated as often as desired. Creosote invariably stopped when hemoptysis supervenes as the drug has a tendency to increase it. When the temperature is above 102° or 103°, guaiacol carbonate is substituted for creosote. In addition to the latter drug cod-liver oil and hypophosphites are given. [A.G.E.]

Therapeutic Study of Pyramidon.—A. Blanc[2] reviews the physiologic action and the therapeutic uses of pyramidon. He states that it is an excellent analgesic. In the treatment of migrain, if administered early, the effects are more marked than from antipyrin even when given in one-third the ordinary dose of the latter drug. It is used in various forms of neuralgia with good results. In the painful crises of locomotor ataxia the administration of from 0.7 gram to 0.8 gram (9 grains to 12 grains) of pyramidon, three or four times daily, has given complete relief. In acute articular rheumatism, when the salicylates are badly borne, this drug may be administered. Pyramidon may be used as an antipyretic in the fever of tuberculosis. It should be given in the form of pyramidon camphorate at the beginning of the fever, in fractional doses not surpassing 0.6 gram to 0.8 gram (9 grains to 12 grains) daily. In typhoid fever, when it is impossible to use the cold bath, pyramidon may be employed. It lowers the temperature without causing prostration or collapse and at the same time has a beneficial effect on urinary secretion. When the temperature reaches 102½° F., pyramidon is given in doses of 0.25 gram (4 grains) every three hours. It may also be used in the treatment of grip, eruptive fevers and erysipelas. In some cases in which antipyrin caused nausea and cutaneous eruptions, pyramidon was given without any such unfavorable effects. In rare instances the author has noticed slight chilliness and cyanosis of the extremities. The only serious contraindication to pyramidon is diabetes. [L.F.A.]

Dietetic Treatment of Diabetes.—M. Noorden[3] reviews the dietetic treatment of diabetes, and states that the sugar is often made to disappear, at least in the average case, by increasing the amount of albuminoids in the diet. But to exaggerate this amount is a grave mistake, as it diminishes at the same time the tolerance of the organism to carbohydrates. Albuminoids influence glycosuria dissimilarly; the preference is given to the white of egg, then to vegetable albumin and to casein; the yolk of egg is less useful, as are all meats in general. Idiosyncrasies, however, may exist. Of the fats, Noorden has noted that butter causes the greatest increase in urinary acetone. Practically this fact is of little importance, for the use of butter has this result only when administered in quantities exceeding 150 grams, and the acetone disappears rapidly from the urine when the diet with butter is prolonged. Among the carbohydrates Noorden prefers levulose. Oats flour is tolerated better than wheat flour, and he prefers it to either rice, potatoes or milk. It is impossible to have a certain diet for all cases. Even in the same patient, the best diet is one which is modified from time to time according to the susceptibility of the patient. [L.F.A.]

Mercurial Injection in the Intramuscular Treatment of Syphilis.—F. J. Lambkin[4] has had 14 years' experience with this method of treating syphilis, having used all the ordinary forms of mercury. He holds that the metal mercury is far more efficacious than any of its salts. He uses it in the form of the cream, consisting of mercury, lanolin, and ol. carbol. This preparation is much less painful and its effects upon the disease are far more marked than those following other mercurial injections. It possesses some disadvantages, one being that it becomes semisolid in cold water and has to be heated. He has succeeded in finding a means of correcting this by using the following combination: Hydrarg., gm. iv (ʒij); lanolin, gm. iv (ʒij). These are well rubbed up until the mercury disappears and then add: Paroleine, gm. viij (ʒiv), and carbol 2% (by measure); 5 m. to 10 m. once a week is used as an intramuscular injection. [A.B.C.]

[1] New Orleans Medical and Surgical Journal, July, 1903.
[2] These de Paris, 1903.
[3] Deutsche Aertze-Zeit., November, 1902.
[4] British Medical Journal, May 30, 1903.

Atoxyl in the Treatment of Cutaneous Affections.—Schild[1] employed this new arsenical compound in those cases of chronic skin diseases in which arsenic was indicated. Atoxyl is a white, odorless powder, having a slight saline taste, soluble in the proportion of 20 parts to 100 of hot water, and containing 37.69% of arsenic. It is employed in the treatment of chronic skin diseases by hypodermic injection of a 20% solution. It is used in alopecia areata, chronic exfoliative dermititis, the xanthoma of diabetes, psoriasis, and lichen rubra. In alopecia and exfoliative dermatitis no result was obtained. On the contrary, cure rapidly followed in cases of herpetiform dermatitis. In xanthoma after the fourth injection the effect was manifest and after the twenty-second the eruption had entirely disappeared. In 3 cases of psoriasis the effect showed itself after the fifth or sixth injection, but the cure was not complete. In 14 cases of lichen rubra treated thus 9 were cured and the 5 others were much improved. Of 500 injections there was only 1 in which slight irritation occurred, and this was insignificant in character. [L.F.A.]

Quinaphenin.—Quinaphenin or quinin phenetidicarbamate is a new remedy somewhat analogous to aristoquin. It is a white, tasteless powder, very slightly soluble in water, easily soluble in alcohol, ether, benzine, chloroform, and acids. It is recommended by Noorden[2] in the treatment of whooping-cough. In very young children he employs this drug in the doses of from 0.05 gm. to 0.15 gm. (1 grain to 2½ grains) daily; in older children the doses range from 0.2 gm. to 0.3 gm. (3 grains to 5 grains) several times a day. [L.F.A.]

Histogenol in the Treatment of Pulmonary Tuberculosis.—Colombet[3] has made a study of this substance, which is an organic compound of phosphorus and arsenic. Each dessertspoonful contains 0.025 grams (½ grain) of disodic methylarsenate and 0.1 gram (1½ grains) of nucleinic acid. In the dose of 2 dessertspoonsful of histogenol daily the author has observed a rapid improvement in the treatment of the first and second stages of tuberculosis; the appetite improved, the night-sweats disappeared, the breathlessness diminished, and the patient became stronger. In very advanced cases of pulmonary tuberculosis histogenol has not given very marked results; however, the fever sometimes diminished and the appetite temporarily improved. In one case of characteristic chloroanemia the author has noticed an increase in the number of red blood-corpuscles. M. Hirtz has also obtained favorable results from its use in pulmonary tuberculosis. [L.F.A.]

[1] Les Nouveaux Remedes, Vol. xix, No. 2, 1903.
[2] Les Nouveaux Remedes, No. 10, 1903.
[3] These Paris, 1903.

FORMULAS, ORIGINAL AND SELECTED.

An Enema to be Employed in Chronic Dysentery.—

Tincture of iodin	10 to 20 drops
Potassium iodid	0.50 gram (7½ grains)
Water	250 grams (8 ounces)

—*Le Mois Therapeutique*, Vol. iv, No. 4, 1903, p. 47.

THE PUBLIC SERVICE

Health Reports.—The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended July 24, 1903:

Smallpox—United States.

			Cases	Deaths
Colorado:	Denver	June 18–July 11	15	
Illinois:	Chicago	July 11–18	1	
	Danville	July 11–18	1	
Indiana:	Indianapolis	July 11–18	1	
Louisiana:	New Orleans	July 11–18	3	
Massachusetts:	Fall River	July 11–18	9	
Michigan:	Detroit	July 11–18	3	
	Port Huron	July 11–18	2	
Mississippi:	Natchez	July 4–11	1	
Missouri:	St. Louis	July 4–11	6	
Nebraska:	South Omaha	June 1–30	6	

New Hampshire:	Manchester	July 11-18	2	
Pennsylvania:	Carbondale	July 14-21	1	
	Philadelphia	July 11-18	24	14
	Pittsburg	July 11-18	29	8
	Norristown	July 11-18	1	
Ohio:	Cincinnati	July 10-17	4	
	Cleveland	July 11-18	1	
South Carolina:	Charleston	July 11-18	6	2
Wisconsin:	Milwaukee	July 11-18	2	

SMALLPOX—FOREIGN.

Austria-Hungary:	Prague	June 20-July 4	5	
Belgium:	Antwerp	June 27-July 4	7	4
	Brussels	June 27-July 4		5
	Ghent	June 20-July 4		3
Canada:	Winnipeg	July 11-18	1	
China:	Hongkong	May 23-30		1
	Shanghai	June 6-13		1
Colombia:	Bocas del Toro	June 30-July 7	2	1
Great Britain:	Birmingham	July 4-11	1	
	Dublin	June 27-July 4	9	1
	Leeds	July 4-11	7	1
	Liverpool	To July 11	44	3
	London	July 4-11	4	
	Manchester	June 27-July 4	9	
	Newcastle-on-Tyne	June 27-July 4	1	
	Nottingham	June 27-July 4	2	
India:	Bombay	June 16-23		21
	Calcutta	July 13-20		4
	Madras	July 13-19		1
Japan:	Formosa	April 1-30	5	
	"	May 1-31	2	
Mexico:	City of Mexico	June 28-July 5	7	3
Russia:	Moscow	June 20-27	3	
	Riga	April 1-30		28
	St. Petersburg	June 27-July 4	18	1
	Warsaw	June 13-27		6
Spain:	Barcelona	June 20-July 4		4
Turkey:	Smyrna	May 24-June 14		3

SMALLPOX—INSULAR.

Philippines:	Manila	May 16-June 13	13	9

YELLOW FEVER.

Colombia:	Panama	July 6-13	3	1
Costa Rica:	Limon	July 2-9	3	2
Mexico:	Cardenas	July 10		
	One death imported from Tampico.			
	Coatzacoalcos	June 27-July 4	2	4
	Merida	July 12	Present.	
	Progreso	July 12	Present.	
	Tampico	June 27-July 11		61
	Vera Cruz	June 27-July 11	64	21

CHOLERA-INSULAR.

Philippines:	Manila	May 16-June 13	127	112
	Provinces	May 16-June 13	2,463	1,718

CHOLERA—FOREIGN.

India:	Calcutta	June 13-20		34
				Sporadic.
Straits Settlements:	Singapore	May 30-June 6		1
Turkey in Asia:	Beytarie	June 6-13	26	23
	Kara	June 8-14	13	

PLAGUE—INSULAR.

Hawaii:	Honolulu	June 24		1
	"	June 25		1
Philippines:	Manila	May 16-June 13	19	19

PLAGUE—FOREIGN.

Africa:	Cape Colony	May 17-30	19	
	Natal	May 10-16	5	
China:	Amoy	May 8-June 13	525	
India:	Bombay	June 16-23		92
	Calcutta	June 13-20		31
Mauritius:		June 11-18	2	

Changes in the Medical Corps of the U. S. Army for the week ended July 25, 1903:

FIFE, First Lieutenants JAMES D., and JOHN A. CLARK, assistant surgeons, will report at the base hospital, Iloilo, for duty.

WOODS, OSCAR W., contract surgeon, is assigned to duty at Vancouver Barracks.

CLEARY, Colonel PETER J. A., assistant surgeon-general, is granted leave for thirty days.

WINTER, Captain FRANCIS A., assistant surgeon, leave granted is extended twenty days.

MCCULLOCH, JR., Captain CHAMPE C., assistant surgeon, is granted leave for ten days.

ROBERTS, First Lieutenant WILLIAM, assistant surgeon, is relieved from treatment at the Army and Navy General Hospital, Hot Springs, Ark., and will return to his station at Fort Brady.

BEVANS, First Lieutenant JAMES L., assistant surgeon, upon the abandonment of Rowell Barracks, Cienfuegos, Cuba, will proceed to Morro Castle, Santiago, Cuba, for duty to relieve Captain Deane C. Howard, assistant surgeon. Captain Howard will proceed to New York City and report by letter to the adjutant-general of the army for further orders.

LYNCH, Captain CHARLES, assistant surgeon, is relieved from further duty at Fort Porter and from temporary duty at maneuver camp, Fort Levett, and will repair to Washington, D. C., and report to the surgeon-general of the army for duty in his office.

RENO, First Lieutenant WILLIAM W., assistant surgeon, now at San Francisco, Cal., is relieved from further duty in the division of the Philippines and will proceed to Fort Crook for duty.

DAYWALT, GEORGE W., contract surgeon, is relieved from further duty at Fort Schuyler and from temporary duty at Fort Levett and will proceed to Fort St. Philip for duty, to relieve Contract Surgeon Frederick Hadra, who will proceed to his home, San Antonio, Tex., for annulment of contract.

HANNER, First Lieutenant JOHN W., assistant surgeon, is relieved from further duty at the Army General Hospital, Presidio, and is assigned to duty as transport surgeon, Army transport Sheridan, relieving Contract Surgeon Stephen Wythe. Contract Surgeon Wythe will report at the rifle camp near Benicia, Cal., for duty during the target practice and department competitions. Upon the discontinuance of the camp he will report to these headquarters for further orders.

MARSHALL, JOHN S., contract dental surgeon, is granted leave for fourteen days, from about July 26.

GREGORY, VERDO B., contract surgeon, now at Vancouver Barracks, is relieved from further duty in the department of the Columbia, and will proceed to his home, Bowers, Wis., for annulment of contract.

LYON, WILLIAM H., sergeant, first class, now at Burlington, Vt., upon expiration of furlough granted him from the Army General Hospital, Washington Barracks, will report to the commanding officer, Fort Ethan Allen, who will send him to Mayaguez, P. R., to relieve Sergeant First Class Samuel Marcus. Sergeant Marcus will proceed to Fort McKinley for duty.

LOTHROP, JAMES N., sergeant, first class, Army General Hospital, Presidio, will proceed to Fort Ringgold for duty.

HUNTER, CHARLES M., sergeant, first class, Fort Niobrara, will proceed to Fort Liscum, Alaska, to relieve Sergeant First Class Milton T. Esterly. Sergeant Esterly will proceed to Fort Niobrara for duty.

DYKSTRA, JOSEPH, sergeant, first class, company of instruction No. 2, hospital corps, Fort McDowell, will proceed to Fort Yellowstone for duty.

KENNEDY, LEO E., sergeant, first class, company of instruction No. 2, hospital corps, Fort McDowell, will proceed to the camp at Monterey, Cal., for duty.

RIESS, HERMAN W., sergeant, first class, hospital corps, now at Washington, D. C., upon expiration of furlough granted him from the division of the Philippines, will report at Fort Leavenworth, to relieve Sergeant First Class George W. Muller. Sergeant Muller will proceed to the Army General Hospital, Presidio, for duty.

Changes in the Medical Corps of the U. S. Navy for the week ended July 25, 1903:

BOYD, J. C., medical director, commissioned medical director, with rank of captain, from June 20, 1903—July 17.

HUNTINGTON, E. O., surgeon, detached from the Maine and ordered to the Naval Hospital, Navy Yard, New York, N. Y., for treatment—July 17.

SMITH, R K., DUNBAR, A. W., FARENHOLT, A., BAGG, C. P., GROW, E. J., ELLIOTT, M. S., surgeons, commissioned surgeons, with the rank of lieutenant-commander, from March 3, 1903—July 17.

PLUMMER, R. W., passed assistant surgeon, ordered to the Maine—July 17.

RYDER, C. E., RANDALL, J. A., assistant surgeons, appointed assistant surgeons, with rank of lieutenant, junior grade, from June 26, 1903—July 17,

KINDLEBERGER, C. P, surgeon, ordered to the Independence—July 18.

STUART, A., assistant surgeon, granted sick leave for two months—July 18.

LUMSDEN, G. P., surgeon, detached from the Naval Station, Port Royal, S. C., August 1, and ordered to the Torpedo Station, Newport, R. I.—July 20.

KENNEDY, R. M., surgeon, detached from the Torpedo Station, Newport, R. I., and ordered to the Dixie—July 20.

WISE, A. H., GRAYSON, C. T., acting assistant surgeons, appointed acting assistant surgeons, with rank of lieutenant, junior grade, from July 14, 1903—July 22.

COCKE, P. L., acting assistant surgeon, detached from the Chesapeake and ordered to the Naval Hospital, New York, N. Y., for treatment—July 23.

Changes in the Public Health and Marine-Hospital Service for the week ended July 23, 1903:

GLENNAN, A. H., assistant surgeon-general, to proceed to Reedy Island quarantine for special temporary duty—July 18, 1903.

WILLIAMS, L. L., assistant surgeon-general, granted leave of absence for seven days, from July 18—July 17, 1903.

WHITE, J. H., surgeon, granted extension of leave of absence for one month, from August 2—July 22, 1903.

SPRAGUE, E. K., passed assistant surgeon, granted leave of absence for ten days, from July 22—July 23, 1903.

CLARK, TALISFERRO, passed assistant surgeon, granted extension of leave of absence for fourteen days, from July 20—July 17, 1903.

PARKER, H. B., passed assistant surgeon, to report to Assistant Surgeon-General H. D. Geddings for temporary duty—July 22, 1903.

DUKE, B. F., acting assistant surgeon, granted leave of absence for two days—July 17, 1903.

LEONHARDT, S. C., acting assistant surgeon, granted leave of absence for thirty days, from September 1—July 16, 1903.

STEPHENSON, C. W., pharmacist, granted leave of absence for twenty-three days, from August 3—July 22, 1903.

ILTIS, G. W., pharmacist, granted leave of absence for seven days, from July 15, 1903, under paragraph 191 of regulations.

Resignation.

LEONHARDT, S. C., acting assistant surgeon, resigned to take effect October 1, 1903.

American Medicine

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PUBLISHED WEEKLY AT 1321 WALNUT STREET PHILADELPHIA BY THE AMERICAN-MEDICINE PUBLISHING COMPANY

VOL. VI, No. 6. AUGUST 8, 1903. $5.00 YEARLY.

A School for Consumptives.—We have previously called attention to the fact that tuberculosis sanitariums have an indirect usefulness besides that of curing the patients themselves, consisting of the hygienic educational effects exercised in the community by those returned again to their families and society. It has been left to the wellknown vital statistician, Dr. Newsholme, who is health officer of Brighton, England, to put this idea into more definite and selected function. For the past year he has been using certain unoccupied pavilions of the Brighton Isolation Hospital as a school for consumptives, passing through it about 120 patients a year. They are systematically taught the practise if not the principles of the prevention of infection so far as pertains to pulmonary tuberculosis, how to cooperate in their own treatment and cure, how to care for the sputum, etc., so as to lessen the risk to their own families and fellow workmen. A second indirect result of the school, and the absence of patients from their homes, is the opportunity afforded the family during the month's holiday to have the house thoroughly cleansed and disinfected. Should this happy example be followed local boards of health should act with the school in insuring the utilization of the holiday for housecleaning.

The work of the U. S. Weather Bureau relates chiefly to the dissemination of warnings of severe or injurious weather, such as storms, hurricanes, cold waves, frosts, floods, heavy rains, and snows. The appropriation for the Bureau the past year was $1,250,000. There are 6,000 sailing vessels and as many steamers engaged in the transatlantic trade which leave our ports in a given year, and 17,000 sailing vessels and 4,000 steamers which annually ply between the ports on the Atlantic coast. Marine insurance people estimate that one West Indian hurricane, if it were to sweep up the Atlantic coast unannounced, would leave wreckage to the amount of $2,000,000, without considering the loss of life. There has not been a storm of marked violence along the coast in the past eight years, warnings for which were not issued from 8 to 24 hours in advance of its approach. The warnings of the Mississippi flood of 1897, four to five days in advance, enabled $7,000,000 worth of property to be saved. In the same way the warnings of the cold wave of 1896 saved over $5,500,000 worth. The relations of floods, storms, etc., to illness and death are well known but insufficiently utilized. Health officers, hospital superintendents, and physicians generally could doubtless save many relapses, "turns for the worse," and even deaths by making use of the Weather Bureau reports and warnings.

Medical Discoveries by Practising Physicians.—In his recent address before the graduating class of the Yale Medical School, Dr. Henry M. Hurd rightly emphasizes the fact that laboratories and the exclusive devotion to research work are not at all necessary, and not, indeed, the chief requisites for medical discovery and progress. Laboratories in which teaching is not required may and do fail to make such discoveries, and others seemingly overwhelmed with routine work do make them. In the same way, as the history of medicine amply shows, the busy practitioner is precisely the one to whom we are indebted for the great truths which have placed our science in the position of power and honor it holds today. The motive of vital love of one's fellowmen is needed to create the spur of endeavor and to quicken the inventive brain, and this is fully as likely to be found in the man busied every day with concrete cases of disease and suffering, as with the one who is more isolated. No one would surely wish to discourage the foundation and support of city laboratories. Both methods of research are useful and necessary. But in the acknowledgement of their great function that of the lonely and country practitioner is too easily underestimated. The possibilities of beneficence and of discovery open to him are as great and he should never lose sight of the fact. He sees disease at first hand and in the making, the expert pathologist too frequently sees but the end results, the completed dead products of disease. It must be remembered that by no means are infectious diseases all that exist or all that we have to study, and, moreover, that we are possibly now neglecting attention to those functional changes which are the first stages of organic disease.

Smallpox is still with us, although it has not attained to a prevalence which can properly be said to have justified the application of the comprehensive term "epidemic," or to have produced a sufficient proportion of fatalities to make its presence a source of serious alarm

where the laws of sanitation are treated with due respect. Its advent may even be regarded by many as a blessing in disguise, with regard to the future. It necessarily emphasizes the importance of strict attention to the means of prevention which modern science has placed within the reach of all. Its course has forcibly demonstrated the importance of strict compliance with the practise of vaccination by way of prophylaxis, and the necessity for the continued improvement of the hygienic and sanitary condition of the more neglected and overcrowded areas of cities. Its progress has not been sufficiently alarming to produce more than a cool and critical inquiry into the nature of the disease, and the conditions by which its visits may be encouraged, as well as the scientific precautions by which they may be repelled, or rendered comparatively harmless. The historic fact is unquestionable that this disease had for a long course of unsanitary centuries remained one of the most dreaded scourges of humanity. The enormous proportion of fatalities which resulted during each epidemic visitation, and the deplorable mutilation of features, including loss of eyesight, which afflicted the small percentage of survivors, furnish one of the darkest pages in the history of the human race. Accordingly, the results of the present epidemic of smallpox present features which are decidedly encouraging as regards the future.

The Antiquity of Smallpox.—The literary, as well as the pathologic history of smallpox presents many items of very special interest. All readers of the clouded annals of the "Middle Ages" are acquainted with the fact that Arabian writers were for many centuries the recognized apostles of philosophy and physical science—including the sundry departments of medicine and surgery—to the various nations of Western Europe. And it is to one of these, Abu Bekker Mohammed ben Zechariah (A. D. 850–932), the earliest and most original of all the great Moslem physicians, that medical science and medical literature are indebted for the first recognition of smallpox as a distinct disease, and its first description in written language. This venerable authority is generally known to posterity as Rhazes, a name which he derived from Rai, the place of his birth. His original description of this formidable disease has been made familiar to English inquirers through the medium of Dr. Greenhill's translation. In addition to his observations on disease proper, the powers of observation of Rhazes in physiognomy are demonstrated by such items of information as: "A man with large ears is stupid, but long-lived;" and in rational therapeutics, by his recommendation of the practice of the game of chess as a cure for melancholia. The antiquity of smallpox is, as might well be expected, lost in the mist of ages; but the definite statement has been made by Arab historians that it first appeared in the Abyssinian army of Abraha at the siege of Mecca in the course of the socalled "Elephant war" of A.D. 569 (or 571). The legend is given as follows by one of their best historians, Tabari: "Thereupon came the birds of the sea in flocks, every one with three stones, in the claws two, and in the beak one; and they threw the stones upon them. Wherever one of these stones struck there arose an evil wound, and pustules all over. At that time the smallpox first appeared and the bitter trees. The stones undid them wholly. Thereafter God sent a torrent which carried them away and swept them into the sea." Even one of the elephants, having ventured within the sacred enclosure, was struck by a stone, and fell a victim to the smallpox. Among the bitter plants, which also appeared at that date for the first time, the rue and colocynth are specially mentioned.

The Treatment of Smallpox by Red Light.—The earliest English treatise on medicine is the "Rosa Anglica" of John of Gaddesden, who also enjoyed the distinction of having been the first English court physician. His book contains a chapter on smallpox and measles. He quotes from Avicenna, the paramount authority in the medical world at that period, the observation that "sometimes a man has smallpox twice, once properly, and the second time improperly." The redoubtable John was at the zenith of his fame toward the beginning of the fourteenth century, and it is a remarkable (as well as an interesting) fact that his treatment of smallpox by wrapping the patient in red cloth and surrounding his bed by red curtains, so as to admit red light-rays only to the affected skin, has been revived within the last few years fortified by arguments derived from the most recent discoveries in the domain of "radioactivity." John of Gaddesden was in many ways a very typical courtier of his generation. The great medical historian, Dr. Friend, tells us that "He was, as it appears from his own writings, sagacious enough to see through the foibles of human nature; he could form a good judgment how far mankind could be imposed upon, and never failed to make his advantage of their credulity." And, further, "His practice, I doubt, was not formed upon any extraordinary knowledge of his faculty." Accordingly, it speaks volumes for the keenness of observation of this unscrupulous old courtier, that he successfully employed—in the person of the King's son—the "red-rays" treatment of smallpox with the special object of preventing pitting; an item of therapeutics which has just been resuscitated on the foundation of the most advanced twentieth century scientific discovery, and he intimately correlated with the wonder-working treatment of lupus by the "Finsen lamp"—the red rays of the luminous spectrum being the most soothing to inflamed skin, while the violet and ultraviolet are the most irritating and corrosive.

Smallpox and Blindness.—The pathologic distinction between smallpox and measles, in that misty scientific period, was that smallpox (variola) was a disease of the blood, while measles (morbilli) was one of the bile, and the spots on the skin in the latter were much smaller and less liable to attack the eyes. John, of Gaddesden, himself explains that the technical (Latin) appellation of smallpox was derived from the appearance and distribution of the eruption. "Variolas are so called, as if variously choosing the skin itself, because in the skin they occupy divers parts, by apostematising an infecting." The frequent loss of sight, as a consequence of smallpox

in the days of its virulence, was, of course, one of the unspeakable terrors of the disease. It is a curious fact that even at the present date it is a disputed point whether smallpox pustules ever form on the surface of the eyeball. Dr. Hebra, of Vienna, who was at the zenith of his fame in the '60's and '70's of the last century, and who had probably the largest experience of skin diseases of any physician whom the world has yet seen, always emphatically denied it. He attributed the ulceration of the coats of the eyeball, which led to loss of sight, to failure of nutrition.

A plea for temperance by life insurance statistics is called to our attention by Mr. Lawrence Irwell, of Buffalo, N. Y., who kindly sends the comparative results of the experience of certain English life insurance companies in insuring total abstainers and moderate drinkers. To understand the significance of the figures one must know that at whatever age a man is accepted by a life insurance company as a first-class risk, he is assumed to have a fixed number of years to live. This is known as the "expectation" of the assured, and has been ascertained by experience. It is not correct in every man's case, of course, but it certainly is reasonably accurate if large numbers of individuals are taken. According to the table used by American companies the "expectation" of a man of 50, for example, is about 20 years and 10 months. *The United Kingdom and General Provident Institution* divides the men it insures (it does not insure women) into total abstainers, (temperance section) and moderate drinkers (general section). The premiums are identical in amount in the two sections. In the latter section, in the course of 37 years, the actuaries calculated that the company would have to pay £2,812,518 ("expected claims"), and it did have to pay £2,674,197 ("actual claims"), a difference of £138,321. In the temperance section, the actuaries, using the same mortality table, calculated that in the same 37 years the company would be called upon to pay claims amounting to £2,217,606, but the actual claims were only £1,524,769, a difference of £692,837. Concerning the number of policies, if no man took out more than one policy in this company, a point on which no information is given, the results are as follows: Number of expected deaths among moderate drinkers in 37 years, 12,166; actual deaths, 11,654; difference, 512. Among total abstainers—expected deaths, 9,236; actual deaths, 6,625; difference, 2,611.

The Mortality Experience of a Life Insurance Company.—The Sceptre Life Association of London also confirms the figures just given. For the eighteen years ending December 31, 1901, calculated according to the Institute of Actuaries' H. M. mortality table it was as follows:

GENERAL SECTION.

Period.	Expected deaths.	Actual deaths.	Percentage.
5 years—1884-1888	466	368	79.00
5 years—1889-1893	564	466	82.62
5 years—1894-1898	628	498	79.30
3 years—1899-1901	423	320	75.65
Total—18 years	2,081	1,652	79.38

TEMPERANCE SECTION.

Period.	Expected deaths.	Actual deaths.	Percentage.
5 years—1884-1888	195	110	56.41
5 years—1889-1893	312	184	58.97
5 years—1894-1898	419	228	54.42
3 years—1899-1901	295	151	51.19
Total—18 years	1,221	673	55.12

The deathrate for abstainers is thus seen to be 55.12, and for moderate drinkers, 79.38; that of the Institute of Actuaries' Mortality Table is 100. The two classes of policy-holders pay the same rates of premiums, but are kept quite distinct, each section sharing its own profits, thus affording to abstainers the full advantage of their superior longevity. At the last three divisions they received 20% higher bonus than nonabstainers. To be accurate, there are at least two reasons why the above figures do not prove as much as they appear to show. First, whatever care may be taken, a certain number of "careless" drinkers are sure to slip into the general section. (The premiums being the same in both sections, very few drinkers are likely to try to get into the temperance section.) Second, if a man ceases to be an abstainer he is required to notify the company, and he is transferred from the temperance to the general section; but proof that the assured invariably informs the company that he has ceased to be an abstainer is wanting. But with all corrections made the figures show plainly enough that alcohol for those in health shortens their lives. Many of the best English companies refuse liquor-sellers ("publicans") absolutely, and those who take them do so at an extra risk of five dollars percent premiums.

The Ralstonites.—This is no cynical name bestowed by enemies, but one they give themselves. The book before us is entitled *General Membership Book of Knowledge of the Ralston Health Club Leatherette Binding.* On the title page it is said to be (*84*) *eighty-fourth* (*84*) *Edition* (*84*). It is the first attempt so far as we know to build up a secret organization in health-study or health-practice. "If there is any secret society about I want to get on the inside" is the thought which has preceded many strange gatherings of men. There are many degrees of wisdom, at least five, although "hundreds" are spoken of, the "Inner Circle," "personal magnetism clubs," etc. But there are dire punishments for betraying secrets, not keeping pledges, etc., and one is made to feel that invisible detectives and spies are dogging one's footsteps. "No subterfuge or indirect action will remain long undiscovered." . . . "It will sooner or later be discovered and will cause the loss of all rights as a Ralstonite and the loss of respect in the community." The loss of "all rights as a Ralstonite" must be a serious matter indeed, judging from the following quotations:

"No one pretends that there is any other channel of help to mankind except that offered by Ralstonism."

"We believe that Ralstonism is the lever that has been designed by the Creator for the work of uplifting the world."

"For a quarter of a century the great cry of Ralstonism has been its determination to create a new race of men and women."

A few thousand years ago, says Mr. Ralston, men lived to be centuries old. Such is the anthropology of

this scientist. "Glame" is the word he has coined to designate the form of health-vitality. Such is his philology. There are 2,237 maxims listed in this book with "leatherette binding," which constitute the most amusing mess of nonsense, a seriocomic gathering of dietetic and physiologic "tommyrot" beyond compare. Antidruggism sticks out everywhere. Let examples speak:

Perfect flour-making is rapidly spreading under the name of the Schweitzer system.

Wheat, being a perfect food, was the first cereal on earth.

Onions tell if the bowels are out of order.

Diabetes is the turning of the blood to sugar.

The vegetable kingdom includes everything not in the animal kingdom.

Honey is about one-eighth flesh.

A wellknown man who was very fond of sucking pig has recently died a horrible death from cancer.

Eaters of lamb meat are of gentler dispositions.

Meats give brain power, but will not build minds.

The excretions of ministers after sermons show that a thinking man excretes more phosphorus than a laborer.

Dried herring dries up the blood.

Consumption is often due to iron.

All water comes from the clouds.

Nearly all cases of typhoid are due to well water.

Hot milk snuffed into the nose has cured catarrh that defied all medical aid.

The natural treatment of catarrh is different and is in Ralston Franchise at Fifth Degree.

Failing eyesight can always be prevented.

Glasses may be discarded by restoring the eye to its true shape. "Ralston Gardens" describes the treatment.

The optic nerve is weakened by too much starchy food.

In diphtheria, lockjaw, and other torturing maladies the agonies inflicted by germs are unnecessarily excruciating, malicious, malignant, cruel, relentless, satanic, and devilish.

The body is part of nature's general plan.

The faculties should remain stronger than the functions.

The sunrise sky is the golden field of hope.

The sunset sky is the rich meadow of peace.

In the last decade of the last century Ralstonism reduced the deathrate by 10% in general.

We are sure Mr. Ralston is correct when he emphatically says "Ralstonism can never die." Neither will morbid ignorance. Seriously meant fun and selling $25 books for $4.44 are also eternal.

"The New Thought."—When one makes a study of the weeds of morbid psychologic literature and sects so luxuriously springing up in our country, and after he has grown tired enough of Mother Mary Baker Glover Patterson Eddy and her children, he will next come upon the "New Thought," represented best by a journal of that name, edited by Ella Wheeler Wilcox and William Walker Atkinson. (In proportion to the fame of great ones the entire set of names must be spelled in full.) The perusal of a half dozen numbers of this periodical will only take an hour or two, and although so far of much interest and instructive, one will then begin to tire of the emptiness of the new thought, and of its oldness, and especially of its puerile and repetitive lessons. One will get a wearying conviction that if as the publisher avers there are 100,000 subscribers who find this childish stuff adapted to their needs, then surely the schoolmaster is not abroad in the land, or he is not doing his duty very thoroughly. Had we space we would like to reproduce a few of the hundreds of excerpts we had marked, to give an idea of this the silly season of American growth. There is nothing directly vicious or nauseating about it, as is so common in other forms, but it is of course indirectly morbid. The people who are ministered to and treated are surely sick, very much so mentally and socially, but the teachers, the high priestesses, and their little amen-sayers, the priests, are surely much "sicker."

The mark of morbid self-consciousness is in every article and sentence of most of the crazy or crank literature so rampant among us. It is indeed not only marked by it but is rather drenched in it, so that teachers, priestesses, and humble pupils seem to delight in standing and paddling in their own slush. It is an old and well-recognized law of disease and insanity that one is unconscious of the healthy organ. Most people, for instance, go through life without a moment's attention to their knees, their ears, or their "desires." But let them get synovitis, middle-ear inflammation, or the New-Thought disease, and at once all their attention is absorbed by their knee, ear, or "mind." In all of this literature, "phychometry," fortune-telling, "character readings," "somnopathy," phrenology, mediumship, "graphology," "astrology," "self-healing," hypnotism, occultism, and a hundred forms of morbid "ministering to the mind diseased" form the staple of "instruction," the substance of page after page of magniloquent nonsense, and more important still, fill all the advertising pages to repletion. The personal answers to correspondents illustrate it to satiety. "How shall I get rid of fear?" "How prevent mean thoughts?" "Is the love between the sexes incompatible with the highest mental states?" The jealous wife, "misunderstood woman," misunderstandings with husbands, How to get well, "Soul-mates," "the wearing of glasses and the magnetic gaze," bashfulness, the second divorce—these are some of the things the editor takes upon himself to write about to the victims who appeal to him for advice. "Thought-Force" is a book by one of the omniscient teachers, and its purpose is thus stated by him to be:

A wonderfully vivid book answering the questions: Can I make my life more happy and successful through mental control? How can I affect my circumstances by my mental effort? Just how shall I go about it to free myself from my depression, failure, timidity, weakness and care? How can I influence those more powerful ones from whom I desire favor? How am I to recognize the causes of my failure and thus avoid them?

Can I make my disposition into one which is active, positive, high strung, and masterful? How can I draw vitality of mind and body from an invisible source? How can I directly attract friends and friendship? How can I influence other people by mental suggestion? How can I influence people at a distance by my mind alone? How can I retard old age, preserve health and good looks? How can I cure myself of illness, bad habits, nervousness, etc.?

"Thought-Force" gives an answer to questions like these.

It is evident that here is a new disease in the world, genuinely epidemic, too. The diagnosis is easily made, but is there any therapeutist would dare suggest a treatment?

The Publisher's Control of Journalism in a New Field.—In commercial medical journalism, the owner-publisher will usually allow his professional servant-

editors and contributors sufficient freedom to write about their little professional matters as they please providing they do not interfere with his advertisements, reading notices, ways of making money, etc., and especially if they the editors, annually accept a sufficient number of articles lauding advertised preparations—there must not be too many or that would excite suspicion and destroy professional support, but they must not be so few—and, heavens, not none at all!—as to discourage advertisers. It is strange how this same problem presents itself elsewhere and even in the divine and inspired journalistic organs of the popular new religiometaphysicomedico crankeries, multitudinously named. In these periodicals the advertisements are not confined to any certain pages or parts of pages, and the publishers of the books of the editors fill their own reading columns with reading notices and puffs as unblushingly as the worst of our enormously circulated "medical" journals. In one of the most successful of the crank journals the editors sing their angelic songs of science and drugless healing in charming ignorance of interspersed pages by the publisher (who plainly has his way with every column as he will) in praise of his Food Company remedies, his Tobacco Company, his Iron Ore Company, etc. He frankly confesses his journal subscribers have subscribed many tens of thousands of dollars to his business enterprises. He is evidently a very astute promoter.

Not Entered as Second-class Matter.—In the February number of *New Thought* the publisher, in the reading columns, says:

For the present we decline all advertising that encroaches on our own field. This is one of the advantages of being in third-class matter. Were we enjoying second-class privileges we should be a common carrier, compelled to accept any and all legitimate advertising. As it is we can shut it out if we prefer.

In the May number the publisher has changed his opinion, and writes:

The output of this magazine to the news trade of the United States and Canada is now 50,000 copies monthly. Upon the strength of this demand I made application to Mr. Madden, Third Assistant Postmaster at Washington, D. C., for entry of *New Thought* at second-class rates of postage. Mr. Madden courteously refused. Again I applied; again Mr. Madden refused. He is of the opinion that this magazine is not bought for its own sake, but for the sake of the cloth books which have been offered as premiums to annual subscribers.

In July the circulation has increased to over 100,000 copies, and the publisher says:

The ingenious Mr. Madden, wearying of answering the letters that poured in upon him from *New Thought* readers, demanding that he admit this magazine to second-class privileges, had a few thousand imitation typewritten letters struck off, and mailed one to each correspondent, filling in the name and address on a typewriter indifferently well.

In the June number of the magazine the chief editor, Mrs. Ella, etc., (the lady with her much beringed hand to her ear in the thousands of portraits), from the high divine plane had written:

A great many people are attracted to the New Thought of the day by its declaration of our right to material wealth, and by its claim that the mind of man can create, command, and control conditions which produce wealth. There is no question concerning the truth of this claim.

Tout est dit!

AMERICAN NEWS AND NOTES.

GENERAL.

Harvest from Tetanus Continues.—Even yet there continues to be reported occasional deaths from tetanus as a result of the Fourth of July injuries. An exchange states that already 175 deaths from tetanus have been reported, and since the fatalities on the Fourth numbered 52, the total mortality as a result of that day's celebration amounts at the present time to 227. Vigorous measures are being advocated in various places looking to the punishment of those who sold toy pistols.

Drugs from Common Plants.—According to the New York *Times* a number of common plants and weeds furnish, when properly collected and cured, crude drugs such as are now imported in large part from Europe and elsewhere. The Department of Agriculture is now engaged in the preparation of a farmer's bulletin pointing out the desirability of satisfying the demand for these drugs from domestic sources. The bulletin will contain descriptions and cuts of the plants, and also methods of collecting, handling and curing.

Military Hospital to be Enlarged.—The large post hospital at Fort Washington, Md., is to be made yet larger and more convenient, and is to be made as complete as any hospital in the country. Plans have been prepared at the office of Major Abe S. Bickham, constructing quartermaster at Fort Washington, for an addition to the hospital at the fort that will nearly double its present size, and will admit of the opening of new wards if necessary. The hospital at Fort Washington has been a model of its kind, but the changes to be made in it will greatly improve its efficiency.

One Dog to Each Leper.—It is stated that there are a thousand permanent residents at the leper colony on the island of Molokai, and an average of about five dogs to each person. The natives who make up the colony are particularly fond of dogs, and the great number of these animals has become a serious menace to the healthful and economic condition of the colony. The amount of food necessary to maintain this herd of dogs would more than supply the colony, consequently the Board of Health has made a provision requiring that only one dog will be allowed to each member of the colony.

A Daily Medical Newspaper.—The Medical Publishing Company of America has been incorporated at $150,000 under the laws of the State of New York, for the purpose of publishing *The Daily Medical Journal.* The first issue is scheduled for October 1, 1903, and the subscription price has been placed at $1.00 a year, which also includes *The New York Medical Critic*, a monthly journal now in its second year. The prospectus announces a 6-page journal, 12 x 15 inches in size, with full affiliation with the associated press and 100,000 copies. The editorial staff has not yet been announced with the exception of Dr. M. W. Curran, managing editor, 154 East Seventy-second street, New York.

The Late Major Walter Reed, M.D., U. S. A.—A meeting will be held at the Hotel Louisburg, in Bar Harbor, Me., at 11 a.m., August 15, to confer with respect to a memorial in honor of the late Major Walter Reed, M.D., U. S. A., to whom the world is indebted for most important services in the investigation and the suppression of yellow fever. Leading professional men are invited to be present. Several committees in different parts of the country have already been appointed, and the object of this conference is to secure unanimity of purpose and concerted action. Addresses may be expected from gentlemen who are well acquainted with all the facts. [Signed] Daniel C. Gilman, S. Weir Mitchell, Edward G. Janeway, Wm. H. Welch, Christian A. Herter.

Studies of Yellow Fever.—The commission of experts, sent out by the Marine-Hospital Service, who made thorough examinations and elaborate experiments at Vera Cruz, has reported that the cause and prevention of the spread of yellow fever have been definitely determined. This commission consisted of Dr. Herman B. Parker of the Marine Hospital and Drs. George E. Beyer and O. L. Pothier of New Orleans. Drs. Beyer and Pothier have had wide experience in the treatment of yellow fever, and accompanied Dr. Parker because of their immunity, experience, and attainments. They report three propositions as having been demonstrated beyond doubt: 1. That the cause of yellow fever is an animal parasite, and not a vegetable germ or bacterium. 2. That the disease is communicated only by the bite of mosquitos. 3. That only one genus of mosquitos, which is classified as *Stegomyia fasciata*, is the host of the yellow fever parasite. Every possible assistance was given the commissioners at Vera Cruz by President Diaz and the Mexican authorities. Four life prisoners were placed at their disposal for experiments, with the understanding that if the prisoners consented to undergo the experiments and survived, they were to have their freedom. Various experiments were made with the men, all of whom survived the ordeal and received their freedom. As a result of these experiments the Marine-Hospital Service will hereafter direct its efforts to fighting *Stegomyia fasciata.*

EASTERN STATES.

City Officials of Havana Seeking Information on Sanitary Matters.—Mr. Pedro D. Buzzi, of Havana, Cuba, and superintendent of the engineers' laboratory of that city, is visiting the principal cities of the East and Canada, to make a special study and investigation of bituminous pavements, street cleaning and disposition of garbage in general.

To Stop Spread of Anthrax.—From Salem, Mass., comes the news that 100 head of cattle in the vicinity have died within the past 10 days from anthrax. Frank Sheppard, who is one of the heavy losers, has been sent to the hospital with the disease, which he contracted in skinning one of his dead animals before he knew the nature of the malady. The State Board of Health has sent 1,000 doses of anthrax virus, and the veterinarians are putting it to use throughout that district.

Mrs. Vanderbilt's Gift.—The trustees of the Newport Hospital received from Mrs. Vanderbilt recently a formal transfer by letter of the $250,000 ward which she has caused to be erected upon the hospital grounds as a memorial to her husband, the late Cornelius Vanderbilt. Accompanying the transfer was notice of a generous endowment of the building, the amount of which officials are not privileged to make public. The ward is for the needy poor, with outpatient, maternity and children's departments, and rooms for those who can only pay a nominal sum for treatment.

NEW YORK.

To Stamp out Anthrax.—The Lower Alloway Board of Health has issued a proclamation through which it is hoped that the spread of anthrax will be stayed. The ordinance relates to the burying of cattle and hides near residences, and prohibits driving cattle through the township.

Unrecognized Fractures of the Skull.—According to the New York *Sun* of August 1, two deaths have recently occurred in that city in which the patients were treated for alcoholism when in reality the cause of the symptoms was depressed fracture of the skull. One had been in the Bradford Street Hospital for 30 days and the depressed fracture was not recognized until death had occurred. The patient had been detained in the alcoholic ward. The other was a patient who had died in the Hudson Hospital, after having been locked up on a charge of intoxication. It is asserted that death was due to fracture of the skull, which fact was not discovered until after death.

PHILADELPHIA, PENNSYLVANIA, ETC.

Woman's Medical College of Pennsylvania.—Owing to the death of the late Dr. Parish, the chair of anatomy of this institution is vacant.

Announcement.—At a meeting of the Medicolegal Society, held July 28, W. S. Wadsworth, coroner's physician, read a paper on criminal abortion and the relation of the physician to the coroner's office. Forty-one members were present.

Recommend Statute Forbidding the Sale of Toy Pistols.—The State Board of Health convened on July 16 and voted to recommend to the next Legislature that a bill be passed forbidding the sale of toy pistols within the State. This action has been taken in view of the numerous cases of tetanus which have developed from Fourth of July wounds inflicted by toy pistols.

Diphtheria in Delaware County.—An epidemic of diphtheria prevails in several of the boroughs in Delaware county. Seven deaths have been reported recently, 4 of which were from black diphtheria. Local physicians are kept busy day and night, but seem unable to cope with the disease. A number of new cases have been reported, and residents are becoming alarmed at the rate of increase.

Lectures to Mothers on the Care of Babies.—Director Martin of the Health Department is turning his attention to protecting the health of babies. He is organizing a corps of physicians to give a series of lectures to mothers on how to feed, dress, and keep babies clean and what to give them when they are ill. The physicians who will give them will tell how to keep children clean and, above all, on what they should be fed and what should be kept from them. The preparation of milk for infants will be an important subject that will be discussed.

Typhoid Fever Increasing.—According to the report of the officials of the Bureau of Health for the week ended August 1, there was a marked increase in contagious diseases in the city. According to this report, there were 109 sufferers from typhoid fever as compared with 65 reported during the week previous. For the past two months this disease has been decreasing materially, and the health officers were hopeful that it would soon be under control. Impure water-supply is ascribed as the cause. Attention of the public is called again to the necessity of boiling water before it is used for drinking purposes. The number of cases of smallpox reported at the same time was 29 as compared with 11 during the preceding week.

Hampered in our Fight Against Tuberculosis.—Dr. Flick, Superintendent of the Phipps Institute, calls attention to the fact that in New York, when a patient dies from tuberculosis, the house, or at least the room in which the patient dies, is thoroughly disinfected. Philadelphia, he says, is sadly remiss in this particular and there is little use of trying to stop the spread of this disease, unless there is thorough disinfection of every room in which the tuberculous die. He also suggests that the city is greatly in need of a large sanitary hospital where patients in the early stages of tuberculosis can go for treatment and at the same time keep up their usual vocations. The poor cannot afford to consult physicians in such cases, and they refrain from securing medical aid during the most opportune time for treatment, and only appear at the hospitals after the disease has advanced to such a stage that treatment is often of little avail.

SOUTHERN STATES.

Health Conditions in Baltimore.—The monthly report of the Health Department for July shows the number of deaths to have been 1,097, comprising 430 white males, 364 white females, 148 colored males, and 155 colored females, as compared with 1,156 for the same period in 1900, 1,260 in 1901, and 1,052 in 1902. There were 506 deaths of children under 5 years of age, being 46.12% of the whole number.

WESTERN STATES.

Druggist's Mistake Kills a Child.—At Colorado Springs the mistake of a druggist in substituting strychnia for calomel in a prescription caused the death of a 3-year old child. The dose threw the child into convulsions, and before medical aid could be secured she died. The druggist admits that by mistake he took the drug from the wrong jar.

Bacteriologist Will Probably Survive Inoculation with Tetanus Germs.—It appears that a young bacteriologist named Hermann Schoberg, of St. Paul, who recently accidentally inoculated himself with germs of tetanus while experimenting with serum on a guineapig, has probably escaped a fatal termination, as 10 days have elapsed since the accident. So soon as the accident occurred the bacteriologist split open the end of his finger to the bone, washed the same with formalin and carbolic acid. He was given an injection of the antitetanic serum. So far no symptoms have developed.

Death from Chloroform.—The Bulletin of the Chicago Health Department for the week ended July 25 says: "Another death under chloroform in a dentist's chair occurred during the week. This is the third reported within a short time in this city. The total for the year and in the whole country must make a serious aggregate. Such deaths are little if anything short of homicide by ignorance on the part of those under whose charge they occur, since it has long been demonstrated that chloroform should never be administered to a person in the upright position—as in a dental chair, for example."

Testing Colorado Climate.—News from Cripple Creek, Colorado, states that Professor G. T. Kemp, of the University of Illinois, is conducting experiments at the former place in regard to the effect of high altitude on the blood. He is being assisted by five students of the Champaign (Ill.) college, who twice each day have one of their fingers punctured and from 3 to 4 drops of blood taken out, which is carefully examined. Prof. Kemp will remain there three weeks, and expects in that time either to prove or disprove the theory advanced by European physicians that a high altitude is conducive to better blood.

Health Men Indicted in Chicago.—Five employes of the Health Department charged with having accepted bribes have been indicted in Chicago. They are connected with the Department of Plumbing Inspection, and it is alleged that the bribes were paid by plumbers in consideration of being allowed to do faulty work in violation of the ordinance. The allegation is made that the system at which the indictments strike has been in vogue for six years, but the statute of limitation has barred all these cases which occurred within the last three years. Certain plumbers declared that they had been "held up" for money by the defendants. The indicted men are John S. Kelly, assistant plumbing inspector, and William H. Dwyer, James E. Brudenelle, Ernest Schirrman, and William R. Denning, deputy plumbing inspectors.

Four New Cases of Plague in San Francisco in July.—With the recurrence of hot weather in San Francisco, according to reports to the Public Health Service, there are signs of the increase of plague cases. From last December up to the first of July there had been but 2 cases, and these did not prove fatal. Four new cases, however, occurred in July, and one proved fatal, and on bacteriologic examination was pronounced undoubtedly a plague case. The health authorities are employing the rigorous measures to stamp out the disease that were indorsed at the convention of health experts in Washington last November. Under the new regulation offering a bounty for rats the health authorities received the bodies of 259 rats, all of which were bacteriologically examined for indications of the plague. The authorities are continuing their policy of condemning and vacating unsanitary tenements. Recently the practice of flushing sewers in Chinatown was begun as a precaution against the plague.

FOREIGN NEWS AND NOTES

GENERAL.

Fatalities Among Alpine Climbers.—Despite all precautions, many Alpine disasters are reported. Last week three guides found an unfortunate Alpinist in a dangerous position. They were unable to render assistance and the man perished. A young soldier of 22 years, on the same spot, slipped over a precipice and was killed. The body of another young man was recovered in the ice. His possessions proved him to be a Swiss, named Pendlar. Another youth gathering edelweiss fell 200 feet, narrowly escaping death.

Bad Sanitation in England.—An exchange states that at the opening of the annual conference of the British Medical Association, Dr. Griffiths, the president, declared that Great Britain loses annually 60,000 lives that could be saved by even moderate improvement in the sanitary law and in its administration. The loss was largely of children under one year of age, the mortality among them having increased in the past 36 years. This, and the diminished birthrate, were two ugly facts that were discreditable to the country and modern civilization.

Feeble Youth Becomes Centenarian.—An interesting case of the longevity of a feeble youth was revealed in a police court in Paris. A man called to complain of a burglary in his apartment, said his name was Duval and his age 100 years. The story was confirmed by his papers. Duval was born July 4, 1803, and as a youth was refused as a conscript. He has lived in one house 99 years, and has grown progressively stronger. He eats and drinks well, walks strong, and has a stentorian voice. He remembers seeing Napoleon in 1813.

Flour and Teeth.—The London *Chronicle* says: "A valuable letter from a correspondent drew attention to an important and admitted cause of the national degeneration of physique which we have striven to emphasize in these columns. The roller mill has indubitably diminished the dietetic value of our bread. The entire wheat grain is of value; the husk (which is a valuable intestinal stimulant), the brown exterior, and the white central core. Except for certain invalids, white bread is an indefensible absurdity. Better is brown bread, consisting of all but the husk, and best is a whole meal bread, assuming such to be obtainable. The deficiency of salts in white bread is unquestionably related to the deterioration—also familiar to our readers—in the national teeth. We may illustrate this by an argument from Sir Thomas Lauder Brunton. 'Why has America the cleverest dentists?' Answer: 'Because she has the best flour-mill makers.' The better the mill is the finer the flour, the poorer the bread the worse the teeth, and the better the dentists. Perfectly simple."

GREAT BRITAIN.

No Rabies in Ireland.—The Secretary of the Department of Agriculture of Ireland in his last annual report makes the following statement: "There is good ground for hoping that rabies has been eradicated from Ireland, no outbreak of that disease having been confirmed since April, 1901. An attitude of vigilance in regard to this disease is, however, felt to be still advisable, especially as it has been shown by the experience in Great Britain that some fresh cases of rabies occurred a very considerable time after the suppression of the disease in that country was reasonably regarded as an accomplished fact. Immunity from the disease having, as it is hoped, been now attained so far as Ireland is concerned, it has been deemed desirable to strengthen the safeguards against a possible reintroduction of the malady through the medium of dogs imported from foreign countries, in many of which rabies is very prevalent. Regulations in respect to such dogs have been in force for some time, both in Great Britain and in Ireland, but these regulations have now been made more stringent. Under the revised British regulations, such dogs, if permitted to be landed, must be detained in quarantine for a period of six months on approved premises in the occupation of a veterinary surgeon."

CONTINENTAL EUROPE.

Exposition of Child Life.—Next fall St. Petersburg is to have an international exposition, an interesting feature of which will be an exhibition of child life in its various phases. Everything concerning the moral, physical, and intellectual education of childhood and youth will be presented. There will be a complete picture of child life from birth to school days, including nourishment, dress, instruction, physical and moral education, etc. The exhibit will be divided into five sections: The first section will have to do with the method of instructing children by means of manuals, books, maps, pictures; the second section will be devoted to that which pertains to the physical development of children, the care of the newborn, hygiene before school age and for school children, nourishment, the playground, etc.; the third section will deal with the industrial condition; there will be exhibits in nursery surroundings, furniture, light, heat, ventilation, beds and bedding, and children's clothing; the fourth section will be devoted to art, including pictures in child life, etc., and the fifth section will be a historical-entographic exhibition.

OBITUARIES.

Milo Hotchkiss Jones, of Greenwich, Conn., July 27, aged 28. He was graduated from the medical department of Yale University in 1896, after which he was attached for a time to the staff of Bellevue Hospital, New York City. At the time of his death he was assistant health officer of Greenwich.

William J. Neilson, in Winnepeg, Manitoba, Can., July 17, aged 49. He was graduated from the McGill University, Montreal, in 1878. He was a member of the Manitoba Legislature, health officer of Winnepeg, and one of the organizers of the Manitoba Medical College.

B. E. Hadra, in Dallas, Tex., July 12, aged 58. He was graduated from the University of Berlin, Germany, in 1866. He was president of the Texas State Medical Association in 1901 and was one of the founders of the medical department of the University at Galveston.

Herbert Mickle, of Buffalo, N. Y., died at Asheville, N. C., July 21, aged 42. He was graduated from the Trinity Medical College, Toronto, in 1881. He was surgeon to the Emergency Hospital and demonstrator of anatomy in Niagara University.

W. R. Hull, in Williamsport, Pa., July 17, aged 66. He was graduated from the Pennsylvania Medical College, Philadelphia, in 1858, and served during the Civil war as an assistant surgeon. He was a member of the Pennsylvania State Medical Society.

Samuel C. Hall, in Omaha, Ill., July 5, aged 66. He was graduated from the Eclectic Medical Institute, Cinn., in 1869, and from the St. Louis College of Physicians and Surgeons in 1892. He was a member of the American Medical Association.

J. Ernestine Hills, at Willard (N. Y.), July 11, aged 41. She was graduated from the Woman's Medical College of Pennsylvania, Philadelphia, in 1893. She was resident physician at Willard (N. Y.), for the Insane.

Charles M. Galbraith, in Carbondale, Ill., July 23, aged 31. He was graduated from the Barnes Medical College, St. Louis, Mo., in 1897 and served as an assistant surgeon in the Spanish-American War.

Albert Jeremiah Schureman, of Newark, N. J., July 29, aged 74. He was graduated from the New York University in 1872, and had practised in Newark for more than twenty years.

George E. Connell, of Washington, D. C., July 27, aged 56. He was graduated from the medical department of Howard University, Washington, D. C., in 1879.

Annie L. Geddes, of Montclair, N. J., died at Plainfield, N. J., July 15. She was graduated from the New York Medical College and Hospital for Women in 1890.

James D. O'Keeffe, of Tazewell, Va., died at Pulaski, Va., July 24. He was graduated from the College of Physicians and Surgeons, Baltimore, in 1873.

Andrew J. Clark, in Loveland, Colo., July 13, aged 74. He was graduated from the New York Homeopathic Medical College and Hospital in 1866.

F. A. Malick, in Fullerton, Neb., July 17, aged 36. He was graduated from the Iowa College of Physicians and Surgeons, Des Moines, in 1890.

Alexander E. Jenner, in Dayton, O., July 12, aged 74. He was graduated from the Bellevue Hospital Medical College, New York, in 1863.

H. E. Bozman, of New Alexandria, O., July 6, aged 45. He was graduated from the Dartmouth Medical College, Hanover, N. H., in 1882.

Gordon H. Race, in Great Barrington, Mass., July 22, aged 50. He was graduated from the Albany (N. Y.), Medical College in 1880.

Benjamin Hawker, New York, July 31, aged 66. He was graduated from the Eclectic Medical College of the city of New York in 1875.

H. H. McLellan, in Topeka, Kan., July 19, aged about 50. He was graduated from the Medical College of Ohio, Cinn., in 1880.

Edwin J. Miller, of Intercourse, Pa., July 24. He was graduated from the Jefferson Medical College, Philadelphia, in 1896.

Richard R. Pettit, in Dayton, Ohio, July 9. He was graduated from the University of Michigan, Ann Arbor, in 1882.

Simon C. Carver, in Chicago, Ill., June 7, aged 32. He was graduated from the Rush Medical College, Chicago, in 1900.

Charles A. Helvie, in Los Angeles, Cal., July 10. He was graduated from the Rush Medical College, Chicago, in 1894.

Francis M. Perrine, in Dansville, N. Y., July 12, aged 72. He was graduated from the University of Buffalo, in 1855.

Alfred A. Gerish, in Lowell, Ind., July 17, aged 85. He was graduated from the New York Medical College in 1853.

E. R. Dabney, in Ringgold, Tenn., July 9, aged 78. He was graduated from the New York University in 1845.

Olin G. Dyer, in Brandon, Vt., July 20. He was graduated from the Castleton (Vt.) Medical College, in 1844.

Joseph Charles Melvin, of Carbondale, Pa., was drowned at Atlantic City, N. J., July 29.

William P. Dowling, in Charleston, S. C., July 11, aged 70.

John Henry Helfenrich, in Allentown, Pa., July 29, aged 80.

Francis F. Miles, in Baltimore, Md., July 30, aged 76.

Elias A. Howe, in Bancroft, Ia., July 12.

CLINICAL NOTES AND CORRESPONDENCE

[Communications are invited for this Department. The Editor is not responsible for the views advanced by any contributor.]

OPHTHALMIA NEONATORUM.[1]

BY

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Of all the diseases the human eye is heir to, there is probably none requiring more careful attention and care, and none more serious in its after effects than ophthalmia neonatorum. Attacking, as it does, the helpless newborn babe, it involves serious responsibility upon those in charge, and in the great majority of cases it rests in the hands of the attendants whether or not the child shall go through a long life, self-supporting and capable of enjoying the pleasures to which it has a lawful right, or whether it shall be subjected to a life of misery and blindness, ekeing out its existence the best it can in a blind asylum or being led about the streets a burden to itself and the community—a whole life of misery or happiness being determined during those first few weeks of existence by proper or improper treatment. Indeed, the very appearance of the disease is determined in a great majority of cases during the first few moments after delivery by the use or nonuse of proper prophylactic measures.



Enlargement of an eye due to blocking up of the angle of the anterior chamber with increased intraocular tension, following ophthalmia neonatorum. From Dr. Harlan's clinic, Wills' Hospital. Photographed by Dr. Parker.

The frequency of this disease and its terrible sequels can be seen in all our blind asylums, their statistics showing that out of every 100 blind inmates 30 to 40 have lost their sight through ophthalmia neonatorum. In the *American Journal of Medical Sciences*, April, 1873, Dr. Harlan showed that in the blind asylum of Philadelphia 32% of the cases were due to ophthalmia. Haab states that the direct cause of one-third of all cases of blindness is ophthalmia neonatorum. Before Credé introduced his famous prophylactic method 10% of all newborn children under his observation were infected; after practising prophylaxis the decrease was remarkable, falling to one-tenth of 1%, or in other words, out of every 1,000 children 100 lost their sight, whereas during the routine practice of prophylaxis only one child out of every 1,000 became blind—a saving of 99 children out of every 1,000 from being blinded for life—surely this prophylaxis is of more than ordinary importance, yet how often is it practised routinely?

The cause of infection, as all know, is the gonococcus which gains access to the child's eyes during the passage of the head through the canal or by subsequent infection while cleansing the infant. Infection may also occur several days afterward by contact of the mother's soiled fingers with the child's eyes, in case the mother is gonorrheic, or by careless manipulation of the soiled dressings by the nurse in charge.

The first symptoms generally make their appearance in from 12 to 48 hours, and consist of lacrimation and possibly some redness. The watery discharge is afterward converted into one consisting of blood and serum. The lids are swollen, but edema of the bulbar conjunctiva is usually absent, this portion of the conjunctiva being but little affected. By everting the lids the tarsal conjunctiva will be found smooth, though red and swollen. Several days later the secretions begin to assume a purulent character and the swelling of the lids abate. The tarsal conjunctiva instead of being smooth as at first, is now soft and thrown into ridges causing the surface to appear velvety and rough; the conjunctiva in the fornix is similarly affected. This is the second or true gonorrheal stage, and it is during this stage that the cornea is liable to become involved.

As the secretion is abundant the cornea is constantly covered with it, and if frequent cleansing is not performed the infected discharge gains access through the protective epithelial layers of the cornea and ulceration begins. A small gray spot appears usually in the center of the cornea. This point of infiltration gradually enlarges until it transforms itself into a suppurating ulcer, which may attack the whole of the membrane and perforate, giving rise to severe inflammatory changes in the anterior portion of the eyeball, or it may set up a panophthalmitis with total destruction of the ball.

If perforation should occur before the ulcer has reached any great size the aqueous humor escapes allowing the lens and iris to come forward and adhere closely to the cornea. If the lens lies directly beneath the perforation, changes are produced from irritation which cause the proliferation of the endothelial cells of the anterior capsule, giving rise to an anterior capsular or pyramidal cataract later on, and though the eye be saved, vision is usually much affected.

Should the iris happen to come forward after perforation, and engage beneath the opening, an adherence with the cornea is generally produced, though if the perforation be small there may be no other complication than a corneal opacity designated according to its density as a nebula, macula, or leukoma. As a consequence of an adherence between the iris and cornea after perforation, it frequently happens that there is a rise in intraocular tension from the blocking up of the angle of the anterior chamber, the channel through which the lymph escapes from the eye. Secondary to the rise in tension it will be noticed after a time that the eyeball increases in size, especially in the anterior segment, until often there is a marked prominence protruding between the lids—a socalled anterior staphyloma. Indeed this stretching of an eyeball following ophthalmia at times reaches such a remarkable extent that the affected eye attains half again the size of its fellow, and if the thinned cornea does not rupture, the enlargement becomes so great that it is with difficulty the patient manages to close the lids, thereby necessitating enucleation. It should be borne in mind, however, that enucleation should be performed only when absolutely necessary, especially in a growing child in whom the removal of an eye would cause the asymmetric development of the two orbits.

The diagnosis of ophthalmia neonatorum can be very readily made by the history of the case and the virulence of the attack. The microscope affords the most reliable means of diagnosis in doubtful cases though one can hardly go amiss in the great majority of patients. For microscopic examination a

[1] Read before the Montgomery County Medical Society, June 10, 1903.

sterile platinum loop is brought into contact with the discharge and then smeared on a clean glass slide. This slide is next held over a flame until the smear is thoroughly dry after which it can be sent to a good microscopist for examination. For a thorough examination of the cornea in case the lids are swollen, a lid elevator is of service, enabling the physician to retract the lids so that a good view of the cornea may be obtained.[1] The prognosis depends upon the thoroughness with which the treatment is carried out and, providing the case is seen early enough and the physician's orders are strictly adhered to, recovery is the rule. If the child is in an enfeebled condition or has inherited a syphilitic taint the prognosis is not so good.



As shown in the beginning of this paper prophylactic measures are of the utmost importance and should be practised in every case of child-birth when there is the slightest suspicion of gonorrhea in the mother or father; indeed it would be wise to practise prophylaxis in every case as no harm can be done and the results are too well established to need comment.

First of all the mother's vagina should be thoroughly douched before delivery with some antiseptic solution to lessen the risk of infection.

In bathing the child, care should be taken not to wash the eye with the same water employed in giving the first few baths, a separate solution of boracic acid or other antiseptic being retained for the purpose. The child's face should be carefully cleaned before the eyes are opened after which the prophylactic method of Credé is advisable. This consists in thoroughly flushing out the conjunctival sac, while the lids are held apart, with a solution of boracic acid. Following this a drop of a 2% solution of silver nitrate should be instilled into each eye. By this method if any gonococci have gained admission into the conjunctival sac they are destroyed very quickly before they can do any harm.

As nitrate of silver is rather irritating and also exerts a coagulating influence upon albumin, thus preventing its further entrance into the tissues, a much better preparation is argyrol. This can be used with perfect safety and the whole conjunctival sac flooded with the solution without any danger to the cornea or other undesirable effects. A 25% solution should be used, being dropped into the conjunctival sac and allowed to flow freely around so that it may penetrate all the crevices of the retrotarsal folds.

The advantages of argyrol are that it does not coagulate albumin as does nitrate of silver, it has no irritating properties, it can be flushed into the eye in sufficient quantities to penetrate thoroughly all crevices in the retrotarsal folds, it has no deleterious effect upon the corneal epithelium and it contains a high percentage of silver. It is needless to say that proper cleanliness should be subsequently carried out.

If the disease breaks out in only one eye, the sound eye should be protected with a Buller's shield or watch crystal held in place by adhesive strips. It seems to me rather dangerous to place a thin glass watch crystal over a child's eyes with the chance of having it broken and serious injury result. A small sheet of thin, flexible, transparent, celluloid film such as is used for photographic purposes, cut out to fit snugly and bound down by absorbent cotton and collodion or adhesive strips, seems to answer the purpose admirably, being nonfragile and waterproof, preventing the entrance of any infected matter and at the same time being perfectly transparent. While the shield is in place the eye should be carefully watched for any signs of inflammation and in the event they should appear, the shield must be removed and treatment started immediately.

As to treatment, cleanliness is of course the first requisite. The discharge should be thoroughly washed out at frequent intervals, and if the secretion is copious the cleansing process should be performed every 15 minutes. This means work, but it takes work to get the best results. After each thorough cleansing a few drops of a 25% solution of argyrol should be instilled so that the gonococci cannot escape from coming into prolonged contact with their antagonist. Silver nitrate could not be used in this way as it is too irritating, but argyrol can be so employed and it seems advisable to keep it constantly in the conjunctival sac. If argyrol should prove ineffectual silver nitrate may be applied in 2% solution, by means of a swab, to the everted lids twice daily.

Should the lids be very much swollen, iced compresses may be applied at frequent intervals and care taken to cleanse the cloths thoroughly before they are reapplied to the eyes. A good plan is to have a receptacle containing a solution of potassium permanganate or mercury chlorid and drop the pads into this solution for a few minutes before putting them back onto the ice. The cold compresses together with the other treatment should be continued night and day.

There are several good solutions with which to flush out the conjunctival sac; bichlorid 1-8,000, potassium permanganate 1-2,000, formalin 1-6,000, or a saturated solution of boracic acid. These should be used in large quantities, being squirted in by means of a large rubber bulb or an irrigating apparatus.

A valuable addition to the treatment is the application of vaselin, which is inserted beneath the lids into the conjunctival sac, serving to protect the cornea. As vaselin is a grease, any medicament instilled a short time afterward would be prevented from proper absorption, and to secure more prolonged and direct contact of the silver compound I have used a combination of argyrol and vaselin in the proportion of 25%, which combines the action of the vaselin and silver. The vaselin instead of interfering with the instillation of the argyrol, when combined in this manner, carries the argyrol with it and the combined and prolonged action of both is secured without either drug interfering with the other. If corneal ulceration threatens a few drops of atropin in the proportion of two grains to the ounce should be instilled night and morning (or oftener if full dilation of the pupil is not secured).

In conclusion I might quote Fuchs, who says, "there is perhaps no other disease in which the rigorous carrying out of prophylactic treatment would afford more gratifying results than in blenorrhea of the newborn, which might in this way be made to disappear almost entirely."

[1] I have at present a small lid elevator under construction (see cut) designed especially for small palpebral fissures as are found in young infants, with simply a frame instead of a solid piece, permitting any application to be made to the tarsal conjunctiva while the elevator is in place.

SOME SUGGESTIONS IN THE MANAGEMENT OF PROSTATICS ABOUT TO ENTER CATHETER LIFE.[1]

BY

G. K. SWINBURNE, M.D.,

of New York City.

For a long time I have been convinced that many patients with prostatic hypertrophy are introduced to catheter life, and allowed to use a catheter themselves, who for a longer or shorter period, by judicious management, can be saved from the frequent self-catheterization with its attendant dangers. This period sometimes may even cover a series of years without appreciable deterioration of the health of the patient from the disease itself.

Of course, cases vary markedly in the rapidity with which the amount of residual urine increases, according to the situation of the obstruction, but there is one element in the case often overlooked, and that is the superinduced congestion or rather edema or serous exudation into the surrounding tissue which increases the obstruction and consequently the amount of residual urine, and when this edema of the tissues has been reduced the amount of residual urine falls back to an amount due to the mechanical obstruction itself. This amount may be so small, ½ oz. to 3 or 4 oz., as not to be a source of marked inconvenience to the patient. In fact, it is just that state in which these patients go for a long time, entirely unconscious that there is anything wrong; their only prominent symptom is the nocturnal polyuria, which though annoying yet is of such a character that often we meet patients who have had this

[1] Read before the American Association of Genitourinary Surgeons, at Washington, June 13, 1903.

symptom for a long period, months and even years, without paying particular attention to it, and not until the difficulty of starting the stream becomes prominent, or the discomfort from feeling they have not emptied the bladder, or acute retention occurs, do they think it necessary to consult a physician.

Now the point I wish to make is this, that many of these patients can be brought back to the condition they were in before the onset of the acute symptoms, and kept at that point for a varying period of time. They will have their nocturnal polyuria and they will have a small amount of residual urine, but the urine will be sweet and clean and the bladder remain uninfected, and by careful dieting, abstemious living, the proper amount of exercise, and the local treatment, controlled entirely by the physician himself. The interval been the visits of the patient many be gradually lengthened until they do not exceed more than one or two a month.

In the middle of November, 1902, a patient, aged 65, was brought to me by his physician, who had had him under treatment for two or three years, during which time the patient had been catheterizing himself almost daily. He was suffering from frequent and painful urination; the passage of the catheter was very painful, and if he did not use it he would have attacks of partial retention going on to complete, though temporary retention. For some time his night's rest had been completely broken by constant efforts to urinate; the urine was cloudy and the effort of urination very painful.

I had the patient pass all the urine he could, then flushed out the anterior urethra with a warm solution of argyrol 1—1,000, then as gently as possible passed a sterile catheter, 20 F., into the bladder and drew off only 3 ounces of urine. I washed out the bladder with about a quart of the same fluid, emptied the bladder, and then withdrew the eye of the catheter into the posterior urethra and injected through the catheter ½ ounce of a 10% solution of argyrol and left it there.

The patient was put on 0.5 gram (7½ grains) powders of urotropin three times daily and told not to use the catheter himself. Diet and bowels were attended to. This treatment was repeated daily for one week; the urine had become perfectly clear; the amount of residual urine was reduced to 1½ ounces and the patient was perfectly comfortable, except that toward morning he was apt to be awakened to urinate several times. The second week the intervals of his visits could be reduced to every other day; the third week he came twice and the fourth week once; the amount of residual urine was reduced to only ½ ounce. The urine was perfectly clear, there was no pain or discomfort, and the patient was able to enjoy life. The second month he came at intervals of two weeks and the third month he remained away for four weeks. At this time the amount of residual urine was still only ½ ounce. I warned him not to stay away so long again, but he did not return till a month later, having found that his nights were again disturbed. At this time his residual urine had again increased to 3 ounces and he was again showing signs of infection. He had disobeyed my instructions, and had used the catheter at night. He had been especially instructed to come to me the next day if he did this. He had been careless about taking his exercise, which was a daily walk in the open air, and he had been careless in his diet. He had a return of the same symptoms with cloudy urine, and he was obliged to use the catheter at night. At this time the bladder would not tolerate the washings. I ordered him to go home and go to bed, and every evening for a week went to his house, drew off his urine with a No. 16 F. catheter and injected ½ ounce of 10% argyrol solution. He was obliged to catheterize himself at this time once or twice during the night. At the end of a week his urine, which at first was like pea soup, again became clear, and the residual urine had fallen to about three ounces once more. I gradually allowed him to get up and about, then to come to the office, where I renewed the former treatment. He has again improved, is no longer obliged to use his catheter himself, and the intervals of his visits are again being increased. I am convinced, however, that if some such system had been instituted at the beginning of his trouble he would have been saved several similar attacks which he had previously suffered before coming under my care.

In patients who are found to have considerable residual urine, and in whom it is dangerous to withdraw all the urine at once, it seems to me a good plan to replace the amount of residual urine with about the same amount of argyrol solution (1-1,000), gradually diminishing this until it is safe to withdraw the entire amount, and then, to prevent further infection and to reduce the infection still present, to inject ½ ounce of 10% solution of argyrol. This new salt is absolutely unirritating and has a marked effect in reducing pain and inflammation, and in my hands has entirely superseded the use of silver nitrate solution formerly used for the same purpose. In fact, I had previously often used protargol somewhat in the same way, but with less satisfactory results.

The object of this paper is to bring out an expression of opinion as to whether it is not often better to carry a patient over as long a period as possible before allowing him to resort to self-catheterization, and also to call attention to the beneficial results that may be obtained by the use of argyrol as a local urinary antiseptic.

HYDROPHOBIA AS A SYMPTOM IN DISEASES OTHER THAN RABIES.

BY

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of Waco, Texas.

To the Editor of American Medicine:—Perhaps it would be of some interest to your readers to hear of my limited experience with hydrophobia, and it would interest me to know the cause of the unusual symptoms. There is no reference to hydrophobia as a symptom of disease other than rabies in recent medical literature. James Copeland, in the "Dictionary of Practical Medicine, Vol. iii, page 619, (published 1859) says: "The dread of water, hydrophobia, is a very rare symptom of other diseases which differ in every respect from the one now defined (rabies), and is only one of the phenomena observed in cases of rabies affecting the human subject."

In the following cases I made minute inquiry in the fatal case, so can eliminate this factor, rabies. In the second case, at no time was business interfered with, nor does the patient care to refer to it, since all the nervous manifestations have passed. I have known him intimately for 21 years, and have never had cause to doubt his statement; in fact, he objected to its becoming known, even among his intimates:

My notes are as follow:

Mr. A. M. H., a railroad man, brakeman, aged 32, and married, had contracted syphilis in 1890, and was treated for this by W. R. Blailock, of McGregor, Tex., to whom I am indebted for the history of the case. The patient came under his care during the secondary stage, and responded well to mercurial treatment, the local signs soon disappearing. A continued course of treatment was advised, but he was changed to a distant station, and visible manifestations disappearing, he failed to obey instructions. He was taken violently ill on April 13, 1891, and sent a telegram to his physician who, responding April 14, found him suffering violently from nervous symptoms, having frequent paroxysms of great severity. He gave specific treatment and morphia to relieve pain. The patient was a habitual user of morphia. As Dr. Blailock was unable to remain with the patient he called me in consultation, and left him in my care on April 15. His treatment gave him neither relief nor sleep. I therefore gave him .32 gram (½ gr.) morphia, 0.8 mg. (1/75 gr.) atropin sulfate with no relief of any symptom. His temperature now began to rise and I used water to bathe his face. I noticed that when he saw the water, or it touched his lips, he had tonic spasms, short but violent. He now began to suffer from great thirst, calling for water. Each time the nurse approached with water he would have another spasm. His desire for water was so great he told the nurse to bring it, "he would drink it or die." But the sight of it caused such violent convulsions he did not again ask for it. I asked him on the afternoon of April 15 how much morphia he took at a dose, and he poured 1 gram (15 grains) of powder in his hand as his usual dose. I immediately gave him .78 gram (12 grains) hypodermically, and it gave him about two hours' rest. I then gave him about .39 gram (6 grains) morph., hyoscin hydrobrom. 0.6 mg. (1/100 grain). He slept one hour. From 9 p.m., April 15 to his death, no amount of morphia, nor anything else gave him any relief, and he died in spasms during the afternoon of April 16. He retained consciousness until the last.

Here we had a case of nervous syphilis, from his symptoms and history. What caused the hydrophobic symptoms? Is there a center in the nervous systems—either one—whose disease leads to this dread of water?

Mr. L., collector, aged 48, single, has seen service in the Confederate army. He is small and of a nervous temperament, native of Waco, good business man, and thoroughly reliable; has had no severe illness. He came to me for nasal catarrh. I prescribed a wash and told him how to use it. He became excited, said he would not, could not, for the reason it gave him such nervous shock—fright, felt as though he could not prevent drowning (laryngeal spasm) from it, the spasm of the air passages being so great. The usual custom of washing his hands and taking a bath caused suffering so acute that his life was almost a burden. He has gradually recovered from all fear of water, and is now in good health, 12 years later.

Will some one who has seen such patients please give their specific etiology? I state facts not etiology.

ORIGINAL ARTICLES

ACUTE ARTICULAR RHEUMATISM.*

A Report of the Cases in the Johns Hopkins Hospital, 1901–1903.

(FROM THE CLINIC OF PROFESSOR OSLER.)

BY

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The Johns Hopkins Hospital.

It is a perfectly familiar fact to those of us who are engaged in watching typhoid fever or pneumonia that the character of the cases varies greatly from year to year. That the same thing is true of acute articular rheumatism is perhaps not so familiar. Our series of cases this year has been rather unusual in several particulars, and it seemed worth while to bring the year's record before you. The special points in the cases of acute rheumatism of this year have been, (1) the unusual prevalence of the disease; (2) the severe character of many of the cases; (3) the almost constant occurrence of cardiac complications; and (4) the high deathrate.

For typhoid fever and pneumonia something good may be said. If you read Dr. John Brown's remarks on the advantages of an acute illness you will feel that an attack of typhoid fever may have its compensations. Pneumonia has some good points. It is usually a satisfactory disease, in that it is over quickly one way or the other, and in the majority of cases leaves no bad results. Then its blessing to the aged must be kept in mind; of "the thousand doors that lead to death" none opens more easily to the old man than the one marked pneumonia. But of acute articular rheumatism one searches in vain for a good word. The attack itself, with the usual severe suffering, is bad enough, but when one considers the subsequent disabilities—the child often condemned to more or less invalidism, the slow death from cardiac disease years later, after perhaps a more or less crippled life—one realizes the far reaching evil effects of rheumatism. It rarely kills in the acute stages, but when one sees a child left after an attack with chronic valvular trouble and little hope for the future, one is inclined to wish that it killed more frequently.

We have, available for comparison, the analysis of the cases in the hospital from 1889 to 1902,[1] and we shall use these throughout in connection with the cases of the past year.

INCIDENCE.

During the past year there have been 40 admissions to the medical service for acute articular rheumatism. These represent 37 patients, some of them having been admitted more than once. During the year the total medical admissions were 1,304, which gives 3% for acute articular rheumatism. For the whole series the rate has been 2%. As has been pointed out, our admissions for rheumatism usually fall below those of the large English hospitals.

Sex.—Of the 37 cases 24 were males and 13 females.

Color.—There were 30 white and 7 colored. This is just about the ratio of our larger series. It goes to show that the colored race show a larger incidence of acute rheumatism proportionally than the white, the total ratio of admissions, white to colored, being about 7 to 1, while for rheumatism, admissions are about 4 to 1.

Age.—The number of cases in each decade is as follows:

1 to 10	1	31 to 40	7
11 " 20	14	41 " 50	
21 " 30	13	51 " 60	2

It is to be noted that very few of the patients were above the age of 40. In our previous series nearly 20% of the patients were over 40.

Occupation.—Only 13 of the patients worked out of doors and were exposed to the weather. The others were engaged in housework, various indoor occupations, or attended school.

Time of Year.—The distribution in months is as follows:

January	8	July	2
February	4	August	none
March	6	September	"
April	5	October	1
May	3	November	2
June	5	December	4

It will be seen that 57% of the cases occurred in the first four months of the year, and 77% were in the first six months. This is in agreement with our previous series and in direct contrast to the figures from the London hospitals, where the greatest prevalence is in the autumn months.

HISTORY.

Family History.—A history of acute rheumatism was given in eight cases, or 21%. There was a history of arthritis of doubtful nature in three others. There was a family history of tuberculosis in 11 cases; in four there was a history of both rheumatism and tuberculosis.

Previous History.—There was a history of previous attacks of acute articular rheumatism in 17, or 46%. Tonsillitis had occurred previously in only four cases. There was a history of chorea in three cases, or 8%. The figures for both tonsillitis and chorea were larger than in our previous series. There was a previous history of lues in two cases. There was an alcoholic history in 14 cases, rather a large percentage.

Age at First Attack.—This was known in 36 cases. The figures for the decades are as follows:

1 to 10	8
11 " 20	12
21 " 30	12
31 " 40	4

It will be seen that in over half the cases the first attack was before the age of 20.

Complaint Made by the Patient.—The complaint of rheumatism was made by 20 patients, 13 complained especially of the pain, 1 of chills and fever, 1 of the swelling of the joints, and 1 of weakness at the onset. There was a definite history of exposure to wet or cold immediately before the onset in 7 cases. In 1 there was a history of trauma. The first symptom in 25 was arthritis. In 3 a chill was the first symptom, in 1 of these accompanied by fever and vomiting. Attention may be drawn to this mode of onset, which is not very rare. It occurred in 6% of the previous series. Tonsillitis as the mode of onset occurred in 2, fever in 1, nausea and vomiting in 1.

SYMPTOMS.

Arthritis.—This was an invariable symptom. The usual features do not require any consideration. The order of frequency of involvement of the joints was as follows:

Knee-joint in	28
Ankle in	26
Wrist in	21
Shoulder in	20
The elbow and hip each in	14
Joints of the feet in	9
Joints of the hand in	6
The fingers in	7
The sternoclavicular joint in	4
The toes in	4
Some of the joints of the neck in	3
The thumb joint in	1
The symphysis pubes in	1

and in one instance apparently the articulation between the nasal bone and the cartilages. Of the large joints,

*A clinical lecture delivered to the postgraduate class in Medicine, May-June, 1903.

those in the leg were involved 68 times, those of the arm 55 times. In our previous series it was noted that in all the joints of the lower extremity both sides were more often involved than 1 alone. This was also true in the cases of the present series. We found that in the upper extremity 1 joint was more often involved than both; for example, 1 shoulder more frequently than 2. This, however, was not true in these cases, and in all the large joints of the arm both were affected more often than 1 alone. Attention may be directed to the number of cases of involvement of the sternoclavicular joint, especially as that is often considered a point of importance in the diagnosis of gonorrheal arthritis.

In one instance we were able to examine the knee-joint shortly after an acute attack, the patient dying of typhoid fever. The joint contained a small amount of glutinous, slightly bloody fluid. This contained a few polymorphonuclear leukocytes and red blood cells. Cultures from the fluid were negative. The synovial membrane was dotted over with minute red points. It was apparently not thickened.

The fluid obtained by aspiration of the joints was usually straw colored, with occasionally slight amounts of blood. Microscopically leukocytes and red blood cells were found.

Fever.—The average duration of fever in 36 of the cases (excluding one patient who went out before the temperature was normal) was 18.5 days. This is much longer than the average of 12 days in our previous series. It is also to be kept in mind that many of the patients had fever for some time before admission. In 10 cases the fever persisted for a period of over 4 weeks, the longest duration being 11 weeks. The temperature records vary greatly. As is often noted there are two general types, one with a fairly high, rather constant fever, which does not persist very long and often comes nearly to normal in a week or 10 days; and the other in which the fever is perhaps never so high, but may persist for a very much longer time. The arthritis may persist for some time after the temperature is normal, as was recently seen in a patient in Ward G. In 21 of the cases the temperature did not rise above 103°. The height of the fever may have no relationship to the severity of the arthritis. In 14 cases of this series the temperature reached 103°, which equals 37%. In 5 the fever reached 104°. The highest temperature recorded was 105°—this only for a very short time. There was no case in the series which could be described as having hyperpyrexia.

Pulse.—The records of our previous series are rather surprising in that the pulse-rate was found to be lower than one might have expected. In only 7 of this series was the average pulse-rate 100 or over during acute symptoms. In 16 the maximum pulse-rate was not over 100. In only 6 was the maximum pulse-rate over 120. These agree fairly closely with our previous figures and are especially interesting in association with the incidence of endocarditis this year. They go to show that the pulse-rate may not be especially increased during endocarditis. The blood-pressure records showed no special changes. The majority were practically normal; in only two did it fall to about 100 mm. Hg., never below. The maximum pressure was 215 mm. Hg. in a patient with doubtful endocarditis and no sclerosis of the arteries.

Cardiac Conditions.—These are probably the most interesting of the various features of acute rheumatism. It is convenient to divide the cases into three groups: (1) Those in which the heart sounds are clear throughout; (2) those with a definite organic lesion, and (3) a group of doubtful cases in which it is impossible to be certain of the degree of cardiac involvement. We of course usually consider endocarditis and pericarditis the most important cardiac complications of rheumatism, but it is well to keep in mind that with these, or possibly without, there may be myocarditis. This may be very difficult to estimate, and in the majority of cases the extent of myocarditis cannot be definitely determined.

I. CASES WITH CLEAR HEART SOUND.

There were only 5 of these in the present series, or 13%. This is in striking contrast to a percentage of 38 in our previous series. It shows that for some reason the disease of this year was especially prone to involve the endocardium. The youngest of these patients was aged 15. Throughout the whole attack there were no symptoms in these suggesting any involvement of the heart. They were not especially mild. They were about equal to the average of the whole series. On discharge they showed no signs of valvular or muscular cardiac affection.

II. CASES WITH ORGANIC LESIONS.

In this group there were 21 cases, or 57%, which is much greater than the previous record of 32%. Of these in every instance the mitral orifice and in 8, or 38%, the aortic orifice was involved. In no case was the aortic valve alone involved. This shows a larger percentage of cases with aortic valve disease than our previous series. We have found that the percentage of cases in this hospital with involvement of the aortic orifice is almost double the percentage of such cases given in the records of English hospitals. Of these 21 cases mitral insufficiency was found in 8, mitral insufficiency and stenosis in 5, mitral insufficiency and aortic insufficiency in 4, mitral insufficiency and stenosis with aortic insufficiency in 4. It may be noted that in no instance did we find aortic disease without mitral involvement. So far as known there was no case of ulcerative endocarditis in this series.

One point of interest is the blood condition in the cases with endocarditis. In these cases the blood count does not differ greatly from that of the whole series. Among these cases the average hemoglobin was 73%, the red cells 4,590,000 and the leukocytes 12,200. Endocarditis is apparently not necessarily associated with leukocytosis. One sees about the same leukocyte count in cases with and without endocarditis.

In 6 of the cases organic lesions developed while the patient was under observation. To say definitely that murmur appeared at the same time as the development of the endocarditis is difficult, when we remember that it may be almost impossible to recognize during life any positive murmur in a heart which at autopsy shows fresh endocarditis. A patient may come under observation with endocarditis, but with no very definite murmur. Of these 6 cases, in 3 a mitral lesion developed, in 1 both aortic and mitral, and in 2 aortic insufficiency. In 1 of these latter there had been mitral disease dating from a previous attack. With the signs of development of mitral disease we are usually more or less familiar. The first sound usually becomes gradually blurred and a soft murmur develops, which may very rapidily become intense. One almost invariable accompaniment in all these cases has been reduplication in the second sound preceding or coexistent with the development of the murmnr. But a murmur appearing in this way at the apex, associated with reduplication of the second sound at the base, does not necessarily mean an organic lesion. In 1 case, classed in the doubtful group, this occurred. On discharge he had a soft apical systolic murmur, but returned a few weeks later with typhoid fever and clear heart-sounds. He died, and at autopsy there was no affection of the endocardium. The heart was not enlarged and was practically normal, except for some atheroma, especially about the orifices of the coronary arteries.

The development of aortic insufficiency under observation is not so frequently noted. In three of these it was, and we were able to watch the symptoms throughout. One point which impressed us very strongly was the great variability of the soft diastolic murmur at the base. In none of these cases was it constant at first.

We were uncertain in all for some time whether the condition was permanent or not. As Cabot and Locke[2] have recently pointed out, one may have murmurs at the aortic area apart from organic disease. These cases are comparatively rare. As a general rule, one is safe in depending on an aortic diastolic murmur as significant of organic involvement. In these patients a collapsing pulse was present even when the murmur was almost inaudible. The pulse tracings were also suggestive of aortic insufficiency. One of these cases may be quoted:

K. R., female, aged 24, was admitted on June 28 with her first attack of rheumatism. She had been ill for eight days before admission. On examination there was marked dyspnea, no special cyanosis, a wide area of cardiac dulness, and exceedingly feeble heart-sounds. There was a very faint systolic bruit at the apex. The second sound was everywhere clear. There was an active arthritis, with a temperature of about 102°. During July there was little change, though the patient's general condition improved and dyspnea was less. The joint symptoms persisted and the temperature average was about 100° to 101°. By August 1 the systolic murmur at the apex had become much louder and could be well heard in the midaxilla. Along the left sternal margin over the upper sternum and in the aortic area a soft blowing diastolic murmur could be heard. The second sound was well heard in the aortic area. The pulse was slightly collapsing in quality. Its rate was 96. By the middle of August the aortic diastolic murmur was much more intense. The pulse had now a marked collapsing quality, but no capillary pulse could be made out. The apex could now be definitely determined, and was found to be in sixth interspace, 12 cm. from the median line. She was discharged on August 24 in practically the same condition. She was readmitted on January 8, 1903, in a very serious condition. The heart showed well-marked systolic and diastolic murmurs. The pulse had a collapsing quality. Later she showed a well-marked pericardial rub and a loud to and fro murmur everywhere over the heart. She died on January 17. Autopsy showed endocarditis of the tricuspid, mitral, and aortic valves with pericarditis.

An important point already noted was that with the appearance of the murmur a definite collapsing quality became evident in the pulse, which would seem to be a point of considerable importance in the diagnosis.

The second patient in whom the aortic murmur developed was a boy of 15, admitted in December, 1902, with arthritis. He had then mitral stenosis and insufficiency, but there was no aortic diastolic murmur nor collapsing quality to the pulse. He was readmitted in January, 1903, and a definite collapsing quality to the pulse was made out and a visible capillary pulse. We listened frequently, but no aortic diastolic murmur could be made out. The existence of aortic insufficiency was discussed, but a positive diagnosis of it was not made. He came in again in February, 1903. The pulse had still the distinct collapsing quality, and there was a soft murmurish quality to the second sound in the aortic area. Two days later there was a distinct diastolic murmur heard in the aortic area and also to the left of the sternum. This persisted, and was well heard on discharge five weeks later. The collapsing quality of the pulse was constant.

The third, a boy of 17, was admitted on February 3 with arthritis and mitral stenosis and insufficiency. There was no diastolic murmur made out, but the pulse had a distinct collapsing quality. Six days later a soft diastolic murmur was heard along the sternal border. A week after this the same faint murmur could be heard in the aortic area. A week later this could not be positively heard, although the pulse was still collapsing. During the next month the murmur varied, at times being easily heard, again being almost inaudible. When the patient got up and moved about it usually became louder. The pulse was always collapsing, and the tracings were characteristic of aortic insufficiency. You have all examined this boy in Ward E.

It will be noted that in these two cases the collapsing quality of the pulse suggested aortic insufficiency before any murmur was made out. In none of these cases was there severe anemia, the hemoglobin being over 70%.

III. Cases with doubtful cardiac condition.

In this group there are 11 cases, or 30%, which agrees very closely with the record of 28% in the previous series. Of these 11 cases, 2 patients were discharged with perfectly clear heart sounds. Under observation there had been a soft systolic murmur at the apex, not transmitted, which disappeared completely. In the other cases the condition was much the same in all. The heart was of normal size and practically the only sign of involvement was a systolic murmur. In some this was heard only at the apex, 4 cases; in 2 apparently only at the apex and third and fourth left interspaces; and in 3 it was heard faintly at the apex and over the body, with maximum in the pulmonic area. In the majority of these cases the pulse-rate was very little altered throughout. In 3 of them the pulse-rate was over 90 during part of the attack.

It is not very satisfactory to have to classify these cases as "doubtful," but it is extremely difficult to know where else to put them. The murmurs may only be functional, but we must remember that there are probably all grades of endocardial involvement, and these may represent some of the lesser ones. That some of them are of no significance will be readily granted. We are able to verify this in one instance in which death occurred from typhoid fever shortly after the attack of rheumatism. This patient had a soft systolic murmur at the apex which had been carried out to the anterior axillary line at one time, and under observation gradually disappeared. At autopsy the mitral valve was absolutely normal.

During the course of an attack of acute rheumatism there are evidently a number of conditions that may cause a murmur. Among these are fever, toxemia, anemia, myocarditis, dilation, and endocarditis. Some of these may explain the murmur in the two patients who were discharged with clear heart-sounds, but they can be excluded when the patients were discharged otherwise absolutely well, without fever or toxemia, and certainly without anemia, as our blood records show. It may be said of these doubtful cases that in only one was there any anemia, the hemoglobin being 53% on admission. On discharge it was 90%. In all the others the hemoglobin was not below 70%. That the murmur in some of these cases may have been associated with myocarditis is possible. It is difficult to recognize minor changes in the heart muscle, and it may be possible that this is present more often than we think. Any degree of dilation of the heart may be practically excluded in all these cases. Endocarditis remains as an explanation. That we can speak positively as to its occurrence in such cases seems impossible. They must be left for time to decide. In our previous series we found that some of these patients returned with clear heart-sounds and others with definite organic murmurs. The age of the patients belonging to this group is of interest, all but one being over the age of 20.

We are all familiar with the danger of endocarditis in childhood. The table given below will show very well the relative incidence of cardiac involvement in the cases of this series according to the time of onset of the first attack:

Age at First Attack	Heart Clear	Organic Lesion	Doubtful
1 to 10	0	7	1
11 " 20	1	11	0
21 " 30	2	2	8
31 " 40	2	1	1

It will be noted that the larger number of doubtful cases occur after the age of 20, which speaks rather against the majority of them having organic changes.

One of the most serious problems in the treatment of acute rheumatism is as to the possibility of reducing the occurrence of endocarditis. You have probably been impressed in the wards with the length of time during which we keep the patients at rest. As to how long this should be one cannot lay down any definite rules. We can usually keep the patient quiet until the fever, toxemia, anemia, and cardiac dilation are practically over;

but the difficulty comes in regard to the cases with endocarditis and those in the doubtful group. It seems much safer as regards treatment to consider these doubtful ones as cases of endocarditis. We carry out the treatment of endocarditis by absolute rest, administration of alkalies, including small doses of the iodids, and counterirritation by means of small blisters over the precordium. You have probably all been impressed with the number of cases in the wards showing marks of blisters. So large a proportion of the patients come in with endocarditis that preventive treatment can be of little help.

PERICARDITIS.

This occurred in three cases, or 8%, which is close to the figure of 6% in the previous series. The ages of the patients were 6, 24, and 40 years. In all of these the pericarditis occurred with the first attack of rheumatism, which agrees with the usual opinion, although the contrary was found in our previous cases. Two of the patients were admitted with pericardial effusion, and its time of onset could not be determined. The third patient was admitted with a pericardial rub after an illness of nearly a month. Delirium did not occur in any of the cases. The temperature was not high in any, being on an average 100° to 101°. The pulse-rate varied from 90 to 120. All had a leukocytosis, varying on admission from 11,000 to 15,500, rising later in one to 19,000.

Endocarditis was present at the same time in all and doubtless myocarditis as well, the condition being very aptly termed carditis. Pericardial effusion occurred in two, both dying after a prolonged illness. Adding our previous cases of pericarditis, which makes a total of 19, we find that death followed in five, showing the serious nature of this complication. Adherent pericardium was present in one case of this series, but dated from a previous attack.

Urine.—This was clear throughout in 17 cases. Albumin was found only on admission, or once subsequently in seven cases, and in only two of these were casts found. Albumin was found occasionally in five cases, casts were present in one of these. Albumin was present throughout in four cases and found occasionally in four. In explanation of the small number of cases with casts it must be remembered that the urine was usually alkaline throughout.

Blood.—The average hemoglobin percentage in 33 cases was 73.4%. The average count of the red cells in 37 cases was 4,636,000. The average count of the leukocytes in 36 cases was 12,370. In only 3 cases was the hemoglobin percentage below 60 on admission, 53 being the lowest. There was no instance of any marked drop in the blood count while the patients were in the hospital. On the contrary, the majority showed a gain. This is probably due to the fact that iron is given in the majority of cases. In many instances in which a marked pallor would suggest a low blood count, a normal record was found. The highest leukocytosis was 29,000 and was in a patient with both endocarditis and pericarditis. In another patient with endocarditis a count of 23,600 occurred shortly before death. There were only 9 cases with a leukocyte count on admission below 10,000.

Miscellaneous Symptoms.—While under observation erythema was noted in five patients, and in addition one had urticaria. Tonsillitis was rare, being noted only once. Chorea was present in one case. General glandular enlargement was noted in 6 cases, a point of some interest of which usually no mention is made. The spleen was palpable in one case during the fever and as this subsided the spleen diminished in size. One patient was admitted about the seventh month of pregnancy. She had an attack with severe joint symptoms but with little fever. After seven weeks she still had arthritis but the temperature had been normal for four weeks. Without any pains the waters broke and she was delivered rapidly. The child was dead. An autopsy was done and the endocardium found perfectly normal. Cultures from the blood were negative. The patient made a good recovery.

Subcutaneous Fibroid Nodules.—These, although always looked for, were not found in a single case. Their occurrence probably varies much in different years.

Nervous Complications.—Delirium did not occur in a single case in the hospital. A history of it before admission was given in two cases, both with the taking of medicine, probably salicylates. One patient had a convulsion and died very shortly afterward. An autopsy was not obtained and the cause of the convulsion is doubtful. Chorea was present in one patient, a boy aged 12, who had both aortic and mitral involvement.

Pulmonary Complications.—These are rare, as has been the experience in this hospital. Serofibrinous pleurisy was noted in one case. Pneumonia did not occur. In one case with pericardial effusion there was dulness with blowing breath sounds over the left back.

Unusual Types.—There was one case, that of a boy aged 15, who might be termed an example of the "rheumatic state." He was admitted three times during the year, each time with arthritis and apparently fresh endocarditis. On his last admission the aortic valve was attacked and he was discharged with aortic insufficiency in addition to previous mitral disease. In two patients, aged 8 and 11 years, the arthritis manifestations were very slight and the cardiac very severe. These cases are most important to recognize as otherwise cardiac mischief may progress without being detected. Of cases showing many of the socalled rheumatic manifestations, apart from arthritis and endocarditis, there was no instance.

Relapse.—This is difficult to define. It is so common to have the symptoms subside and then light up that one has difficulty in deciding where to draw the line. There were four patients in whom the symptoms completely disappeared and then recurred after a definite interval.

Duration.—The average stay of the patients in the hospital for the series was 49 days, whereas our previous record is 26 days. This serves to show the protracted character of many of this year's cases. It is to be remembered that the patients with endocarditis are kept for a long time in the hospital, and the long average of this year is due to the frequency of this complication. The average duration of the attacks from the onset until discharge was 65 days, which is in striking contrast to our previous record of 38 days.

Cultures.—These were taken from the blood, joints, and urine, and were practically negative throughout. This is disappointing, and we regret that thus far we have been unable to confirm the observations of foreign observers.

TREATMENT.

This requires no special mention, as we have made no striking departure from methods of previous years. Perhaps the most important point of treatment is the endeavor to reduce the occurrence of endocarditis. In the great majority of the cases with cardiac involvement this is present on admission, and the damage has begun. In such cases we can only try to limit it as much as possible. With such a record as we have had this year one does not feel very hopeful as to the possibility of doing this. As you have seen in the wards, we carry out the principles advocated by Caton, which include especially absolute rest, blisters to the precordium, and the prolonged administration of alkalies, especially the iodids. In handling the cases with definite cardiac lesion we try to keep the patients at rest until the heart has improved as far as it seems likely to do, but in the group of cases with doubtful endocarditis it is a very much more difficult matter to know how long to advise rest. The question is often solved by the patients insisting on going out. When, however, it can be done there is no ques-

tion that one is on the safe side when one advises prolonged rest with the other means of treatment. This should continue until as many as possible of the possible causal factors mentioned before are excluded.

DIAGNOSIS.

In the record of our previous series a year ago, special emphasis was laid on the possibility of mistaking an acute attack of gout with polyarthritis for acute articular rheumatism. We have had no such case during the year, but you have seen in the wards examples of the difficulty of diagnosing acute rheumatism from the acute polyarticular form of arthritis deformans. That this is not easy you have seen by the diagnosis being in doubt in some cases until the patients have been under observation for a week or more. One great safeguard is to adopt a suspicious frame of mind toward all cases of arthritis which are not evidently acute articular rheumatism. We are so prone to consider all acute polyarthritis as being rheumatic that we too often make the diagnosis at first and continue the error throughout. The character of the arthritis is often helpful. Arthritis deformans rarely moves from joint to joint, and comparatively rarely involves the small joints of the hands, the neck joints and the temporomaxillary joint. Then, too, when the acute symptoms are over, the rheumatic joint is usually left free. The joint, with thickening persisting after the other features have disappeared ought to suggest something else than rheumatism. Endocarditis, of course, speaks for rheumatism, and usually some of the associated conditions, chorea, erythema, tonsillitis, etc. Gonorrheal arthritis was a source of difficulty in the diagnosis of only one patient, especially as he had recently had specific urethritis. A careful examination of the fluid from the joints in addition to the special characteristics of the arthritis, usually make the diagnosis plain.

MORTALITY.

Of the 37 cases 4 patients died in the hospital, which equals nearly 11%. There were only three deaths in our previous 270 cases, equaling 1.1%, so that this year's mortality has more than doubled our total deathrate.

The first fatal case was that of a girl aged 12. She was admitted in her first attack with endocarditis of the mitral valve. She had been in the ward for seven weeks with irregular fever and varying arthritis. Her condition did not seem in any way serious. During a thunder storm, after a severe clap of thunder, the patient suddenly screamed and a convulsion began. She was unconscious, the heart beating very rapidly while the respirations were slow and shallow. She died within an hour, not regaining consciousness. No autopsy was obtained. The second fatal case has already been noted. The patient was aged 23, and was admitted twice with severe cardiac complications, having both endocarditis and pericarditis. The autopsy showed endocarditis of the tricuspid, mitral, and aortic valves with chronic pericarditis. The heart was hypertrophied and dilated. A point of much interest was thrombosis of the right common iliac, right external iliac, and right femoral veins. The third case was that of a boy aged 8, who was admitted on December 3 with arthritis, endocarditis, both aortic and mitral and pericardial effusion. He was very ill for many weeks, and died on March 14, probably adherent pericardium having developed. An autopsy was not obtained. The fourth case was that of a man aged 32, admitted on May 26, who had been in the hospital three years before with mitral stenosis. He had a moderately severe attack with both mitral stenosis and insufficiency, but his condition did not seem serious. On May 30 you may remember that we noted a curious grayish cyanotic look that the patient had, although his heart-rate had not increased and no other change in the circulation was found. At 9 p.m. that night he became irrational and the pulse was irregular, but there was no distention of the veins of the neck nor enlargement of the liver. By 3 a.m. on May 31 he was actively delirious, there was marked pulsation in the veins of the neck, and the liver was felt a hand's breadth below the costal margin. There was pulsation in the liver. Bleeding relieved him for a short time, and after it the pulsation in the liver and veins disappeared. This was only temporary and he died at 5 a.m. An autopsy was not obtained.

The experience of this year goes to show that acute rheumatism can kill as well as cripple. One is sometimes inclined to think that the former may be the more merciful.

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BERIBERI OR A DISEASE CLOSELY RESEMBLING IT MET IN CHINESE FISHERMEN RETURNING TO SAN FRANCISCO FROM ALASKA.

BY

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I report these cases because I believe them to be beriberi, and if so, they are, so far as I am able to ascertain, the first cases of it known to have originated in the United States and also the first to have originated in such an extreme northern latitude,

In a general way the lives and hygienic surroundings of all these patients were about the same. They are of the Chinese laboring class living during the winter in the Chinese quarter of San Francisco. About April they embark for the salmon canneries; the voyage up to the canneries requiring 30 to 40 days, during which time they are crowded in the hold of a schooner and generally under very poor hygienic conditions. The food during the voyage consists of Chinese dried vegetables, Chinese rice and salt pork.

They are then landed at one of the Alaskan canneries and are placed in barracks containing from 15 to 150 men each. While in the canneries they are fed on bacon, Chinese rice, fish, and toward the latter part of the season vegetables of their own raising. At the close of the season they reembark and arrive in San Francisco during the months of September or October.

This information I obtained from a number of persons, all Chinese, and all tell about the same story. They lay great emphasis on the statement that the water is "very bad," and to this and the fact that they are frequently forced to drink it while at work instead of their tea, they attribute the disease. But on questioning as to what is meant by "very bad," it usually narrows down to the fact that it is very muddy, and this, together with the inherent fear that Chinese have of water, unless it is boiled with tea, probably causes them to exaggerate its bad qualities. The above conditions seem to be the only departure from their ordinary mode of life. By ordinary I mean such as they lead in San Francisco, which is about on a par with that of people in the slums of most large cities; but all these men, accustomed as they are to filthy, dark and close quarters, complain bitterly of the hardships of an Alaskan voyage.

The history of the disease is, so far as I am able to learn, as follows: For the past two or three years the returning Chinese fishermen have been suffering from an epidemic dropsy, but previous to this year no case showing motor symptoms has been observed among them, although thorough examination was made for such by the doctor who gave me this information, and who had excellent opportunities for making such research. This fact was confirmed by a Chinese Buddhist priest and physician, a very intelligent man, who

has a large practice in the Chinese quarter of this city. His statement in brief was: "The first cases I saw of this disease in the United States were three years ago in the Chinese fishermen from Alaska. That year and the year following they suffered only from swollen feet and shortness of breath. But this year (fall of 1902) they had the motor type as well. This disease differs in no respect from the beriberi seen in Canton, except that the American type is more fatal. I have never seen a case develop in San Francisco." In the fall of 1901 I saw three cases of the purely edematous type of the disease. They presented soggy anasarca and extremely slow pulse (40 to 50 per minute); death ensued, the intellect remaining clear to the end. Only one of these patients was necropsied. He presented a large dilated heart, showing extensive fatty degeneration of its muscle, and edema into the pleural and peritoneal cavities. From the evidence I have been able to obtain I doubt that up to September, 1902, any case of the motor type had ever developed among these people, but this year it is, by far, the most common form. The cases I describe here are probably only a small percent of the total, judging by the numbers said to be similarly attacked in the same parties with the patients I saw, and owing to the nature of the work engaged in, it is probable that only those patients were reported to me that were expected to die; that is to say, the worst cases. Of these nine patients four died. As to the number of persons attacked as compared to the total engaged in the work at the canneries, I am unable to say, but from the scant data I have, it is probably something more than 4 percent. The schooners which engage in carrying these men to and from the canneries are not employed in any other traffic, and therefore do not enter any known beriberi zone.

CASE I.—W. Y., aged 23. Family history, good. Past history, has always had good health up to the present attack.

Present History.—About 40 days ago he noticed a slight swelling of the feet. (This was about a week before he embarked.) Ten days later he began to notice a lack of coordination in the lower extremities. Three or four days later he noticed the same symptoms in the arms, but to a less extent. These symptoms reached their maximum in nine or ten days, and have remained unchanged ever since. From three days after the appearance of the motor symptoms up to the date of first examination there have been numbness and formication of the arms and legs. Appetite good. Bowels moved only twice during the first 30 days of the disease, but since taking a cathartic they have been quite loose. He has had neither chills nor rise of temperature. Sleeps well. Urinates three or four times a day, twice at night. No increase in thirst. Claims to have lost about 10 pounds in weight.

Examination of the patient showed a fairly well-nourished man. Face has the appearance of being slightly swollen, which the patient confirms by stating that "his face has fattened while his legs have grown thinner during the attack." The skin over the face shows no pitting on pressure, however. The forearms and legs, especially about the wrists and ankles, give the impression of deficient muscular development as compared to the muscles of the rest of the body. When undisturbed he lies on his back with extremities quiet. Examination of arms and forearms: Wrist-drop; atrophy of the extensors of the forearm; lack of tonicity of the muscles of the arm and flexors of the forearms. Sensation apparently unimpaired. Examination of thighs and legs show: Ankle-drop; complete paralysis of extensors; moderate impairment of flexors, adductors and abductors of thighs; so that while the patient is lying on his back he can adduct, abduct and flex lower extremities slowly and with little force, but extension of the leg after the knee has been flexed is impossible. A general flabbiness of the muscles of the leg is noted and especially of the extensors. Sensation is unimpaired. There is possibly a slight anesthesia, but the patient is too stolid for me to ascertain this with any degree of certainty. Patellar reflex absent. Edema is present over the anterior aspect of the tibia from the ankle to half way up the leg. The pitting is not deep, is limited to this area and disappears at once when the finger is withdrawn. Patient cannot stand at all, even when partially supported by two persons, owing to the complete paralysis of the extensor muscles of the leg.

Cardiovascular System.—Cardiac area much increased; apex between fifth and sixth ribs, two finger-breadths to the left of the mammary line and one finger-breadth beyond the border of the sternum; apex impulse against the ribs very weak; heart-sounds tumultuous and systolic; there is a soft, purring murmur at the apex which is not transmitted to the axilla. Pulse 63 per minute, very soft and compressible, at times slightly irregular.

Intellect clear, patient answering, mostly through an interpreter, promptly and intelligently.

Digestive System.—Tongue slightly coated; stomach, liver and intestines normal, so far as physical signs can demonstrate.

Throat slightly injected. Lungs apparently normal.

This patient progressed to a slow but perfect recovery.

CASE II.—Y. G., aged 40. Seen first September 28; died October 9. No connection with previous case, the patient was employed in a different cannery, and embarked on a different ship. He claims that no others in the same party were attacked with this disease. Previous history: Has always had good health up to the present attack.

He embarked September 1. Seventeen or eighteen days later he had an attack of nausea and vomiting, which he attributed to seasickness; a day or two later he became weak in the legs and thighs; he subsequently grew worse, the weakness involving both upper and lower extremities. For the last two or three days he has been unable to stand even when partially supported.

Examination shows a poorly nourished man. The motions of the upper extremities are incoordinate and weak. He is able to adduct and flex the lower extremities slowly when on his back, but has almost lost the power of abduction and entirely lost extension. There is atrophy of the muscles of the leg quite general in character, that is, no particular group of muscles seems to be involved more than the others. Wrist-drop and ankle-drop are present. Knee-jerk is absent. Pupils react to light and accommodation. With the aid of two other persons the patient was placed in an upright position and the power of standing erect was found to be lost absolutely. The lower extremities show as little rigidity as if all nervous supply to them had been severed. Along the anterior external aspect of the tibia there is a slight brawny edema which can be indented by firm pressure, but such an impression immediately disappears upon withdrawal of the finger. The heart is enlarged to one and a half finger-breadths to the left of mammary line and one finger-breadth to the right of the sternum. Impulse against the ribs is fairly forcible. Heart sounds are muscular in character; there is a blowing murmur at apex. Pulse rapid, soft and regular.

In the dark, foul, dirty quarters of this patient, lighted only by a single candle, in a bunk alive with vermin, a more perfect examination was impossible.

The patient died October 9. No autopsy held.

CASE III.—Y. H., seen September 28; died October 7. No connection with foregoing cases; different cannery, different ship. Ten days after embarking, about three weeks ago, he and four others were taken with what the patient terms "paralysis," all within a few days of each other. The first symptoms he noticed were that his limbs were weak and gave way under him when he attempted to walk; he also experienced a sense of discomfort, not pain, in the precordial region. About this time he had several attacks of nausea but did not vomit. As he was on the ship at the time, he does not know whether it was due to seasickness or to the disease. Has had no dyspnea at any time. Symptoms grew gradually worse. His arms became involved one week later, but he never got so that he was unable to walk if slightly supported by a person or stick. At present there is a slight wrist-drop; the motions of the arms are incoordinate. He can perform such acts as the laying of a hand on a certain object, but slowly and after several false starts. Can abduct, adduct and flex the legs fairly well while on his back, and also weakly and slowly extend the same. He stands with a broadened base, and only when well supported by two persons. When thus supported he can walk slowly forward, deliberately raising the foot 15 or 18 inches from the ground, the heel up and the toes dragging, then suddenly dropping it to the floor and slightly forward, giving the wading gait. There is slight edema, brawny, impressible, but impression not retained, over the anterior aspect of the tibia. The cardiac area is increased a little to the left of the mammary line and to right of the sternum. The heart-sounds are muscular in character, but there is a slight accentuation of the second pulmonary; no murmur. The reflex is very slight at the knee. Pupils react normally.

This patient was seen again October 2, and had developed an extensive soggy edema of the legs and thighs. Severe dyspnea developed, and the motor symptoms became worse. Death occurred two days later.

CASE IV.—Y. M. W., aged 33. No connection can be traced with previous cases. The patient is fairly well-nourished man, showing the swollen, haggard appearance of the face and puffiness under the eyes, which have been noted in the cases seen before. His illness began about one month ago, 10 days after embarking, with nausea and vomiting. This lasted three or four days. He then began to notice that his legs were weak and refused to obey his will, especially when he attempted to rise from a sitting to a standing position. Later his arms had a sense of fatigue, but no motor disturbances were noted. For the past three days he has had cardiac distress. Present condition: When the patient is directed to walk, the only notable abnormalities are a slight broadening of the base, slow deliber-

ateness of motion, and the fact that he keeps his eyes constantly on the floor. But when the eyes are cast to the ceiling the gait becomes incoordinate and wabbling, and the patient would fall if not supported. When in a sitting posture he is unable to rise without the aid of the hands and a near piece of furniture. The change of posture from standing to sitting is incoordinate, sometimes giving the patient quite a bump. He is entirely unable to raise his heels from the ground by standing on his toes. The arms, forearms and hands are unchanged, excepting a slight delay to command and a weak grasp of the hand. There is firm edema extending up over the anterior aspect of the tibia, which receives an impression of the finger, but does not retain it. The cardiac area is much increased, Apex over two finger-breadths to the left of the mammary line and over one finger-breadth to the right of the sternum. The heart-sounds are tumultuous and muscular; low murmur of the apex appearing and disappearing. Second pulmonary accentuated. Pupils react to light and accommodation. Knee-jerk absent.

CASE V.—Q. W., aged 51, from Alaska. He first noticed symptoms one or two hours after embarking, following a wetting. They began with nausea and hiccough. The day after he noticed a sense of weakness in the lower extremities. This grew worse and he began to lose coordination and soon became unable to walk without aid. Several times, he thinks, he had fever accompanied by increase in thirst. These symptoms have grown slowly worse up to the present date. At no time has he noticed any disturbance of motion or of sensation in the upper extremities. He arises to his feet with difficulty using the hands for aid. He stands with broadened base and with the body thrown slightly forward. When attempting to rise on his toes, the heels refuse to leave the floor until several efforts have been made, when they can be raised possibly a half inch. He walks forward, when supported, with a slow, high-stepping gate, toes dependent. He sits down suddenly and with a bump. Reflex entirely absent at knee. Patient says that he has lost "some 20 pounds in weight, that he began to lose in the legs and that they have grown the thinnest." His muscles are flabby and apparently equally so; that is to say, no special group is involved more than the others. Anterior tibial edema slight, fairly impressible, but impression not retained. The apex is two fingers to the left of the mammary line, no right heart enlargement being demonstrated. The heart sounds are tumultuous and muscular. Second pulmonary sound very much accentuated. No murmur. Pupils react to light and accomodation.

CASE VI.—This man was first seen on the autopsy table. The body was that of a well-nourished Chinese male about 35 years of age. The mouth was open and the eyes bulging from their sockets. The muscular development was above the average for one of this race, excepting the extensor group of the legs, and the extensors of the forearms which show decided atrophy. An edema resembling that seen in the other cases of this disease was apparent over the anterior aspect of the tibia. A long median incision was made, showing the subcutaneous fat fairly well preserved. Intestines were injected and slightly distended. The liver not visible below the lower border of the ribs, was apparently decreased in size. The left lobe was less than half its normal size and grated on cutting. Cut surface showed connective tissue increase and venous congestion. Perisplenitis was the only lesion noted in the spleen. The heart was greatly enlarged, the enlargement being equal on the right and left sides, soft and flabby. The cavities were very much dilated. The muscular walls thin, showing extensive fatty change. No valvular disease. Small red kidney. Pancreas normal. The edema mentioned was confined to the narrow strip extending up the anterior aspect of the tibia from the ankle to the knee-joint. It was firm and resistant, but could be caused to pit slightly under very firm pressure. There was no edema in any other area.

Suspecting that this might be a case of the disease under discussion, I went to see the friends of this dead man, and from them obtained this brief and imperfect clinical history: Two months ago he was taken sick while working at the Alaskan cannery, suffering chiefly from weakness of the lower extremities. He grew worse progressively, and arrived in this city the day before his death. When seen by his friends he was unable to walk unsupported, and with difficulty could grasp or handle objects. He suffered from severe dyspnea from the time of his arrival up to the time of his death. His friends, when asked to mimic the patient's manner of walking, gave a remarkably accurate reproduction of the gait of the patients previously seen suffering from this malady.

CASE VII.—T. L., aged 57, returned from Alaska 12 or 14 days ago. About 10 days after embarking he says he was seized with nausea and vomiting, which lasted for one day. A few days later he noticed a weakness in his legs which grew gradually worse until he could no longer walk or stand unsupported. When examined by me he presented the following symptoms: Edema of the legs, confined to a narrow strip over the tibia, anterior aspect; firm and elastic in character, pressure with finger, causing pitting, which rapidly disappears upon withdrawal of the finger. Reflex at the knee absent. There is a sensation of constriction over the abdomen. Wrist-drop and ankle-drop are present with atrophy of the extensors of the forearms and legs. There is marked incoordination of the muscles of the forearms and of the hands. Ability to move the legs while lying on the back is fairly well retained. He can stand when well-supported and take a few steps forward, with heels raised and toes dragging. The heart is enlarged to one and one-half finger-breadths to the right of the sternum, and one finger-breadth to the left of the mammary line. The sounds are muscular and tumultuous in character. There are no murmurs and apparently no accentuation of the second pulmonary sound. The patient's face is swollen, and shows the fatigued expression seen in the other patients.

This patient recovered.

CASE VIII.—L. W., aged 40; seen October 2; died October 8. Three months ago, that is, two months before he left the canneries, a great number, as he puts it "too many," were taken sick at the same time, some with swollen feet, some with paralysis. Several of the swollen-feet cases died. The first symptom he noted was the chill, which was followed by fever, accompanied by nausea and thirst. The following day he awoke with immense swelling of feet and legs, which increased so rapidly that he could not walk at the end of 24 hours. The swelling became so painful from tension that he stuck a knife into the skin at several places, the evidence of which still exists. He suffered very little from dyspnea. Examination showed a fairly well-nourished man. His face has a swollen appearance, but shows no pitting on pressure. There are no motor symptoms in the arms or forearms, but there is pain when the muscles of the extremities are squeezed firmly. The thighs, legs and feet show an immense soggy edema, and are very sensitive to touch. The reflexes at the knee are absent. The movements of the legs, while the patient is lying on his back, are fairly normal, but upon attempting to walk he shows the characteristic gait of all these patients. Whether atrophy exists or not cannot be determined owing to the edema. The heart is increased in size to two finger-breadths to the right of the sternum and one to the left of the left mammary line. There is a blowing murmur, presystolic in character, at the apex. Second pulmonary heart sound much accentuated. Heart beats 90 per minute; rhythm irregular; pulse soft. Pupils react to light and accommodation.

This patient died six days later.

CASE IX.—C. H., aged 44, has previously been in good health. About 50 days ago, about 15 days before embarking, he noticed a sudden swelling of his feet. This continued for about 15 days without change, when motor symptoms appeared. From the onset of the disease up to the present he has at times experienced general numbness and formication. These symptoms have remained unchanged for the past three weeks. At no time has he been so that he could not walk with slight aid from a cane. He has noticed slight weakness of his arms and forearms. The patient has a pallid, swollen appearance about the face. The legs are edematous, the edema being quite extensive from the knee to the toes, equally diffused, having the appearance of the edema of the soggy variety seen in the later stages of the disease; but to my surprise, on attempting to make pressure with the finger, it was found to resemble the firm brawny edema seen along the anterior tibial aspect in some of the previous cases. Upon exerting very firm pressure a slight indentation could be made, which was retained only an instant after the finger was removed. The patient cannot stand long unsupported and can only walk slowly, and that when resting heavily on a cane. The gait differs little from that seen in all the other cases, with the possible exception that there is a little less of the high step, which is accounted for by there being less extensor paralysis and therefore less "drop" at the ankle. On account of the edema it is impossible to ascertain whether atrophy of the muscles exists or not. The cardiac area is one and one-half finger-breadths to the right of the sternum and one finger-breadth to the left of the left mammary line. The second pulmonary heart-sound is very much accentuated. The heart-sounds are muscular. The pulse is 72, with an extremely low tension. The grasp of the right hand is quite weak in comparison with the left, although the patient is naturally right-handed. Reflex of the knee absent.

Work on Hospital for the Tuberculous Must Stop.—It is stated that Governor Murphy, of New Jersey, has discovered that the appropriation, which granted the item of $200,000 for the purpose of erecting buildings for the State Hospital for Consumptives at Glen Garden, failed to pass the last Legislature. It appears that the committee, which granted the item, made the proviso that it should be available on the passage of another appropriation bill by the Legislature. That bill was not passed because it was believed by those interested that the appropriation would be sufficient without it, hence the failure of the appropriation for $200,000 to become available. The governor asserts that all work will have to cease until a further action of the Legislature.

EMOTIONS AS SYMPTOMS.[1]

BY

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Among the symptoms which indicate the existence of disease, objective ones have ever been of especial importance to the physician. Elimination of the personality, and especially of the emotionality of the patient, leaves these symptoms in bold relief and easy of observation. The emotional accompaniments of disease, however, taken by themselves, furnish a powerful diagnostic aid, and the object of this paper is a brief consideration of their probable place and importance in symptomatology.

The concepts of place and quality derived from tactile sensibility and the special senses are not of themselves emotional. They furnish information of an intellectual quality. Other sensations, those of pain, of heat and cold, and especially visceral sensations, may in general be said to have an emotional content varying in degree and kind. As the sensory system plays an important part in both the symptomatology and causation of disease, it may be worth while to inquire what, if any, are the fundamental differences between sensation and emotion, and how emotions are to be classed in their relation to disease processes.

General sensibility may be divided broadly into that of the skin and of the viscera, the latter term including most of the deeper structures of the body. Sensations derived from these sources present differences not only of location and degree but of kind. In sensation, in addition to intellectual percepts in regard to the exciting cause, the emotional element varies from the slight feeling of pleasure which accompanies the percepts of ordinary tactile sensibility, to emotional states which occupy the field of consciousness almost or quite to the exclusion of intellectual activity. It is not proposed in the present paper to attempt a complete classification of emotions, but to consider in brief those most nearly related to bodily states, and which are, therefore, especially important in the study of both mental and physical disease processes.

The following are the sensations which will be considered in connection with their varying emotional content: *First*, pain, almost pure feeling, with however a strong emotional element of physical origin, except as a hypnotic phenomenon. *Second*, certain feelings, hunger, thirst, fatigue, sexual desire, nausea, dizziness, and nervousness, principally physical, but often evoked psychically, like pain in having a strong emotional element, but somewhat less distinctly located in the body. *Third*, less definite states of consciousness such as fear, shame, anger, joy, exaltation, and depression or psychic pain, felt as pure emotions which arise from changed visceral conditions induced by psychic stimuli, but not infrequently caused by visceral disease.

The physical accompaniments of emotion have been matters of common knowledge and literary mention from time immemorial.

> "Tell me, sweet lord, what is't that takes from thee
> Thy stomach, pleasure, and thy golden sleep?
> Why hast thou lost the fresh blood in thy cheeks;
> And given my treasures, and my rights of thee,
> To thick-eyed musing and cursed melancholy?
>
> She pined in thought, and with a green and yellow melancholy
> She sat like patience on a monument
> Smiling at grief."
>
> —*Twelfth Night.*

> "Oh jealousy,
> Thou ugliest fiend of hell! thy deadly venom
> Preys on my vitals, turns the healthful hue
> On my fresh cheek to haggard sallowness
> And drinks my spirit up."
>
> —Hannah More, *David and Goliath.*

> Briefly this,
> A mere commotion of the mind, o'ercharged
> With fear and sorrow; first begot i'th' brain,
> The seat of reason, and from thence derived
> As suddenly into the heart, the seat
> Of our affection.

The generalizing of these wellknown facts, as well as of the physical signs of emotion observed and recorded by Mantegazza and other writers, and their assimilation in a theory of the normal emotions is a recent achievement of physiologic psychology.

According to this view, ably presented by William James in his psychology, the psychic stimulus sets up directly an altered visceral condition. The resulting sensations constitute the emotions. Let us consider, for instance, the phenomena of fear. A sudden noise, or bright light, or the sight of a revolver, is immediately followed by a wildly beating heart, pallid face, motor unrest and dilated pupils. Apprehension of danger is not necessary to these phenomena, they may even appreciably precede the conscious sensation of fear. A man whose legs carry him off a battlefield finds that the faster he runs the more frightened he becomes. One of the best instances of what may be called the incubation period of the emotions is seen in the depression following a personal misfortune. Often after such an event there is for a time mental exhilaration, or an apparent numbing of sensibility occurs which may lead the subject to think that he is callous to the loss which he has experienced. There follows, however, lowered heart action, a heavy feeling in the epigastrium, heaviness of the arms and legs, and a haggardness about the eyes which are readily apprehended as grief, and which in persons deficient in physical reactive power may persist even after the removal of the exciting cause. These modes of physical reaction, inherited or acquired, must be regarded as emotional reactions apart from knowledge, as in the interesting example given by James of his fainting at the sight of blood when a boy too young to appreciate its significance.

Emotions thus produced in the psychic way may be continued as a physical manifestation from the viscera. That emotion may be set up by visceral disorders is a common observation in medicine, but the relation between such emotion and that induced by psychic causes is, I venture to think, made much clearer by this visceral theory of the normal emotionism which to be appreciated should be read *in extenso*. It certainly is incapable of convincing exposition in so brief a statement as the present one.

The conception of the brain as an exclusively motor and sensory organ, of the viscera as the instrument played upon by psychic stimuli, and emotion as the cognition of visceral change, is in part an inference from medical observations; it throws much light on emotion as a symptom of physical disease, and on physical disease as a consequence of psychic stimuli.

Pain as an emotion is so familiar that it furnishes the noun characterizing the unpleasant element in all of the emotions. In hunger and thirst the emotional element is obvious. We have in them typical instances of emotions born of visceral consciousness. The sensations from the rapidly drying tissues of sufferers from thirst in our western deserts are so powerful that the victims often die from shock. Hunger is not the call of the tissues in general for food, but the result of the excitation of the mucous membrane of the stomach, either by the acids of the gastric juice or other irritants. The craving hunger of dyspepsia is a case in point. Both hunger and thirst are to be regarded as the projection into consciousness of visceral changes by means of the sensory system. To suppose a special hunger center because of the existence of hunger as a symptom of some brain diseases is no more necessary than it is to postulate a fear center because men run away from danger.

Hunger and thirst only require the sensory fibers of

[1] Read before the American Neurological Society, May, 1903.

the pneumogastric and glossopharyngeal nerves and their cortical representation in the brain, and like other emotions of less obviously somatic origin must be regarded as pure sensations from the viscera.

Fatigue is a term used in several senses. It may mean exhaustion of nerve elements from overwork, a motor meaning, or the sensation of fatigue, a toxic manifestation sometimes due to the poisons thrown out as the result of nervous or muscular activity, but set up in quite a typical form by other poisons. In neurasthenia it is not nerve exhaustion but the fatigue sensation that dominates the picture. Instead of being called the fatigue neurosis, neurasthenia might better be termed the neurosis of pseudofatigue usually toxic.

The neuroses most likely to be due to fatigue as a sensation are those forms of vascular disturbances seen after mental overwork or worry. The way in which sensation may disturb the vasomotor centers is seen in its severest form in the wellknown phenomena of shock. It is well established that the sensory signals sent in from wounds and especially from injured viscera rapidly exhaust the vasomotor centers, and that a block of the afferent nerves by cocain prevents the shock which otherwise follows. A chronic exhaustion of these centers is a common, almost regular accompaniment of long-continued abdominal disease. In such case the vasomotors may respond to the sudden dropping of a wandering kidney or even the pressure of gas or the ingestion of food, by faintness, dizziness and sometimes collapse.

Nervousness as an emotion does not include all of the mental symptoms of hysteria and neurasthenia. It is a term used to denote a feeling of unrest, either general or localized usually in the limbs, with a tendency to seek relief by movement. No one who has not experienced this feeling in its severe form can realize the intensity of the suffering that it produces. It is as definite, and in some instances as severe as are sharp neuralgic attacks, or the pains of locomotor ataxia although it is an occasional manifestation of peripheral irritation, accompanying the pain of a felon or the sting of the bee, it is seen in its most typical form as a symptom of visceral disease and it is then almost always projected about the body as are referred pains. Uterine and ovarian lesions cause nervousness referred to the feet and legs, sometimes also to the arms. Irritating feces in the intestines, and retained food in the stomach, in place of exaltation or depression, sometimes cause nervousness, which is sometimes described as generalized but may be most felt in the extremities, or even in the back. A displaced kidney, eyestrain, even decayed teeth may set up nervousness of visceral type usually erroneously considered temperamental.

The emotions less accurately located in the body, joy, anger, grief, and so on, have relations at times with visceral disease no less important than have those already considered. These emotions in lighter grade, called moods, have been considered by Head in connection with the referred pains which he has studied so thoroughly. Such moods may, however, be caused by visceral disease without referred pain, notably by the toxins of indigestion and malassimilation. A fermenting mass of food retained in the stomach may cause a simple depression which it is quite impossible to shake off, even though the cause is known, but which is promptly relieved by the use of the stomach tube. Long-continued melancholy, often of mild type, may be caused by deficient secretion of hydrochloric acid in the gastric juice, which is relieved by the administration of the acid, which probably acts mainly as an antiseptic. It is a curious fact that on the ingestion of food which disagrees there is often a preliminary state of exaltation lasting a few hours, apparently as motiveless as the succeeding depression. The mode of action of such digestive poisons is far from certain, but the promptness of relief of the emotional states on the use of the stomach tube or an enema, suggest the probability that visceral sensibility is excited by the direct action of the poisons on the nerve-endings in the mucous membranes, and that the resulting emotions are not dependent on their presence in the blood.

Intestinal putrefaction after diarrheal diseases may result in melancholy, the patient presenting the typical picture of violent melancholia agitata. The fear that he is going insane, the nervousness amounting to frenzy, together with the depression are so intense as to resist almost entirely the action of the ordinary sedatives, and are controlled only by the removal of the exciting cause in the intestines.

Pelvic, like abdominal diseases, usually cause depression. I have never seen exaltation amounting to mania from diseases of the abdominal viscera. In two cases of uterine disease, however, typical acute mania was so invariably relieved by repair of the uterine defects, and so often returned with their recurrence, as to leave no doubt of the causal relation between the two conditions. The fact that often in these cases, as in many cases of depression, delusions are associated with the emotional state, does not vitiate the inference drawn from attendant circumstances that the mental aberration is of visceral origin. The emotional results of visceral disease are most of them direct and not dependent on the attention of the patient to the affected viscera, or even the knowledge that the viscera are diseased. This is obviously true in the characteristic fear in angina pectoris, buoyancy in consumption, and depression and irritability in liver diseases. It is less obviously but no less truly the case in many other emotional states, even in those in which the patient himself is inclined to refer his condition to psychic features in his environment.

The only practical distinction that can be drawn between a sensation and an emotion in the narrow sense, is that sensations are located in space either in or out of the body, emotions are excitations of feeling apprehended as due to either psychic or unknown causes.

The essential difference between sensation and emotion breaks down on close inspection in the presence of mixed forms, and especially in view of the fact that both modes of feeling are conditioned on both bodily states and psychic stimuli.

OSTEITIS DEFORMANS: REPORT OF A CASE.

BY

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The first description and publication of osteitis deformans was by Sir James Paget in 1877, he reported five cases. Packard, Steele, and Kirkbride collected from all sources 99 cases, 66 of which they believed to be true osteitis deformans; their case gives a total of 67 reported prior to 1901. Ten of these cases were reported in America. Since the publication of their paper five cases have been reported in American literature—two by Wilson and one each by Fliesburg, Fussell, Prince and Fitz.

The monographs by Packard, Steele and Kirkbride, and by Prince and Fitz are so complete that I shall refer those interested to the articles cited for a detailed discussion of this rare disease.

To the list I wish to add the following case:

Case.—L. L. M., aged 63, was born in Philadelphia. Occupation, bookbinder. He is married, and has one daughter.

Family History.—Father died of diphtheria at the age of 41. Mother died after a miscarriage at the age of 18. History of grandparents is unknown. No other member of the family on either side was afflicted with osteitis deformans or allied disease.

Previous History.—Patient served 20 months in the Civil war. He has suffered from the following diseases: "Inflammation of the bowels" in 1868, slight apoplectic seizure in 1869, typhoid fever in 1884, fracture of the right femur in 1890, influ-

enza in 1898. He was a strong active man up to the time of the attack of typhoid fever. In 1885, after recovery from typhoid, the patient worried a great deal owing to ill-health and to the fact that improved machinery was displacing handwork in his trade. It was at this time that the family noticed a stooping in the shoulders and bowing of the legs, which they attributed to the effects of typhoid fever. About the same time he began to

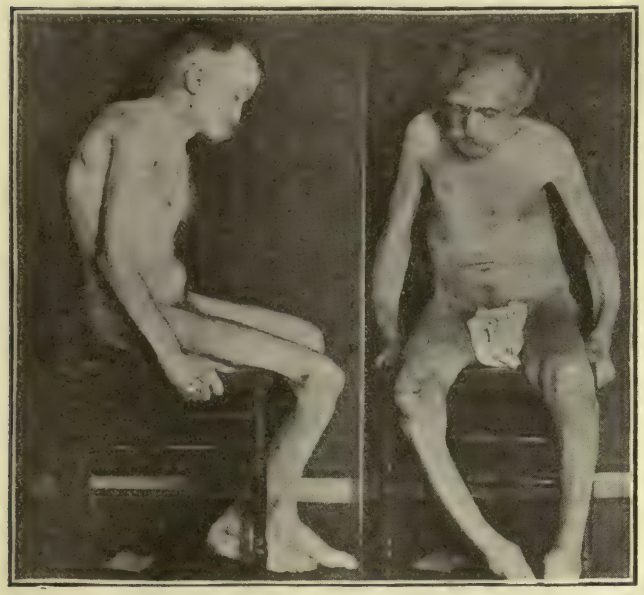


Fig. 1. Fig. 2.

Fig. 1.—Showing kyphosis and great anteroposterior diameter of thorax. Compare with Fig. 2.
Fig. 2.—Showing (1) curvatures of forearms and legs, (2) small lateral diameter of thorax.

complain of severe pains in the right leg and thigh, and would sit for hours at a time gently rubbing the parts; the friction seemed to afford him great relief.

In 1891, the year after the fracture of thigh bone, it was noticed that he could not wear his old hats, and had to buy larger sizes, and about this time he also became melancholy. He first noticed defective hearing in 1890, this gradually progressed and by 1902 he was totally deaf. In 1898 he was obliged to retire from business, and from that time strength failed

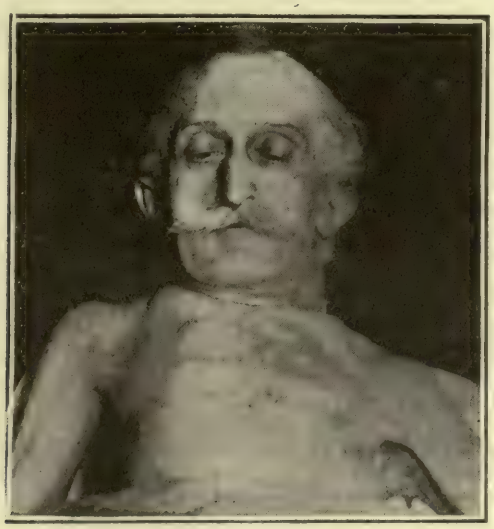


Fig. 3.—Illustrating shape of head; note temporal arteries and prominent clavicles.

rapidly until, in July, 1901, he became bedridden. He could still slowly work his way out of bed to void urine and feces. In September, 1902, he became absolutely helpless, soiled the bed, and was unable to feed himself.

Present Condition.—There is a great emaciation of all soft tissues and general myasthenia. All movements are made slowly and with difficulty. Head is flexed on chest and fixed (Fig. 1); there is perfect fixation of atlas and axis. Head is egg-shaped with large diameter above. All the cranial bones are much thickened and possess uneven surfaces; the parietal eminences are very prominent, extending two inches beyond normal. (A member of the family states that his head was long and very narrow; compare this statement with Fig. 3 and it will be seen that the condition is reversed.) The frontal eminences are also greatly thickened and conspicuous. The malar bones are very prominent; aveolar processes much thickened. All teeth have been removed; the vault of the hard palate is somewhat encroached upon by bony growths. Pupils are unequal, right large. No reaction to light in either. The external auditory canals are much encroached upon, the left especially so, not admitting the end of grooved director. Tongue is normal, speech perfect. The neck is short and stocky, it is encircled by two furrows, one entirely, but the ends of the other are separated posteriorly by one-half inch. Thyroid glands could not be palpated, but this may be owing to the bunched condition of all tissues of neck anteriorly.

There is a marked cervicodorsal kyphosis (Fig. 1), the forward bend of head and body, and therefore apparent excessive length of arms, making a perfect appearance of an ourang outang as described by most writers on the disease.

His height previous to disease was 5 ft. 5½ in., his present height is 4 ft. 4 in.

As an illustration of the great departure from normal measurements of the skull in this case, I have added the normal measurements and the variations therefrom of this patient:

CRANIAL MEASUREMENTS IN INCHES.*

		Patient.	Normal.	Variations
1	Circumference	25 3/16	21½	3 11/16
2	Nasooccipital arc	17⅛	13 5/16	3 13/16
3	Nasobregmatic arc	7½	4½	3
4	Bregmatolambdoid arc	7¼	4½	2 3/4
5	Binauricular arc	16	13¾	2¼
6	Anteroposterior diameter	7¾	7 3/16	7/16
7	Greatest transverse	7 3/16	6¼	1 7/16
8	Cephalic index	97.6	82.2	15.4
9	Height	5 3/16	4¾	7/16
10	Facial length	4 3/16	4 1/16	1/8
11	Empiric greatest height	7⅛	5⅜	1¾

Measurements of extremities were made to show differences in same, for these differences are due solely to bony deposits and not to increased size of softer tissues.

Girth, arms, 3 in. above elbow.....R, 8¼; L., 7⅝ in.
" forearms, 3 in. below elbow.....R., 7⅜; L., 7 1/16 in.
" thighs, 6 in. above upper edge patella...R., 12; L., 12¼ in.
" legs, 5 in. below lower edge patella.....both, 9 in.
Circumference at knee .....each, 13¾ in.
" " ankles .....R., 9; L., 9¼ in.
Diameters of clavicles, made with calipers:
Right clavicle, anterior curvature.....1⅛ in.
Posterior curvature.....1⅜ in.
Left clavicle, anterior curvature..... ⅞ in.
Posterior curvature.....1 in.

Both clavicles are very prominent (See Fig. 3), excessively increased in natural curvatures and thickened throughout length, the right being much thicker than the left,

Right Humerus.—The head is thickened and enlarged in all diameters. There is a tubercle anteriorly at the margin of the head and anatomic neck about one-half inch in diameter. Three and a half inches below the head anteriorly, and slightly internally, is a growth about one-half inch wide, one inch long, and a little over one-half inch in height. The shaft is bowed very slightly posteriorly and externally. Both the external and internal condyles are enlarged and thickened. All the natural ridges and curvatures are exaggerated.

Right Radius.—Bowed dorsalward and outward to a remarkable degree (See Fig. 5). The lower third of radius is about twice as thick as normal. The head is readily felt, and is roughened and thickened.

Right Ulna.—Bowed to an equal degree as radius, and in the same direction. The olecranon is very much enlarged and thickened—so much so that the arm cannot be extended more than two-thirds the natural distance. Pronation is good, but supination is limited to about one-half of normal.

Hand.—Metacarpus of right ulna is enlarged and thickened throughout. Phalanges of thumb are also enlarged and thickened, and the joints of same are movable to a very limited extent. The remainder of the bones of the hand appear to be normal, but no doubt a skiagram would show disease of the parts to some degree. That hyperostosis is present to a greater or lesser degree in all the joints of the fingers is evidenced by the fact that when fingers are extended, the hand has a claw-like appearance.

Left Humerus.—The head is slightly enlarged, but not so much so as that of the right. A bony outgrowth is felt anteriorly about three inches below the head, and is about twice as large as the growth described on right humerus. There is excessive hyperostosis of both condyles, especially the internal, which is probably double the size of normal. There is very

*Mills, The Nervous System and Its Diseases, 1898.

little, if any, bowing of the shaft, but a general increase of all natural ridges and curvatures.

Left radius is excessively bowed, the arc at its center being two inches from the subtending cord. The middle third of the bone is enlarged to about twice its natural size, the lower end is only slightly thickened.



Fig. 4.—Frontal. Shape of head made on line of greatest circumference, accurately reduced from lead tape cystometer tracing.

Left ulna is bowed to an equal degree with the radius. There is hyperostosis of the upper third, the increase in the remaining portion of the bone is less marked, except the olecranon, where the hyperostosis is not so great as to interfere materially with the extension of the arm. As in the right arm pronation is good but supination limited, not, however, to as great extent as on the right.

Thorax.—Circumference on line of nipple, 31½ inches; anterior posterior diameter, 10 inches; lateral diameter at same level, 8⅜ inches. On inspection anteriorly the thorax is very narrow at the apex and wide at its base, the shape being an irregular outline of a barrel and yet square cornered or box-shaped (See Figs. 1 and 2). It is flattened on both its anterior and lateral aspects. Posteriorly the thorax is round. The sternal area is flat, as are also the sides of the thorax, giving rise to the box shape referred to above. In natural breathing the expansion of the chest is less than one-half inch. The ribs are very much thickened, so much so that laterally from the axilla down to and including the eighth rib the intercostal spaces are obliterated, the corresponding surfaces feeling very much like to large flat corrugated bones, the corrugations corresponding to the summits of the ribs. Anteriorly the intercostal spaces are not much encroached upon.

The pelvis is extremely widened. The distance between the anterior superior spines is 9⅜ inches; greatest diameter transverse of the pelvis, 11⅛ inches; distance between the trochanters, 13½ inches. Beginning on the superior margin of the crest of the right ilium is a bony protuberance about 1 inch thick and 1½ inches wide, extending downward about 2½ inches. The balance of the crest, indeed the entire ilium, as far as palpation could determine is at least 1 inch and in some places more in thickness. The left ilium shows precisely the same changes as the right. The sacrum and coccyx are both misshapen and enlarged. The coccyx is very prominent.

Right Femur.—A bony mass is discernible covering the head, neck, and greater trochanter. There is bowing of the shaft anteriorly and outwardly. The ridges and prominences on this bone are all exaggerated. The condyles, particularly the internal, are greatly enlarged.

Left Femur.—The great trochanter greatly enlarged. From the middle of the shaft to the condyles the femur has a diameter about twice as large as the right, being 2⅜ inches in diameter as compared to 1⅛ inches of the right femur (it was easily possible to get diameters of the femurs with calipers owing to the great emaciation). The external condyle is but slightly thickened, while an extreme hyperostosis of the internal condyle anteriorly and internally is noticeable as illustrated in Fig. 1.

The Right Patella is movable, all its diameters are increased, being one-half inch longer and one-quarter inch wider than left. Thickening not marked.

The Left Patella is movable, protrudes about 1½ inches above surrounding tissues, showing extreme hyperostosis.

Right Leg.—There is marked bowing from knee to ankle. (See Fig. 2.) The shaft of the tibia is bowed anteriorly and externally and is very much thickened throughout its length. The thickening is greater on the anteroposterior than its lateral diameter. The internal tuberosity is very prominent, the external not so much so. The internal malleolus is somewhat thickened.

Fibula is bowed to an equal degree with the tibia, the head and lower extremity are enlarged. The external malleolus is very prominent.

The Bones of the Foot appear normal. There is good movement of the ankle-joint. On the contrary in the knee-joint it is found impossible to straighten the leg.

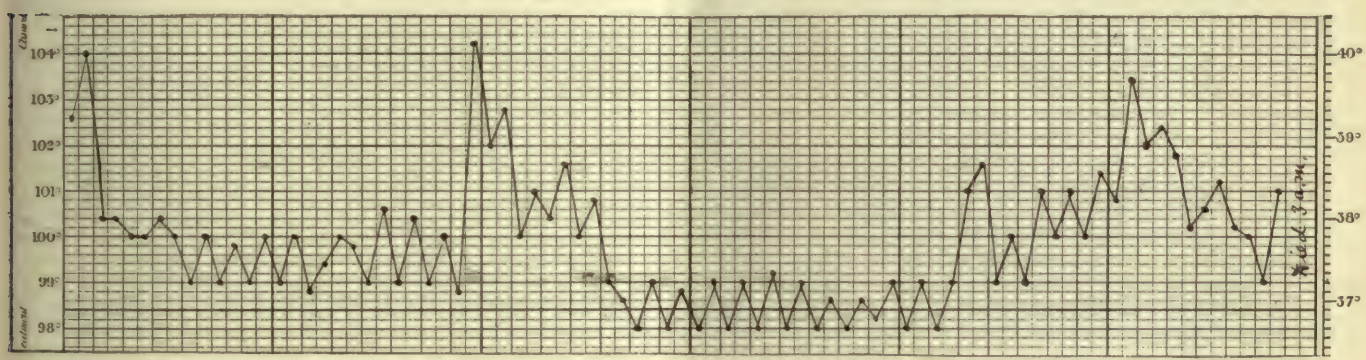
Left Leg.—The bowing is greater than in the right. On the head of the tibia, over the internal tuberosity downward to a distance of two inches, there is a growth about half an inch thick. The shaft throughout the entire length is greatly thickened in its anteroposterior diameter. The crest is irregular in outline and rounded. The internal malleolus is markedly thickened.

The *Fibula* shows bowing to an equal degree with the tibia. There is a marked hyperostosis of the head, while the external malleolus is extremely thickened.

The *Bones of the Foot* appear normal. There is good movement of the ankle-joint with the exception of adduction and abduction.

Spine.—All the vertebra are thickened and there is perfect ankylosis from the first cervical to the first lumbar vertebra. From that point there is a very limited degree of motion. Beginning at the eighth dorsal vertebra there is a slight left lateral curvature.

The *Arteries* are atheromatous and tortuous. The temporal arteries are very prominent. Carotid and innominate pulsation is readily seen. Axillary, brachial and radial arteries can be felt in their entire length. There was a marked hypertrophy of the heart, which later failed, ending in dilation. No other noteworthy visceral abnormality was observed. Death occurred during sleep, was sudden, and it seems reasonable to assume that the heart was at fault.



Nervous System.—In 1890 he became melancholy, talked freely of dying, and developed wandering habits. Sleep was poor, patient would rise during the night and walk up and down the floor for hours, and this habit growing, he was committed to the State Hospital for the Insane at Norristown. He was somewhat feeble, but could move about easily with the help of a cane. At no time during the entire course of the disease did he lose coordinating powers, except in the legs, which was due to the remarkable myasthenia, and not to any nervous trouble. The knee reflex was greatly diminished; there was no ankle-clonus; no anesthesia or parasthesia, but a marked hyperesthesia was found over the entire body. The patient was cheerful when approached, always ready to shake hands, and generally made short, sensible remarks, but as a rule would not enter into conversation. He never had a dull expression of the eyes, unless suffering from some severe pain or an attack of diarrhea, at which time he was much depressed.

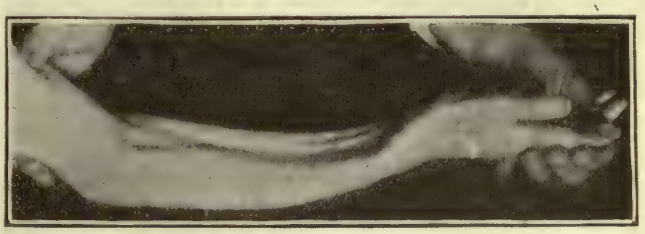


Fig. 5.—Illustrating bowing of forearms.

On December 21, 1903, he had a sudden rise of temperature

from normal to 102.2° F., increasing on the following day in the morning to 102.6° F. and in the evening to 104° F. (See Temp. Chart.) On December 23 it dropped to 100.4° F., and on the day following to 100° F., and remained between 99° F. and 100° F., exacerbation of temperature from 98.8° F. a.m., to 104.2° F. with a few slight exacerbations, until January 4, when he had an p.m., from which it gradually dropped again to 99° F. by January 10, remaining between this and 100° F. until January 21, when it again went up to 101.6° F., and remained above 100° F. until death occurred on February 1.

No physical sign was apparent to account for the rise of temperature on December 21, but on December 27 the entire left lower extremity, from toe to hip-joint, was edematous and inflamed, pitting on pressure, and the redness and eruption disappearing, but unlike the eruption of erysipelas, not returning rapidly. Lead-water and laudanum was applied and the inflammation slowly disappeared until on the fourth day little could be seen. There was no desquamation, nor throughout the course of the inflammation could any blebs be found. When edema disappeared from thigh, it seemed to me that the hyperostosis of the lower third of thigh bone was materially increased. Whether or not there was any connection between the increased thickening and the condition described, I am not prepared to say. The accompanying temperature chart gives a good idea of the run of the patient's temperature for a year or more.

The description shows this to be a remarkably typical case of osteitis deformans. As in most of the cases described the first symptoms noted were bowing of either arms or legs. In this case it was the lower extremities, which were noticed to curve outwardly after the attack of typhoid fever in 1885. The disease made slow progress from that date until 1890, when he fell and fractured the right femur in upper third, after which time it progressed rapidly—deafness and increase in size of head following fracture and practically all the remarkable changes of the bony structures which have been detailed have developed during the past 13 years. It will be seen that the disease lasted 18 years.

In nearly all the cases reported there has been an extensive hyperostosis of either (1) the bones of the head, (2) the trunk, (3) the extremities, or (4) trunk and extremities; but in this case thickening was extensive in all. Especially unique in my case is the condition of the ribs, on the lateral aspects of thorax, where the hyperostosis was most marked—in fact, obliterating the intercostal spaces and causing the ribs to look and feel like a large flat bone with corrugations. We also find the anteroposterior diameter greater by 1⅛ inches than the lateral measurement. The early fixation of the cervical spine gives the case some of the aspects of spondylitis deformans.

It is unfortunate that skiagrams could not be made in this case, and still more unfortunate that no postmortem was allowed. In the absence of these, however, I have given a detailed and systematic description of a case of osteitis deformans showing some unusual features.

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Vaccinations in Hospitals and by Large Employers.—Dr. Abbott, of the Bureau of Public Health, has received letters from numerous hospitals and large employers in the city in reply to a letter of request which he had forwarded to them, asking, in connection with hospitals, that all patients admitted to the hospital should be required to afford positive evidence of recent vaccination, or else to submit to vaccination before their admission; and in connection with employers to require that all of their employes should likewise show evidence of recent vaccination or submit to this procedure. Almost without exception it is stated that the replies to this letter have been favorable and that the hospitals and large employers will cooperate with the efforts of the Health Department in its combat against smallpox.

AN INTERESTING CASE OF PIGMENTARY DEGENERATION OF THE RETINA (RETINITIS PIGMENTOSA).[1]

BY

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The patient is a man of 54 years, above average size and height; and, with the exception of his ocular affection, apparently in the best of health. Among the many points of interest in the case are the following:

1. The accurate and comprehensive family history for over a century.
2. The absence of any history of consanguinity.
3. The absence of serious ocular disease in any other member of the family.
4. The long retention of serviceable central vision (at present central acuity with correcting lenses is 6/7½?) despite contraction of the visual fields to within 5° of the fixation-point.
5. The remarkable preservation of accurate color-perception and sense of color-difference.
6. The noteworthy compensatory development of the senses of touch and hearing, estimation of distance, sense of location, etc.

Ocular Condition.—The fundus of both eyes presents the characteristic signs of pigmentary degeneration of the retina. Except in the exact macular region, there are scattered over the whole fundus pigment-masses with interlacing processes resembling the Haversian canals of bone. The long continued absorption of retinal pigment has rendered plainly visible the choroidal vessels, giving the familiar "wainscoted" effect. The retinal bloodvessels have undergone hyalin thickening, reducing the size of the blood-column, but apparently not interfering with the transparency. They are outlined with whitish streaks. The optic discs are dull, pale gray—waxy or parchment-like—in appearance, with but little blurring of their margins. Contiguous to the center of the posterior capsule of the lens there is a small opacity in each eye, but otherwise the media are clear. The fields of vision are reduced to within the 5° circle for white, and within the 3° circle for red, but the central acuity of corrected vision and color-perception remain remarkably acute. Response to the Abney pellet-test is prompt and accurate. There is very little nystagmus. The pupils react to light and accommodation. Station is good, and the patient walks steadily, forward or backward, with the eyes closed. The knee-jerk reflex is normal. The ametropic correction in the right eye is, — Cyl. 1.50 ax. 90, giving vision of 6/7½?; that of the left eye is, — S. 0.75 — C. 0.50 ax. 90, giving vision of 6/9?. Additional convex spherical lenses of 2.50 D. are used in hook-fronts for near vision. With this correction he reads 0.50 D type with ease. The rod-test for muscle-balance shows 3° of exophoria.

Family History.—The patient is the first child of a father of 28 and a mother 26. The father died at the age of 80 from a second attack of influenza. He had enjoyed good health and had worked continuously at his trade until the age of 60. The paternal grandparents were long-lived and of good, strong, healthy stock. The mother is living and in good health at the age of 81. She has borne 4 children, all living—the patient, aged 54; a sister, 52, who has 5 children and 3 grandchildren; a brother, 50; and a sister, 48. The maternal grandfather died at 91 and was a farmer, always enjoying good health. The great-grandfather died at 96 and the great-great-grandfather at 103 after fighting through the Revolutionary war. His maternal grandmother bore 17 children, all of whom raised families. Her grandmother, grandfather, great-grandmother, and great-grandfather lived from 80 to 105 years.

Strange to relate, with the exception of a brother of 50, an alcoholic, who was afflicted with a retinal hemorrhage, there is no history of serious ocular disease in all the family, nor is there any history of consanguinity.

The only other member of the family I have seen was the daughter of one of the sisters, whose ocular fundi were healthy. The patient is married, but has no children, which deficiency, however, he attributes to a congenital uterine deformity in his wife.

Personal History.—He was a healthy infant and child, having only the minor infantile intestinal complaints and infectious diseases, such as whoopingcough and measles. There is no history of the graver infections, such as scarlet fever, diphtheria, and smallpox. He entered a public school at 6 years and pursued his studies satisfactorily until he was 13. He was fond, as a child, of such active games as "hockey," in which he was particularly expert. He first noticed night-

[1] Read at the meeting of the American Ophthalmological Society in Washington, D. C., May 14, 1903.

blindness at about the age of 11, but he pursued his studies for two years longer, working strenuously and late at night by dim light. After leaving school he was two years in a country store, and from 16 to 21 he alternated between clerkship in a shoe store and substituting as a mail-carrier between Dover, Del., and Philadelphia. From 21 to 31 he sold sewing machines, traveling in a buggy or saddle through Delaware and the eastern shore of Maryland. During this time night-blindness became so marked that he had to forego travel after dark, but apparently his visual acuity was normal, for he was an expert operator in fine work on the sewing machine, and in adjusting which required keen sight and touch. He stated that he could see very small fish in a running stream or a lizard on a fence-rail and was a very expert collector of Indian arrow-heads, etc. (Even at the present time he can follow a bird in its flight or a polo ball about the field.) He states that at this time while riding along the road that he could distinguish trees by the shade of their leaves and could tell green rye from wheat by the difference in the shade of the green. With the exception of an occasional attack of malaria his health was always good.

When 31 he was thoroughly examined by the late Dr. William Pepper, of Philadelphia, and pronounced sound physically. Since the age of 18 he has undergone several examinations for life-insurance, and each time has been pronounced a first-class risk, with the exception of his ocular disease. He first consulted an oculist in Philadelphia when about 20 years of age; again in Baltimore when about 25; and again in Philadelphia when about 30. This latter examination was made by a former boyhood acquaintance, the late Dr. E. O. Shakespeare. All of his oculists pronounced his case one of pigmentary degeneration of the retina and, beyond the prescripton of strychnia, no treatment was advised. When he was 25 a Baltimore oculist gave a prognosis of practical blindness within three years. At the present time, nearly 30 years later, he is earning unassisted a comfortable living as a traveling salesman, covering the whole territory east of the Mississippi, using without great inconvenience night trains, and making such long jumps as from Philadelphia to St. Louis. He enthusiastically volunteered to come to this meeting for examination if I thought it would be of benefit to ophthalmic science.

From 31 to 41 he traveled as a salesman for a wellknown Philadelphia manufacturer of paints, averaging four towns a day in Pennsylvania, New Jersey, Delaware, and Maryland. During this time he noticed no difference in the night-blindness and enjoyed good health, except a severe attack of neuralgia about the head, induced by a cold, which was relieved after one week's treatment. At the age of 40 there is a history of "deranged liver," which subsided under regular treatment.

While selling paints he could separate on a card containing six strips, ¾ inch by 2½ inches, shades of green and vermilion, differing very little in the amount of pigment used, as will be seen by the samples that I have brought for exhibition. He could also distinguish perfectly and name 60 samples of different colors on a larger colored card. He became expert in testing colors, by fineness of grinding, strength of pigment, and transparency. As an example of his efficiency in this direction he tells me that it was common for him to detect the degree of color in pure white lead, of the fineness of 1 part of pigment to 100 parts of lead. He can readily tell a woman's switch of artificial hair by the difference in shade. He left the paint business to engage in a land enterprise; and from the age of 41 to 45 he was employed in building a new town in Virginia, and was continually out of doors, either in saddle or open wagon. His health continued good, and no change in the ocular condition was noted. For the last 10 years he has been a traveling salesman in the east, but not in the paint business, in which, however, he states he could again find employment without difficulty.

The patient states that his sense of touch is very fine in judging textile fabrics and leather. By touch alone he can tell the difference between French and American kid. His sense of hearing is equally acute, and he can distinguish the different kinds of trees at night by the rustle of their leaves. The hum of insects denotes to him their species. Although passionately fond of music, especially of the Wagnerian school, he is unable to run the scale, and he cannot whistle or sing a tune. He is an inimitable teller of dialect stories. He is conscious of the nearness of objects at night, and notes a difference between animate and inanimate objects before coming in contact, beginning at about two feet distance. His sense of smell is very defective. He is unable to appreciate the perfume of flowers, and has never been conscious of the noxious odors of excreta; but fortunately, pungent odors, such as ammonia and illuminating gas, he can detect. The patient has never used alcohol or tobacco, and has avoided highly-seasoned food. He has always slept in rooms freely ventilated at all seasons, and he has bathed regularly in cold water. His general health has steadily improved in the last 13 years, during which time he has gained 20 pounds in weight. He is particularly proud of the way he resists disease, and of the ease with which his flesh-wounds heal without treatment. With the exception of the night-blindness, the necessity for very bright artificial light, and temporary blindness on entering a building from an outside bright light (which he notes is increasing in the last four years), the patient has maintained his earning ability and his capacity for enjoyment in a manner most remarkable.

His sense of location is extraordinary, and in familiar places he experiences no difficulty in finding his way in the dark. For instance, he makes frequent trips to his home in Virginia, arriving at his station either at midnight or at 4 a.m. He walks on the railroad track about 300 yards to a cross street, which he recognizes by the hard planking at the crossing, in contradistinction to the shell-ballast of the railroad bed. He turns at right angles and proceeds about 100 yards to the front of his mother's house, being directed largely by his sense of distance, the feeling of his feet on the roadway, and, in the summer, by the rustle of the leaves of some poplar trees in front of the house. Feeling for the gate, he follows the garden path to the steps of the porch without difficulty. Nor is he daunted by the wintry snows, for in this case he walks along the side of the railroad track until he bumps into the elevated plank-crossing. On one occasion he even found his way through an extensive snowdrift. However, he ordinarily employs a guide when out at night in unfamiliar places.

He experiences but little difficulty in traveling through the crowded cities by daylight, and he is ever ready with an apology for bumping into people, and pardons with a smile those who jostle him. Street cars and wagons he avoids by careful deliberation and inspection before crossing a street, aided by his wonderfully acute hearing.

His common method in coming out of a station at night is to get the range of the overhead light, and then to fix on a man's collar or a woman's bonnet immediately ahead, unless he fears walking into a child, in which case he fixes his vision on a particularly noticeable skirt or a pair of trousers.

In concluding this remarkable history, it is appropriate to add that the patient attributes his long retention of vision to his own mental attitude, and his avoidance of worry over his condition. Despite the oft-repeated prognosis of inevitable blindness, he has simply made the best of his circumstances, and with an almost unparalleled strength of will and nobility of character, he has surmounted his physical infirmities, and for over 40 years has supported himself, his wife, and mother, and has aided in numerous ways several other members of his family.

THE EDUCATION OF THE YOUNG IN SEXUAL MATTERS: A LESSON IN DEFEATING QUACKERY.

BY

A. ROBIN, M.D.

There is no truism more generally accepted than that education is the basis of our civilization and the only sovereign remedy for many of our social evils, just as its antithesis, ignorance, is the cause of these ills. It is also generally recognized, and especially by medical men, that ignorance in matters pertaining to sex and reproduction is accountable for the existence of untold misery and suffering on the one hand, and the widespread infection of the social organism with parasitic quacks on the other. In matters sexual, hell could be represented by a bedroom-world peopled with sinners undergoing all sorts of tortures as a punishment for their sins against nature, while the devils are personified by the quacks who rob their victims of their peace of mind, suck at their vitals, sap the last drop of their energy, and render their agonies more and more excruciating. This is a real "hell," a "hell" on earth, managed and controlled by men professing to be lawabiding citizens and faithful followers of Christ.

Various measures have been advocated from time to time looking toward the abolition of the kingdom of darkness, and many of these measures have been tried with but little if any success. Legislation, when attempted, proves of slight practical value. A law uninforced remains a dead letter, a mere deposit of printer's ink on the statute books, and, beside, there are many ways by which the rock of justice can be circumnavigated and collision avoided. But even if the law is enforced, what does a fine of $50 or $100 mean to one who accumulates thousands from his nefarious traffic? Moreover, the great strength of the quack lies in the voluntary submission of his victims, and it is against the traditional freedom of our institutions to curb the liberty of the individual. If one wants to have faith in a quack, if he likes to be swindled and submit voluntarily to fleecing, the law cannot and perhaps should not prevent it. With certain limitations, "free choice" should be the inalienable right of the individual in all matters pertaining to his personal life.

One remedy is conceded by all to be effectual, and that is education. By education we abolish mystery, destroy phantoms, and bring to light hidden truths. Quackery is the offspring of ignorance; education, by destroying the mother, annihilates the offspring. Were it possible to educate the people in sanitary matters and give them a correct understanding of physiology and a proper appreciation of the nature of disease; were it possible to enlighten every young man and woman on the laws of sexual life and the consequences of the infringements of these laws; were it possible to have them gain a general understanding of the nature and sequels of venereal diseases; were it possible to accomplish all this, society would be far advanced physically and morally. It is for this reason that the more enlightened members of the medical profession urge missionary work along educational lines. The physician should fulfil his highest function—that of exerting a moral influence on the community and preventing disease. To accomplish this it is necessary to go to the people, and not wait until they come to him, for they never will. Popular lectures and newspaper articles are the principal means the medical profession should employ to mold public opinion. The serious drawback to the employment of these means is the opportunity they would afford to the commercially inclined (professional quack) to advertise himself. This, however, could be avoided by making popular lectures a part of University Extension work. These lectures should be delivered by recognized teachers delegated for that purpose by well-recognized teaching institutions. Men of high professional standing could be fully entrusted with carrying out educational plans in a manner which would in no way compromise medical ethics. As to newspaper contributions, individual names of the authors should, of course, be avoided. Every medical society should have a publication committee whose function should be to write up popular articles on hygienic or medical topics. Such articles should be signed thus: "The Press Committee of X Medical Society." Thus the great medium of interchange of ideas, the public press, would be utilized to the best advantage without in any way jeopardizing the integrity of medical ethics. A step in this direction has already been taken by the New Castle County Medical Society, of Delaware. This body has a "press committee," and that committee has already contributed a valuable and comprehensive article on "Fourth of July Tetanus" to the local press. It is also the intention of the committee to take up the subject of the disposal of garbage and any other hygienic and sanitary matters which are of public interest.

However, education should begin with the young. In an enlightened community like ours, with plenty of well-trained public spirited physicians in every city, town, and village, there is no excuse for relegating the teaching of physiology to lay teachers who know no more about the subject than the pupils themselves. The reason the school course in physiology leaves no impression on the minds of the pupils is to be sought in the inefficient method of instruction. There is no reason why every public school and certainly every high school should not have a well-trained physician as instructor in physiology and hygiene. In communities too poor to pay for such services the latter will no doubt be granted free, while in large cities an adequate remuneration would, of course, be expected. The physician who teaches physiology and hygiene should also be the medical adviser in all matters pertaining to the health of the pupils as well as the medical adviser of the pupils themselves. By this I do not mean that he should be their physician. Far from it. He should advise them only, leaving the treatment of whatever malady he may discover to the family physician of the particular pupil. He would thus come in intimate touch with the pupils and help to bring about better relations between them and their family doctors, who are often shunned on account of fear or shame.

The course in physiology should of course include lectures or recitations on reproduction, commencing with the comparative physiology of that function in plants and animals, and leading up in the higher grades to reproduction in man. The pupils of the higher grades should also receive instruction on the nature and results of sexual abuses and venereal diseases. That this can be done in a manner entirely free from pruriency has been fully demonstrated by those who have honestly tried to impart such essential knowledge to students.

For the past two years it has been my privilege to deliver a course of lectures on infectious diseases to the students of the Delaware Agricultural College. Included in this course were two or three lectures on venereal diseases. When the first lecture was delivered the students, eager for unsavory information and prurient stories which they expected, crowded the lecture-room, many who did not belong to the class having asked permission to attend. Expectation of "fun" was written on every face, and it seemed that they were all prepared to enjoy the occasion of listening to utterances which they can enjoy only among themselves and in the stillness of the night. However, as the lecture progressed, the expression became more and more serious, and when the dangers lurking in gonorrhea and syphilis were unraveled many a face turned pale and many a listener thoughtful. Vice was presented to them in its natural aspect shorn of all its seductive mysteries, and the decent boy was horrified. So wholesome was the effect of this lecture that the Young Men's Christian Association of the college asked me to repeat the lecture before them. Whether these lectures influenced the morals of the students I do not know, but I do know that the information imparted served as a deterent to many a boy who hitherto considered gonorrhea as something that is "not worse than a cold," and syphilis as a readily curable "chancre."

The most beneficial results of these lectures was the close intimacy that was established between the students and myself. I have since been frequently consulted by the boys on sexual matters, and whenever the condition required any special treatment I always directed them to their family physicians with the assurance that not only will they keep their secrets sacred, but will treat them as efficiently as any "specialist." (Alas! I wish I could have myself felt more certain that the family physician "will keep their secret.") The boys who suffered from gonorrhea took advantage of my offer to examine the secretions for gonococci as often as was necessary to establish the certainty of a cure, and learned to abide by the results of such examinations. They have also followed my advice invariably given in such cases to abstain from drink or intercourse during the entire attack; this being essential to permanent recovery. As an instance of what can be accomplished by such intimate relations with young men the following case will serve:

One of the students, a young man of 20, consulted me once on what he called "spermatorrhea." He said that he is greatly troubled sexually, is despondent and on the verge of a nervous "break-down" from worry. Asked how often he had emissions, he answered, "Once a month or once in two months;" he averred that he had no emissions at any other time, does not practise self-abuse, nor has he ever had any sexual relations with women." He admitted that when 7 years old a hired man "worked on him" and kept up the practice for about a year and a half without, however, giving him, as far as he can remember, any great pleasure; he has never returned to the practice since. In answer to questions, he stated that he had difficulty in urinating, with a distorted stream, pain at the glans, dribbling of urine after urination accompanied by a feeling of burning and irritation.

The symptoms suggested either an abnormally narrow meatus or phimosis. Inspection revealed a congenital phimosis with a tight adherent prepuce, having a pin-hole opening. Asked what made him think that he

had "spermatorrhea," he stated that the American Medical Institute made the diagnosis, and he showed me the following letter:

MR. ——.

Dear Sir:

In today's consultation meeting of the physicians connected with our Institute, your case was given due attention and consideration; and after a careful and most thorough perusal of the intelligent description you have furnished us of your symptoms, we have diagnosed your condition as spermatorrhea, passive congestion of the kidneys, and nervous debility.

In order that you may realize what these terms imply, we wish to say that by spermatorrhea is meant unnatural losses of seminal fluid, which in your particular case take place in the urine. These losses, however, constitute a constant drain on your vitality, which must be speedily checked through energetic and well-directed treatment, or the inevitable result will be not only a break-down of the general system, but complete extinction of the sexual power as well.

Passive congestion of the kidneys is due to the veins of the kidneys not having proper tone, the blood-pressure enlarges the kidneys, making them tender and *painful;* also preventing the proper action of these organs.

Nervous debility is a condition due to an excessive or diminished reflex action of the nerves, ultimately leading to a general breaking down of the nervous organism, causing loss of will-power and nerve energy.

Considering the complicated nature of your case, it is certainly a matter of regret that you did not at an earlier period obtain proper medical advice, as in that event it would have been possible to have cured you in a very much shorter space of time.

We must now, however, strongly impress upon you the fact that time is an important element in your recovery, and of the necessity of at once beginning reliable and scientific treatment, as every delay will render it more difficult to cure you, it being the natural tendency of all diseases to continue to progress and assume more and more serious proportions unless active means are employed to control the same.

We are pleased, however, to state that if you at once begin an efficient medical treatment we do hereby *absolutely guarantee* your ultimate restoration to perfect health, or refund every dollar paid to us in fee, and it is our belief that the same can be brought about in from 2½ to 4 months. We feel confident, however, Mr. ——, that the superior advantages which our Institute has to offer will decide you to avail yourself of our wide and thorough experience, and you may be sure we shall do all in our power to hasten your recovery as speedily as possible.

The first month we shall charge you for our services and medicine $10.00, and thereafter, until entirely well, furnish all medicines necessary for your case for $7.00 per month.

Our remedies will in no way prevent you from continuing your daily pursuits without interruption.

Respectfully submitted,

A—————— MEDICAL INSTITUTE.

DR. G——,
Medical Superintendent.

Dictated by Medical Superintendent. Transcriber No. 1.

This ignorant and malicious diagnosis was based, if it needed any base at all, on the answers given by the young man to some of the questions on the "Diagnosis Blank." The questions and answers are as follows:

Give age, 20 years. What is your weight? 150 pounds. Occupation? Student. Are you married, and how long? No. Do you use liquors? No. Do you use tobacco? No. Do you work hard? No. Do you feel exhausted when day's work is done? No. How long have you been troubled? Since 7 years old. Do you practise secret habits? No. Do you have exhaustive dreams at night? No. Any sediment in urine? No. Have you varicocele? No. Have you ever had gonorrhea or clap? No. Is your mind on your troubles very much? Yes. Have you had eruptions on the body? No. Does the hair get thin and fall out? No. Do you have wandering pains? No. Do you have large sores on the body? No. Do any of your bones ache at night? No. Do you have pains over your kidneys? No. Do your hands and feet swell? No. Do you see spots floating before your eyes? Used to. Do you belch up gas? No. Is your tongue coated? No. Do you have sick-headaches? Yes, from eyestrain. How is your appetite? Good. Are you troubled with palpitation of the heart? No. Is your memory good or bad? Medium. Are you easily excited? No. Is there a desire to urinate during the night? Sometimes. Are the organs wasted or deformed? No. Have you ever had syphilis? No. Is your mind on your troubles very much? Yes. Are you ruptured? No. Are you melancholy or gloomy? No. Have you nervous twitching of the eyelids? No. Are your eyes affected? Yes. Have you night sweats? No. Chills? No. Fever? No. Have you loss of energy and easily tire out? No. Are your bowels regular? Yes. How often do they move? Once daily. Do you bathe? Yes. Are you weak and dizzy at times? No. What symptoms trouble you greatest at present? Trouble to urinate. Do you have ringing or buzzing noises in the ears? No. Do you suffer with piles? No. Are you troubled with rheumatism? No. Have you ever had trouble with your lungs? No. Have you reason to think you are tuberculous? No. Any insanity in your family? No. Do you wear a suspensory? No. Do you ride a bicycle? No. Did you ever wear an electric belt? No. General Remarks. Under this head the patient made the following statement: I seem to have a burning sensation at the end of the penis. Have trouble to urinate; flow is very slow.

How the answers to the above questions even remotely suggest the diagnosis made by the distinguished physicians (?) connected with the Institute is known only to them and their treasurer.

It is needless to add that this young victim was snatched from the teeth of the vampires. His fears were allayed, his condition was explained to him, and he was advised to consult his family physician, which advice he followed. *Ab uno disce omnes.*

SPECIAL ARTICLES

THE ILL-HEALTH OF JANE WELSH CARLYLE.

BY

GEORGE M. GOULD, M.D.,

of Philadelphia.

Jane Welsh Carlyle was born 1801.

She did her best to ruin her health, often reading a great part of the night when a girl of twelve. Three or four years before her marriage her health was permanently broken.—SIR JAMES CRICHTON-BROWNE.

Your sickness I have striven to make light of. I will not let myself believe that it is more than temporary; and the serious mood you partly owe to it is that in which to me you are far most interesting.—CARLYLE, 1824.

My Jane, I grieve to say, is yet far enough from well, but I hope much from summer weather and a smart pony in the south. She is not by any means an established valetudinarian, yet she seldom has a day of true health, and has not gained strength entirely since you left her.—CARLYLE, 1828.

She caught a violent sore throat, which threatened to end with diphtheria, near the close of December, 1830.—FROUDE.

Her poor sick head.—CARLYLE, 1831.

Headache and two hours of sleep.—(Ditto.)

Had you actually to faint all the way up? And the disease, how is it?—(Ditto, referring to her ride to Dumfries.)

Jane is complaining somewhat, but not regularly sick.—(Ditto.)

She did household work, but it permanently broke down her health.—FROUDE, 1832.

Immediately after the return to Craigenputtock (1832), Carlyle writes: "Jane is far heartier now that she has got to work. . . ." She seemed to grow *very greatly* better when she set foot on her native heath, . . . far better than in London, [although Froude had prophesied very differently].

Although indigestion, which interfered with his working, recalled his impatience to himself, he could leave his wife to ill-health and toil, . . . it was plain to every one of her friends, before it was suspected by her husband, that the hard solitary life on the moor was trying severely both her constitution and her nerves.—FROUDE.

"Mrs. Carlyle's sad verses."—FROUDE, of Carlyle's poem, "To a swallow building under our eaves," 1832.

—and I read anything that does not exact much attention.—MRS. C., 1832.

Jane is in a weakly state, but I think clearly gathering strength.—C., 1832.

Clearly very much improved in health.—(Ditto.)

Far better than while in London.—(Ditto.)

Jane has walked very strictly by old Dr. Hamilton's law, without any apparent advantage. Her complaint seems like mine, a kind of seated dyspepsia; no medicine is of avail, only regimen (when once one can find it out), free air, and, if that was possible, cheerfulness of mind.—CARLYLE, 1833.

Could I give you some agreeable occupation to fill your whole mind, it would do more for you than all the medicines in existence.—Quoted by Mrs. Carlyle as said by Dr. John Carlyle, 1833, concerning herself.

Mrs. Carlyle's bodily health never recovered from the strain of those six years. The trial to her mind and to her nervous

system was still more severe. A lady brought up in luxury has been educated into physical unfitness for so sharp a discipline.—FROUDE, 1834.

If the occasional tenderness of these lines could have been formed into a habit Mrs. Carlyle might have borne Craigenputtock less impatiently, and as her bodily ailments were chiefly caused by exposure and overwork she would probably have escaped the worst of them, because she would have thought it worth while to take care of herself.—FROUDE, 1834.

"Geraldine's mythical jottings," Carlyle, of Miss J.'s notes after her death.

She came (to London) right willingly, and in spite of her ill-health, which did not abate, but the contrary.—CARLYLE.

Sickness and dispiritment.—(Ditto, 1832.)

Instantly took to bed with one of her terrible headaches. Such headaches I never witnessed in my life; agony of retching (never anything but phlegm) and of spasmodic writhing that would last from 24 to 60 hours, never the smallest help affordable. Oh, what pain, pain!—(Ditto, 1832–33.)

A total wreck of seasickness.—(Ditto, about 1841.)

She had for constant accompaniment an altogether weak state of health, continually breaking down, into violent fits of headache in best times, and in winter season into cough, etc., in lingering forms of a quite sad and exhausting sort.—(Ditto, about 1842–45.)

She was generally in quite weak health, too, and was often for long weeks or months miserably ill.—(Ditto, during the London days generally.)

Such accounts are often repeated by Carlyle. She was oftenest reclining on the sofa. . . . Privately she at that time felt convinced she was dying—dark winter, and such the weight of misery, and utter decay of strength.—(Ditto, during "FREDERICK.")

The deeper break down of her own poor health, which from this time as I now see better, continued its advance upon the citadel, or nervous system, and intrinsically grew worse and worse.—(Ditto, about 1855–56.)

Sunk in "Frederick" in etc., far less exclusively, very far less, than she supposed, poor soul.—(Ditto.)

Her endless bodily distresses and even torments.—(Ditto.)

Her right arm strangely lame, getting lamer and lamer, so that at last she could not "do her hair herself." . . . "No sleep," too often the response.—(Ditto, 1863.)

"Neuralgic rheumatism," the doctors called this thing: "neuralgia," by itself, as if confessing that they knew not what to do with it. Some kind of hot half-corrosive ointment was the thing prescribed, which did, for a little while, each time remove the pain mostly, the lameness not, . . . arm all stained with spots of burning. . . . disease and pain for 30 or more years, etc.—(Ditto, about 1863.)

. . . had a fall on the neuralgic arm—ruined otherwise far worse, for, as afterward appeared, the muscles of the thighbone or sinews attaching them had been torn in that spasmodic instant or two; and for three days coming the torment was excessive, while in the right arm there was no neuralgia perceptible during that time, nor any very manifestly new injury afterward, either.—(Ditto.)

. . . "getting well" for several weeks still; she could walk very little, . . . out driving, and again out, etc.—(Ditto.)

Caught some whiff of cold, . . . soon rapidly worse, and developed itself into that frightful universal "neuralgia," under which it seemed as if no force of human vitality would be able long to stand. "Disease of the nerves" (poisoning of the very channels of sensation); such was the name the doctors gave it; and for the rest, could do nothing with it; well had they only attempted nothing! I used to compute that they, poor souls, had at least reinforced the disease to twice its natural amount, such the pernicious effect of all their "remedies" and appliances, opiates, etc., which every one of them (and there came many) applied anew, and always with the like result. Oh, what a sea of agony my darling was immersed in, month after month! Sleep had fled. A hideous pain, of which she used to say that "common, honest pain were it cutting off one's flesh or sawing off one's bones would be a luxury in comparison," seemed to have begirdled her, at all moments and on every side. Her intellect was as clear as starlight, and continued so; the clearest intellect among us all; but she dreaded, too, that this must give way,—[and she made him promise not to put her into a mad-house, even if she did lose her wits.]—(Ditto.)

. . . Again I said to myself, "No man, doctor or other, knows anything about it. There is still what appetite there was; that I can myself understand." . . . The aftercast of the doctors' futile opiates were generally the worst phenomena.—(Ditto.)

The doctors were many . . . When any new miraculous kind of doctor was recommended as such, my poor struggling martyr, conscious, too, of grasping at mere straws, could not but wish to see him; and he came, did his mischief, and went his way. We had even a trial of "animal magnetism;" two magnetizers, first a man, then a quack woman . . . at least did no ill. . . . By everybody it had been agreed that a change of scene (as usual when all else had failed) was the thing to be looked to.—(Ditto.)

We dimly understood . . . that the doctor would accept remuneration; though this proved quite a mistake. The remuneration he had expected was to make a distinguished cure over the heads of so many London rivals.—(Ditto.)

June 29.—After nine days totally without sleep, she announced to us that she would leave this place tomorrow for London.—(Ditto.)

(Then she went to Annandale, where) "she had slept that first Gill night for almost nine hours." "Improvement continued," . . . "improving pretty constant; fresh air, driving, silence, kindness." (Returning to Chelsea in August Calyle met) "the old kind face, a little graver, I might have thought, but as quiet, as composed and wise and good as ever."—(Ditto.)

The last epoch of my darling's life is to be defined as almost happy in comparison! It was still loaded with infirmities, bodily weakness, sleeplessness, continual or almost continual pain, and weary misery so far as body was concerned. . . . It was remarked by everybody that she had never been observed so cheerful and bright of mind as in this last period. . . . wonderful cheerful . . . a bright ray of mirth . . . shining through the wreck of such storms as there had been.

She was very feeble in the Devonshire time (March, etc., 1865); but I remember her as wonderfully happy. . . . She made no complaint, went driving through the lanes, etc. (Ditto, 1865.)

Better, dear, fairly better since I shifted to Nithsdale.—MRS. CARLYLE, 1866.

I find on any sudden alarm there is a sharp twinge comes into my back which is like to cut my breath, and seems to stop the heart almost.—(Ditto.)

She went out for two days to Mrs. Oliphant at Windsor, recovered her sleep to the poor old average, or nearly so; and by every testimony and by all the evidence I myself have, was not for many years, if ever, in such fine spirits and so hopeful and joyfully serene and victorious frame of mind, till the last moment.—CARLYLE, 1866.

She died in her carriage immediately following an exciting accident to her dog.

Instead of suffering in health Mrs. Carlyle benefited immensely by the sojourn at Craigenputtock, not as regards her weak chest, for she never had one, but as regards her nervous system. . . . Her only illnesses, at this period, were when she went away from it.—SIR JAMES CRICHTON-BROWNE, New Letters, etc.

The alleged drudgery undergone by Mrs. Carlyle at Craigenputtock is as mythical as the injury to her health.—(Ditto.)

The true key to Mrs. Carlyle's frame of mind at the time of the Ashburton episode is to be found in her state of health. It seems clear that she then passed through a mild, but protracted attack of mental disturbance, which would be technically called on its psychic side climacteric melancholia, and on its physical side neurasthenia. Mrs. Carlyle was hereditarily disposed to nervous disease. Her father . . . died of typhus fever at 43 years of age. . . . Her mother died of an apoplectic seizure, and a maternal uncle was paralyzed. . . . She was a seventh month child, . . . of intensely nervous temperament, . . . a highly neurotic woman.—(Ditto.)

When still a girl, too, her pathologic tendencies had begun to show themselves, for there are complaints of sick-headaches, and before her marriage these had got a firm hold on her.—(Ditto.)

In the spring of 1826 she writes to Carlyle's mother: "I had been unfitted for working at anything lately but by starts, owing to an almost continual severe pain in the head."[1] Throughout her married life these sick-headaches continued to recur, often with prostrating severity, generally lasting for three days, sometimes longer. . . . She suffered from many, indeed innumerable, attacks of influenza; Harriet Martineau said she had "eight influenzas annually;" . . . frequent catarrhs or colds. . . . The influenzas and the colds in Mrs. Carlyle's case may have been due to microorganisms or local conditions in the air passages, but these maladies, as we now know, both depend to some extent on a special predisposition in the sufferer, having its root in the nervous system, and both leave their stamp on that system and gradually undermine it. That the nervous system in Mrs. Carlyle's case was all along unstable and excitable is indicated by her intolerance of noise of all kinds, which was as great as that of her husband, and by her sleeplessness, which was even worse than his.—(Ditto.)

Within a year of her marriage she is writing to her husband that she was "demolished" by a sleepless night, and from that time the demon insomnia never ceased to haunt her with more or less persistency. In 1848 she wrote: "I sleep three hours a night and that in small pieces."—(Ditto.)

[1] Sir James in quoting this omits the most significant and illuminating preceding sentence of Mrs. Carlyle's letter, the reference to making a cap for Mr. Carlyle's mother, and "now, I am by no means the speediest needlewoman in the world."

When with the sleeplessness, one of which she called her "patent headaches," was combined she sometimes passed into a state of unconsciousness. In July, 1846, she wrote to her husband: "I lay the greater part of the day in a sort of trance, neither asleep nor awake."—(Ditto.)

For several years before the date which I would fix as that of the climax of her mental trouble she had been occasionally taking henbane or hyoscyamus to allay pain and excitability and pretty frequently morphia to compel sleep. . . . She was like her husband, addicted to excessive tea-bibbing and smoked cigarettes.—(Ditto.)

She was, in short, the very woman in whom the physician would expect a nervous break-down at a critical epoch of life. The drawback to her writings, it must be allowed, is the sick-room flavor that pervades them and the frequent invocations of castor-oil. They are of scientific interest as presenting an instructive series of studies in neurotics, etc.—(Ditto.)

It was not until 1846, when she was 45 years of age, that her despondency assumed a morbid complexion. . . . deepened and darkened until 1855, when that excruciating "Journal" was written. It was all but completely dispelled in 1857, leaving behind it, however, impaired bodily health, and the seeds of serious evils in the nervous system, which afterward sprouted and brought renewed depression of a very different nature from that previously experienced.—(Ditto.)

Her journal bears unmistakably the stigmata of mental disorder—not insanity in the crude sense of the word, but a derangement of the feelings, with consequent delusional beliefs, having no rational foundation, and irremovable by demonstrative proof of their untenability, all due to a disease of the brain and nervous system, which it is customary to call functional, because of the invisibility of the changes that accompany it and their remediable character.—(Ditto.)

In these, and many other passages that might be quoted, the alienist will readily recognize the cerebral neurasthenia that is so often accompanied by profound dejection and mad fancies.—SIR JAMES CRICHTON-BROWNE.

These slighter forms of masked insanity—mental dyspepsias they might be called—such as I maintain Mrs. Carlyle suffered from, . . . ailing, unreasonable and hot-tempered wife, possessed by groundless jealousy.—SIR JAMES CRICHTON-BROWNE.

Much movement under the free sky is needful to keep my heart from throbbing up into my head and maddening it.—MRS. CARLYLE, Journal.

So long as I had a noisy bedroom or miscooked food, even, I had something to attribute my sleeplessness to; now I can only attribute it to my diseased nerves.—MRS. CARLYLE, letter to her husband, 1857.

For once my mother succeeded in persuading me that I was very bilious, and must be treated accordingly. . . . physic, castor, brandy, oleum diaboli, . . . a "well-physicked Goody."—MRS. CARLYLE, 1828.

My head was so ill. I had to lie in bed.—(Ditto, 1831.)

Yesterday I had a headache again.—(Ditto.)

I must conclude (writing). . . . I have a headache today and must not drive it beyond bounds.—(Ditto, 1834.)

My head was horrible on Monday. . . . the third night I had not slept a wink.—(Ditto, 1836.)

(The accounts of "headache," "dyspepsia," "senna," "castor," coughs, sore-throat, ill-health, colds, influenzas, noises, insomnia, etc., constantly repeated, are henceforth omitted, unless having some special significance.)

. . . I should advise it. Much as our good doctor used to do with his senna,—"You had better give it to him—or perhaps you had better *not*."—(Ditto, 1838.)

(When in the midst of active bodily work, while overseeing the renovation of the house, papering, and painting, etc., she writes:) "I am in better health, however, and do not dislike London as Mr. C. does." "The work goes well and myself go well. The early rising, and the shower-bathing, and the having something to look after, agree with me wonderfully."—1843.

The amount of exercise (visiting factories, etc.) of body and mind I have gone through has astonished myself, and proves, I think, clearly enough that I have no "liver complaint," whatever other devilries I may have.—(Ditto, 1846.)

Geraldine has kept to her purpose of not leaving me a single vacant hour up to the last minute, and her treatment, I believe, has been the most judicious that was possible. It has brought back something like color into my face, and something like calm into my heart.—(Ditto.)

On the other hand, I am sensible that *movement* and *change* (italics Mrs. Carlyle's) are good medicines for me.—(Ditto.)

Jane has greatly improved in health; . . . a pleasant totally idle rustication, which, in spite of the cold weather, has almost completely restored her. CARLYLE, 1847. (She had been very ill, "confined to bed for three weeks," before leaving Chelsea for Bay House.)

I thought *care* had done so little to improve my strength that I would try what *rashness* could do. And *that*, as usually happens for me, answered quite well.—MRS. CARLYLE, 1847. (Back at Chelsea again, the "liver" began its old worries.)

The pain in my head and face returned when I was in the act of sealing my Letter, . . . continued all day and all night.—(Ditto, 1847.)

"In every '*inordinate* cup' there is a devil"; so it may easily be that in the apparently laudable "inordinate cup" of reading there may be a devil of giddiness.—(Ditto.)

Writing was for a time dreadfully fatiguing to me.—(Ditto.)

I feel just now as if nothing less than my *life* depended on incessant movement in the fresh air.—(Ditto, 1849.)

Yesterday I began a Letter, but had to leave off and betake myself into the open air. My head ached and I had a presentiment of the old sickness which nothing seemed to stave off but continued movement. All the time I was under the providence of these blessed Neubergs (Rawdon). I felt perfectly well, tho' sleeping little. They kept me always driving or walking, and after dark we played at chess.—(Ditto, 1849.)

I cannot write at any length today, for fear of stirring up my head into *promiscuousness!*[1]

This *is* a long letter; and my head is aching, and *that* is stupid. I must go and sit in the garden.—(Ditto.)

I must go out for a long walk, and get rid, if not of my biliousness, at least of my *blue devils*.—(Ditto.)

Writing makes me "too fluttery for anything."—(Ditto.)

. . . I have not swallowed a pill since I left Malvern!!![2] and I am alive and rather well. But then, my life otherwise is so very wholesome; nice little railway excursions every day, . . . visiting these primeval cotton-spinners, etc.—(Ditto, 1851.)

. . . your present, and hanging it about my neck. I like it so much! and it suits my eyes capitally. I expected a *pretty* glass, but, etc.—(Ditto, 1853.)

Without plenty of *walking* I can't sleep a bit—very little with it.—(Ditto, 1856.)

Went to look at the Marlborough House pictures, but was too tired and sick to do anything but sit *about* on chairs. Came home half dead and lay on the sofa.—(Ditto.)

Went to see the Chelsea Commission at work on Lord Lucan. . . . How sick I have been all this day.—(Ditto, April 20.)

I feel weaklier every day. . . . I put myself in an omnibus, being unable to walk. . . . At night I sewed a lace-border, etc.—April 21. Not up to even a ride in an omnibus today.—(Ditto, April 22.)

Last week I was all for dying; this week all for Ball dresses.—(Ditto.)

Spent the forenoon reading in Battersea Fields. In the evening alone, as usual; a very sick and sad day with me.—(Ditto.)

I was very poorly indeed when I left home, but I am quite another creature on top of this hill with the sharp Fife breezes about me.—(Ditto.)

It is 17 years now since a Dr. Morrah told me I "should never *live through another winter in England.*" . . . I have lived 19 winters in England, and 10 of them I have walked about in the coldest frosts, at the rate of 6 or 10 miles a day!—(Ditto.)

Change of air and daily carriage exercise make me sleep better than I had done for months.—(Ditto, 1857.)

And my friends supply me with nice novels, English and French, which I own a weakness for, and make no conscience of indulging in when I am not up to serious study.—(Ditto, 1858.)

Miss Baring has invited me to Bay House with leave to wear high dresses and caps.—(Ditto.) [She had been "in the valley of the shadow of Castor," "worse," "nerve, spirits, worn out," etc., at Chelsea, but at Bay House she has been "an improved woman ever since," has a "touch of human color in her face," "gets a fair amount of sleep," "has not been so well for 10 months," etc. This was with "long drives in an open carriage every day," "sails, too, in the Bay," etc.]—(Ditto.)

I don't think my brain is so active when I *sleep* (as I still continue to do with that *Whiskey!*) as it used to be when I spent the greater part of my nights in reading in bed, to stave off insane thoughts.—(Ditto, at Chelsea, 1859.)

Three weeks' confinement to bed.—(Ditto.)

A serious and most ill-timed illness . . . gone for a week almost entirely without sleep, and almost entirely without other nourishment than brandy and water.—(Ditto, 1860.)

. . . had two drives in the carriage every day. . . . I did come home (to Chelsea) a different creature from what I went away, and the difference lasted only two or three days, though I did continue the pepsin. Gradually I ceased to eat again, and got sicker and sicker, till I had to take to bed and lie there several days unable to hold up my head for nausea! . . .

[1] "Stirred up head" were Parkman's words describing his condition when *he* could write or work no longer. [G.M.G.]

[2] The Carlyles had spent a month as the guests of Dr. Gully.

Mr. Barnes said "the heat had upset me." I have not been feeling the heat at all disagreeable; but, of course, Doctors know best!—(Ditto, 1864.)

I am perfectly astonished at the impunity with which I do and suffer things that used to ruin me for days at St. Leonard's.—(Ditto, 1864.)

Wet, foggy, and dispiriting. Nevertheless, I have not since my return to London, missed my drive a single day.—(Ditto.)

When I try writing Letters in the evening, it never fails to give me a restless night, and now Mr. C. wont suffer me to take a pen in my hand. . . . I am not at all nervous, and I certainly sleep better. . . . The *actual* suffering, if cleared of the aggravations of the imagination, would be nothing to make a fuss about.—(Ditto.)

I suppose I am bilious just now, I feel so bad at writing; so bad at *doing anything*. I would like to lie all day on the sofa, reading novels. . . . I will take a blue-pill tonight.—(Ditto, 1865.)

I sat up reading till three . . . then I went to bed and lay awake without kicking about much till morning.—(Ditto.)

I sat up reading till three in the morning! Then I made a bold venture and took, before lying down, 30 drops of morphia! I used to get good of an exceptional dose of this sort. Even that couldn't put me to sleep for a minute.—(Ditto.)

I go on famously without doctoring even of my own! The wonderful improvement on my sleep has continued, and the cessation of all my pains.—(Ditto.)

I continue free from neuralgia, though the wet weather we have had is very trying for that sort of illness.—(Ditto.)

To all inquiries there was but one answer: "No better, no hope." Suddenly, as if from the grave, she came back. The illness had seemed preternatural, the recovery equally so. She had been dying. She was apparenly well. She was weak, extremely so, but in good spirits.—Froude Posthumous Pamphlet, "My Relations with Carlyle."

Whether physician or intelligent layman, and especially if oculist, any one who will consecutively and attentively read the preceding extracts concerning Mrs. Carlyle's health needs little help in arriving at a diagnosis. It is unconsciously made for him by the reiterated testimony and compelled inference. Whenever she used her eyes in sewing, writing, or reading she had sick-headache, insomnia, and indescribable suffering. Whenever for a day she did none of these things, driving or walking or doing other work she was free from physical and mental pain. Her torments began in childhood, grew steadily worse, especially ingravescent during presbyopia, and ceased (the kind she had so long endured) as if by magic, and almost in a day when the presbyopic process was complete. There is not a line in all that she, her husband, and the doctors have written that does not prove this etiology, not one that does not confirm it, and scarcely a line that is reconcilable with any other theory. That a physician writing in the twentieth century and conversant with the facts should have failed to recognize the inference, should have made a different diagnosis is—well, "significant of much,"—especially to multitudes in the civilized world still enduring the torments of this, one of the most awful of human diseases. There are oculists, sane, scientific, trustworthy men, who by spectacles have within a day cured thousands of patients who have told of the same symptoms as Mrs. Carlyle had. The knowledge of these cures has been repeatedly placed before the profession. How much longer is it to be ignored?

The names "biliousness," "neurasthenia," "hysteria," have been too long used to cover a host of sins of omission and ignorance, and the duty of asking as to cause has been allowed to slip out of sight by the mystery and the befogging habit of nomenclature. With the best intent in the world the confusion has been increased by Sir James Crichton-Browne, who should have known that the oldfashioned nonsense about "climacteric melancholia" is a generation past date. Every other woman patient of 45 or 50 will still mysteriously ask concerning her recent great increase of nervous and other symptoms, "Doctor, do you think it is my age?" Alert-minded physicians have a ready answer framed upon the knowledge of certain facts:

1. That if "climacteric," why do the troubles not cease with the climax? Why do they go on worsening until 60 or after? (One should not be compelled to suggest that the menopause arrives a number of years earlier.)

2. Why do they occur so often to men during the same years? (It should again be unnecessary to note that the man's "climacteric" is not reached until somewhere about 70, 80, or even 90!)

3. Why are "climacteric" troubles usually and wholly relieved by scientific correction of ametropia and presbyopia?

It is medieval medicine, this superstition that the mere cessation of a function, like menstruation, hair-growth, juvenility, virility, etc., produces pain. It is not modern scientific medicine to ignore the role of the process of presbyopia in human health and disease. The incomplete process, note well, for when presbyopia is complete, there is always relief of the symptoms caused by the lameing. A crippled leg may cause infinite pain, but hardly after amputation.

In passing, one may note a word of thanks to Carlyle, the accurate describer of morbid phenomena. Throughout the histories of others, Wagner, Carlyle, Huxley, etc., whether by professional or layman, there is a pitiable vagueness as to sick-headache. There is a nausea anent nausea, a disinclination even to speak of vomiting and retching which makes the biographic clinician wander often about in a sorry twilight of mystery. Biliousness, dyspepsia, liver, indigestion, and many such circumlocutions will puzzle one. But witness Carlyle: "Agony of retching (never anything but phlegm), and of spasmodic writhing, that would last from 24 to 60 hours, never the smallest help affordable. Oh what pain, pain! Such headaches I never witnessed in my life." That is the way a good clinician sees, and the way patients describe.

But is it the way the most modern of scientific books and articles see or describe? Reread the extracts of the preceding pages. The most glaring fact about sick-headache is the agony of retching—a gastric disease—apparently. Apparently! Do the gastrologists and books on the stomach so recognize and treat? Do they, the precisely similar agony of seasickness? Far from it.

If all disease that is called functional is to be sniffed aside as demonstrations of the "unmistakable stigmata of mental disorder," or as due to "the invisibility of the changes that accompany it and their remediable character," there needs a new pathology. Seasickness and sick-headache are surely functional, surely not due to microscopic changes in nerve-structure, surely not really gastric in origin, and just as surely most real.

And the heredity bogey needs a quietus! For instance, one's father died of typhus when he was 43; one's mother of apoplexy, at past 60; a maternal uncle was paralyzed; there was "defective viability" in one's father's family; and one was a seven months' child. Now the "one" who is such a victim of the law of heredity did not die of typhus at 43; did not die of apoplexy at any time; did have some paralytic trouble of the hands; did not have a seven months' child, etc. In other words, one case each of typhus fever in one's ancestry, one of paralysis, one of apoplexy, and twelve of defective viability in collaterals, plus premature delivery, explains the "neurotics" of a woman who suffers from sick-headache! The pseudoscientific Lombroso and all his pseudoscientific echoers with their nonsense about the "stigmata of degeneration," "mattoids," etc., should be taught silence by the contemptuous ignoring of the really scientific.

Neither will "neurasthenia" avail even to describe, far less to explain, the disease whose one crying characteristic is excess and unphysiologic innervation instead of lack of nerve force or strength. In almost all socalled "neurasthenia" (lack of neural vitality) there is precisely this surcharge of unruly innervation. Neurasthenic naming of a sthenic condition does not learn its cause or find its cure.

Nor insanity, masked, modified, or uncrude, with delusional or other beliefs, nor mental dyspepsia and groundless jealousy. The suffering of Mrs. Carlyle, the physical and cerebral suffering, was as great as one can endure and live. It was as real as pain can be. It is past the time when ironical smiles, vague names, "stigmata of degeneration," or of the "neurotic," should be allowed to come between the physician and his patient appealing and paying him for science and cure. Least of all, when driven wild by a score or two years of this torture the frenzied mind may feel the danger of losing its

equipoise. That Mrs. Carlyle,[1] for instance, never in the least lost her intellectual clearness and essential sanity every line of her letters abundantly shows. What better judge than he who wrote after all her 40 years of agony, "The old kind face, a little graver, but as quiet, as composed, as wise and good as ever; cheerful and bright of mind; a bright ray of mirth shining through the wreck of such storms as there had been." Minimizing real suffering, piffing it away, under a sniff of meaningless nomenclature, or waving it back to heredity is a too frequent professional crime. At 56 years of age, when at the very height of her "delusional" sufferings and "masked insanity," this "neurotic" could see through lots of medical shams; for instance:

That reminds me to ask, Does your Father prescribe *Pepsien* [*sic*] in stomach complaint? Has he ever seen the blessed thing? Ever heard of it? If he haven't, no more shame to him than had he missed to hear of the pretty little French Empress's very latest caprice in dress! This *Pepsien* (I don't know if I spell it right; but as the word is made out of *dyspepsia* without the *dis*, I can't be very far wrong) is just the latest caprice in Medicine; that's all! It is something scraped, etc. . . . The Doctors here are prescribing it at no allowance; and the druggists say they can't get enough for the demand.—1857.

The great scientist, Darwin, the great genius, Wagner, were "wet-packed" all their lives; Parkman and Carlyle tried it once, would no more. Today astigmatism is treated in that way by great physicians. Mrs. Carlyle was also once tempted, and this is her description of it:

Like a fool I let myself, out of scientific curiosity, be what they called "packed"—a process which I was told afterward requires a certain preparation and caution; but I submitted myself to it, on the Doctor's suggestion, "quite promiscuously." A bath-woman in a thick, white flannel gown, like a white Russian bear, came to my bedside at six in the morning and swathed me tightly like a mummy, first in wet sheets, then in dry blankets, then heaped the feather bed and bedclothes atop of me, leaving only my face uncovered. Then, went away for an hour! committing me to what Paulet calls my "distract ideas," and the sense of suffocation, all the blood in my body seeming to get pressed up into my head. One only thought remained to me—could I roll myself over, feather bed and all, on to the floor; and then roll on toward the bell, if there were one, and ring it with my *teeth?* I tried with superhuman effort, but in vain. I was a *mummy* and no mistake! So nothing remained to me but to put off going *raging mad* till the last possible moment. When the bath-woman came back at seven she was rather shocked at my state; put me into a shallow bath and poured several pitchers of water over me to compose my mind. But I have not got over that accursed "packing" to this hour—it shattered me all to tatters.

The mysteries of the infinitesimal dose have captivated many minds, still has charm for people otherwise rational. Mrs. Carlyle's friend, Forster,[2] was once in the toils, and to him she wrote:

Dr. —— is an emissary of Beelzebub! Homeopathy is an invention of the Father of Lies! I have tried it and found it wanting. I would swallow their whole doles' medicine-chest for sixpence, and be sure of finding myself neither better nor worse for it. But then they cut off one's coffee, and wine, and tea; one's cigars, too, if I am not mistaken; they strip existence of all its best realities, till at last, just when one is "almost trained to live on air," like the Annandale man's horse, one *dies!* Now, will you give up this nonsense, which can come to nothing but harm? It not only grieves but irritates me to think of a man with your eyes to see and heart to understand, *letting* himself be mystified with spoonfuls of cold water! No one knows better than myself that there is a sort of reaction against medical science as one sees it in the present day, which predisposes one to take up with any sort of bold quackery in preference; but your life and health are precious; and so for Godsake leave Dr. —— to administer his infinitesimal doses to fine ladies and the like whom the world can better spare.—(Ditto, Letter to Forster, 1841.)

Faith-cure, osteopathy, eddyism, hypnotism, are today the bane of science. What Mrs. Carlyle would have said to them may be seen from her opinion of their representatives of 60 years ago:

What is your Husband saying to his new gospel of Animal Magnetism? We are sick of hearing about it. Harriet Martineau expects the whole system of medicine is going to be flung to the dogs presently, and that henceforth instead of physicians we are to have Magnetizers! May be so; but "I as one solitary individual" (my husband's favorite phrase) will in that case prefer my sickness to the cure. One knows that sickness, at all events, comes from God, and is not at all sure that *such* cure does not come from the Devil. The wonder is that sensible people who have heard tell ever since they were born of Witchcraft and Demoniacal possession, and all that sort of thing, should at once fall to singing *Te Deums* over Magnetism as if it were a new revelation! Nay, anybody that had ever seen a child tickled might have recognized the principal of Animal Magnetism without going further!

And she saw through other quackeries than the parasitic professional ones:

I have no faith in the medical people here; not one of them seems *honest* to begin with. To *get* patients and to *humour* them when got seems much more the object of these people than to cure their ailments. In fact, what can they know about one's ailments allowing only some *three minutes* to the most complicated cases! And so I leave *my* case to Nature; and Nature seems to want either the will or the power to remedy it.

And this gay, brilliant, clear-headed, beautiful creature, when she is dead and cannot defend herself and her husband, has had the horrible ill-fortune to fall under the ponderous nightmare of Froude, and worse yet, under Froude plus Jewsbury, the one who romanced with facts, and the other without them. It is a shame and a desecration! And then a learned doctor tries to make her the victim of "heredity," the dupe of a "groundless jealousy," "mental dyspepsia," and what not else of disfiguring neuroticism, with a straining finally to take away her reason! A more "level-headed" woman never lived.

It had been the charitable belief of the generous that Froude did not consciously and wilfully misrepresent and misinterpret. After the *New Letters and Memorials of Jane Welsh Carlyle*, and the posthumous pamphlet of Froude, that belief will no longer be possible. It is plain that henceforth no independently unsupported statement of his can be trusted. Sir James Crichton-Browne and Mr. Alexander Carlyle have destroyed a big half of his credibility, and he himself has now more than finished the other half. Take as one of the simplest illustrations his reporting of the condition of things during the six years of Craigenputtock,—he the worshipper of his "master," the truth-lover: "He left his wife to ill-health and toil;" "the housework permanently broke her down;" "her bodily health never recovered from the strain of those six years," etc. There is not a line, a fact, a word to prove it. It is the reverse of true, as her husband, brother-in-law, and others have abundantly proved. The great pity is that they did not stay there all their life, that she did not really have "toil," "baking," "household duties," etc., and especially the driving, riding, and walking to do ten hours every day.

In default of spectacles correcting her astigmatism such a life would have been one of happiness, physical, mental, and household. The fact is that in Froude's asinine attempt to ladyize her and "Annandale-peasant him," he most unexpectedly found that he had not gained the favor of the morbidly sensitive (because morbidly conscious of their own affairs at home) million of wives and husbands, but that he had, as Birrell said, "divided the Carlyle reading public into two classes—husband's men and wife's men,[1] with, perhaps, a *tertium quid* which damns them both for a quarrelsome couple." In his chagrin and desperation he leaves what he thought was his unanswerable horror before he got beyond ear-range of his disgusted and amazed readers. His posthumous pamphlet, apart from the financial and legal aspects which do not concern us, is, certainly, the most loathsome and infamous deed a cowardly bungler could degrade himself to commit. And not a single fact exists or statement of any truthful honest person to prove the hideous picture drawn by the Froude and Jewsbury Company for blackening noble characters. It is fortunate that the atrocity is so striking that they will only succeed in making their own names loathed. Mrs. Carlyle knew what a liar the Jewsbury creature was, and Carlyle had laughed at her "mythical jottings." Witness this prurient and disappointed maiden lady rush to the unspeakable Froude and filling his ears with her idiotic psychosexual interpretation of a careless

[1] None more impossible to become insane than Parkman, and great "alienists" and nerve specialists told him he was or would be insane. And they said the same of Wagner, and of Schopenhauer.

[2] Whom Froude tried once to poison with Jewsbury stuff; Forster was too sane and healthy to deal in such.

[1] Kyng Arthour is our own brother
Therfor we may be blyth
The Horn of King Arthur.

remark of Mrs. Carlyle's early days. One may doubt if any such remark was ever made by her. Geraldine's fertile imagination needed no facts to build a whole world of misrepresentation upon, as Mrs. Carlyle well knew and showed in her letters. A dark allusion to "a mysterious secret" in a mind like that of Froude needed only the nudge and wink of the ludicrous Geraldine to fashion "a tragedy as stern and real as the story of Oedipus." And out of this nothing is concocted this nonsense of jealousy, "fierce and violent quarrels, masked and real insanity, impotence," and what not else. Men of judgment will not allow their opinions concerning, and reverence for Carlyle and his wife to be influenced. Mrs. Carlyle's exacerbation and culmination of ill-health about 55 and 56 needs no such assumed insanities, jealousies, disappointments, abuses, etc., to explain her suffering. She would probably have left blue marks on Miss Geraldine's wrists had she known what we know.[1] What a blunder of Carlyle, his choice of a biographer, he who had written every line himself that was ever needed! Luckily his character is so splendid and glorious that even the greatest wrong he ever committed can be forgiven him, and we may be thankful that he died in ignorance of the inexcusable crime against him and his, by the one he supposed was his friend.

The "alienists and neurologists" find themselves between the devil and the deep sea. If these "hysterias," "mental dyspepsias," "masked insanities," "neuroticisms," etc., are physical, the result (not the cause) of morbid tissue-changes in brain, neuron, or nerve, then are the effects inevitable, the patient irresponsible, the whole affair physical and material. But the same men are also given theoretically to irony, and practically to treatment that is psychic. In Mrs. Carlyle's case we have too or three additional irreconcilable hypotheses added to the two others. Thus we get:

1. The hereditary explanation—the father had typhus fever, the mother paralysis, the uncles and aunts had few children, or these died early; the child was prematurely born, hence her sick-headaches, her neurotics, inexcusable jealousy, and an improcreant husband. Wonderful logic and science this!

2. The "excruciating Journal," the "delusional beliefs," "jealousy," "Ashburton episode," "masked insanity," and the rest, are called functional because they are the result of "her state of health," *i. e.*, "climacteric melancholia," or "neurasthenia,"—"all due to a disease of the brain and nervous system" called functional, because of the invisibility of the (anatomic) changes that accompany it and their remediable character. If functional one understands the remediableness. But Sir James evidently speaks of their functional character ironically; and in the same sentence of their remediable character *not* ironically; and in the same sentence of their anatomic nature most solemnly and scientifically. Here are three absurdities rolled into one. And not content with this the menopause is added. Does Sir James in this case know that it took place at the age of 57? Let us be a little exact. Does the melancholia of climactericism precede, accompany, or follow the menopause? Then, for the sake of the god of medicine, what is "neurasthenia?"

3. All agree, Sir James, husband, Froude, that at 57 or 62 there was a sudden change of mind, disease, and emotions in the patient. Let us quote Froude's account:

Suddenly as if from the grave she came back. The illness had seemed preternatural, the recovery equally so. She had been dying. She was apparently well. She came back into society. She was weak, extremely so, but in good spirits. . . . The last eighteen months were the happiest in his married life, etc.[2]

And hence one must ask:

a. Does climacteric melancholia generally end at 57 or 62?
b. Is it synchronous, precedent, or succedant to the menopause?
c. When did this occur in the special case?
d. Is climacteric melancholia functional or due to cerebral and anatomic tissue changes?
e. Is it due to heredity, typhus fever in the father, etc.?
f. Did all the causes and conditions of the Ashburton episode, the childlessness, impotence, etc., not continue exactly as they were before 1857?

The eroticism, and neuroticism, and tommyroticism seem to be *not* in the patient nor in her husband, but in the "science," "history," and "biography" of their postmortem friends."

4. One more quotation:

For several years before the date which I would fix as that of the climax of her mental trouble she had been occasionally taking henbane or hyoscyamus to allay pain and excitability and pretty frequently morphia to compel sleep, and it is a secondary action of the latter drug to induce suspicions and even delusions of persecution in those who habitually indulge in it, . . . tea-bibbing . . . cigarettes.

And the unfounded and untrue theory of narcomania is joined to the dozen other hypotheses, stigmas, etc.! Any number more could be added as superfluously and as ludicrously. Suicidal mania, morbid gloating over murders, "state of unconsciousness," etc.,[1] are really enumerated; why not all the rest in the textbooks of nervous and mental diseases?

Before this little chapter is closed one remaining phase of Mrs. Carlyle's health must be noticed. In no textbooks on general medicine, or on diseases of the air passages will be found the relationship of colds, coryza, or influenza, to diseases of the nervous system. Mrs. Carlyle, when not suffering from headache was always suffering from colds or influenza—"eight influenzas annually," said Miss Martineau. They afflicted her all her life, most exasperatingly and most wearingly. I have not copied near all the excerpts which prove the continuousness and severity of these seizures. It is gratifying to be able to quote a great medical authority that such attacks of colds and influenzas—

"May be due to microorganisms, or local conditions in the air passages, but these maladies, as we now know, both depend to some extent on a special predisposition in the sufferer, having its root in the nervous system, and both leave their stamp on that system and gradually undermine it."

Now here is a truth, or a glimpse of it, that deserves most careful pondering by the profession. In Mrs. Carlyle's case it is noteworthy that these colds and influenzas did not coexist usually with headache and sick-headache; that they came on in a most unaccountable manner, without explainable reason, usually in winter, and remained long; and most remarkable that they ceased at the time of the great change in 57 or 62. Wet and foggy, or not, driving, sailing, or not, she is "perfectly astonished with the impunity, etc." All of Mrs. Carlyle's sick-headaches were caused by eyestrain, a fact beyond all question As little doubt can there be that no cause can more directly and infallibly upset and morbidize the nervous, mental, and nutritional mechanisms. It thus supplied the "nervous system" with precisely the predisposing condition Sir James Crichton-Browne gives as the cause of colds and influenzas. The inference is very suggestive that Mrs. Carlyle's influenzal attacks were the reflex results of eyestrain. The smile of incredulity with which the allwise may receive the thought has nothing to do with its truth or falsity. In private practice the fact of the interconnection of nasal and ocular diseases has often been noted. Illustrative cases have been published. The details of one such are of exceptional interest:

A healthy, clear-headed, intellectual man was given two pairs of spectacles for his myopic astigmatism, a stronger or higher correction for use at the theater, driving, etc., a weaker correction for reading and daily or constant use. For a year his wife and daughter observed, without telling him, that whenever he wore the strong, or accommodation-exciting glasses he "caught cold," with coryza, hoarseness, etc., which

[1] The immortal Geraldine should have quoted to Froude from Sir Walter Scott's, The Eve of St. John:

He laid his left palm on an oaken beam;
His right upon her hand;
The lady shrunk, and fainting sunk
For it scorch'd like a fiery brand.

The sable score of fingers four,
Remains on that board impress'd;
And forever more that lady wore
A covering on her wrist.

[2] Froude puts this time of rejuvenescence and joy *after* the breakdown of her health in 1862. Sir James says the great change came as suddenly in 1857. Both are right and both are wrong.

[1] Mrs. Carlyle had her own way of innocent exaggeration, as have most sufferers and sensitive people. Even when in love Carlyle noticed it and asked her if she really fainted "all the way up" on her ride to Dumfries. What physician has not noticed the dreamy state, neither asleep nor awake, of patients after great suffering? It is not a morbid state of catalepsy or other 'lepsy.

at once disappeared when the weaker lenses were used. He used the stronger ones but few times a year. When certain of the strange coincidence his wife told her husband. In the past 10 years the cold has been produced in this way—a hundred or more times. Now if his weaker glasses get "crooked," or maladjusted, miscorrecting his axis of astigmatism by a few degrees, his cold promptly appears, to vanish in an hour after a visit to the optician.

Such cases of the interrelation of nasal and ocular disease may be rare, but the careful diagnostician will always be on the lookout for them.

I have had far more cases of numbness, pareses, and partial paralyses of hands and arms due directly and beyond all doubt to severe eyestrain, and disappearing at once with relief of cause.

There is no evidence of any "tragedy" as between Carlyle and his wife, none of any "Ashburton episode," none even of any ill-feeling to justify the aspersions of Froude and Jewsbury. The entire matter of improcreance and sterility should be left out even of the medical discussion. For the rest Sir James Crichton-Browne has thoroughly settled the question in his article in the *British Medical Journal* of June 27, 1903. While disagreeing with him as to the cause of Mrs. Carlyle's illness, I am heartily in accord with him as to his chief contention. Another error he falls into is his failure to show the influence of her long and terrible illness, to explain even the faults of character or action he charges her with. A careful observer of the effects of eyestrain and sick-headache well knows how they undermine self-control. That they had so little effect in Mrs. Carlyle's case is a glowing tribute to her fine nature. Both she and her husband were sick, very sick, every day of their middle-age lives. If they needed any excuse that fact would furnish an abundance of charity. All of her "neuroticism," etc., was due to sick-headache, and this was, as it always is, due to eyestrain. Hundreds of thousands of people thus afflicted today, owing to professional neglect and ignorance, are not "neurotics" in any true sense of the word. There is a reproach in the word not justified by Mrs. Carlyle or her illness, and other physicians beside Sir James have been foolish enough to echo him in using it of Mrs. Carlyle—indeed it is a widespread professional fashion when one can't cure or explain the disease of a woman to malign her as a neurotic, hysteric, etc. Carlyle diagnosed their common case better than any of the hundred physicians; each suffered essentially from the same disease. Titles did not entitle any physician in charging it to "gingerbread" nor to "neurotics." The most amazing fact is brought out by this sad scandal, that of all the large number of professional men, and even laymen, who have in the last 20 years written concerning the lives of Carlyle and wife not one has referred to the true nature of their illnesses, and not one has properly recognized that whatever might be their faults of disposition, etc., their awful sufferings accounted for and excused all. That professional men during the last 25 years should never have caught a glimpse of the truth of the effects of eyestrain is sad, is pitiful, but it is also a crime second only to that of Froude. The old physicians of 40 years ago were excusable, perhaps, although we marvel today at their stupidity. At best they could say their parrotlike, everlasting "Take a trip to Italy or to Switzerland;" the silliest whispered "gingerbread," or twiddled their fingers. They had not yet learned the pompous pseudoscience that cries, "She is a neurotic, afflicted with climacteric melancholia, the victim of heredity, mental dyspepsia, and masked insanity." The favorite word of this pseudoscience is *stigmata*. If it could only progress so little as to make the addition of a single letter to its lore! If it could only learn one hundredth as much of *astigmatism* as it affects to know of *stigmatism*, less *stigma* would there be, and infinitely less suffering in the world! In the last 20 years any physician who does not know the true nature of such a case as that of Mrs. Carlyle and cure it instantly, should be deprived of his medical degree.

Mrs. Carlyle had a capital inherited endowment, physical and mental; she did not "toil" at Craigenputtock, her health was improved there, was the best and she was the happiest there of any period of her life; neither there nor afterward did Carlyle "neglect" his wife, or was he other than the best of husbands; she had neither "mental disturbance" (of the kind the words imply), "climacteric melancholia," "neurasthenia," nor "catalepsy;" she was not a morphinomaniac, was not "morbidly despondent," she had no "stigmata of mental disorder," no "derangement of the feelings," no "delusional beliefs," no "disease of the brain and nervous system," no "profound dejection and mad fancies," no "masked insanity" or "mental dyspepsia," no "groundless jealousy" or grounded jealousy; there was no "Ashburton episode," so far as one can learn; there is no evidence whatever that an honest and acute-minded man would listen to for one minute for all this, and especially absolutely none for the Froude-Jewsbury scandals. Mrs. Carlyle's case, medically, was simply one of oldfashioned sick-headache, caused, as any one can see, as all physicians of the present generation should know, and as all good oculists do know, by near use of astigmatic eyes; the intense suffering from this disease became atrocious with the beginning, and increased with each year of presbyopic change, ceased or rather changed utterly in character with completed presbyopia, leaving a wrecked nervous and general system and a sensitive heart, whose beating was stopped by the inhibition of a sudden emotion. "To understand all is to explain all." The mountain of calamitous misunderstandings—scientific, social, and biographic—under which the noble couple are made to lie by the shameless, inaccurate, and ignorant has no warrant for existence. Recognizing and understanding the mystery and awfulness of their suffering, our love and veneration will come to equal the measure of our profound gratitude for the heroism and lessons of their combined lives.

THE WORLD'S LATEST LITERATURE

Journal of the American Medical Association.

August 1, 1903. [Vol. XLI, No. 5.]

1. The Ill-health of Richard Wagner. George M. Gould.
2. Epispadias. Report of a Case Operated on by a Modification of Cantwell's Method. James B. Bullitt.
3. Tuberculosis of the Mammary Gland. A. H. Levings.
4. Abscess of the Spleen. Walter M. Spear.
5. Acute Epiphysitis Causing a Condition Subsequently Simulating Congenital Hip Displacement. John Prentiss Lord.
6. The Treatment of Uncinariasis. Thomas A. Claytor.

2.—See *American Medicine*, Vol. V, No. 24, p. 944.
3.—See *American Medicine*, Vol. V, No. 25, p. 983.
4.—See *American Medicine*, Vol. VI, No. 1, p. 10.
5.—See *American Medicine*, Vol. V, No. 23, p. 901.
6.—See *American Medicine*, Vol. V, No. 20, p. 772.

Boston Medical and Surgical Journal.

July 30, 1903. [Vol. CXLIX, No. 5.]

1. The Shattuck Lecture Before the Massachusetts Medical Society, June 9, 1903: The Sources, Favoring Conditions, and Prophylaxis of Malaria in Temperate Climates, with Special Reference to Massachusetts. Theobald Smith. (Continued from No. 4, p. 92.)
2. Problems of Clinical Anatomy. Thomas Dwight.
3. The Need of a Supplementary Lantern Test for the Proper Examination of Color Perception. Charles H. Williams.
4. Efforts to Abate the Mosquito Nuisance in Brookline. H. Lincoln Chase.

2.—Problems in Clinical Anatomy.—Dr. Thomas Dwight, in an interesting article, calls attention to the many variations from the normal which are observed in the anatomic laboratory, and calls attention to the wide field for investigation which occurs in the realm between the purely normal anatomy and the field of true pathology. He likewise calls attention to the peculiarities which are the direct results of pathologic conditions. As a clinical point he calls attention to the symptomatology of aneurysm of the right subclavian artery. The recurrent laryngeal nerve, as is known, winds around this artery, and in aneurysm a certain more or less characteristic paralysis of the muscles of the right half of the larynx results in consequence of mechanical pressure upon the nerve. Yet there might be an aneurysm at this side which should give rise to the symptoms without their appearing. This is because, in a certain proportion of cases, the right subclavian artery owing to a variation in the usual course of development, arises as the last large branch from the arch of the aorta and passes behind the esophagus to its destination. He says he meets with this

condition at least once a year in the dissecting-room. Attention is called to the condition of hour-glass stomach, and the question at times arises whether it is congenital or the result of pathologic changes later in life. Orthopedic surgery is the most fruitful field for this line of research. The queer positions which the head assumes in various individuals is frequently the result of some abnormality in the bony support of the head. There may be fusion of the atlas with the occiput, there may be a paramastoid process, there may be fusion of the atlas and the axis. Any one of these or other various abnormalities would be shown by the Röntgen-ray picture. Unless it were properly interpreted detached bones, which are anomalies, may easily be mistaken for fractures. The writer, at length, mentions many abnormalities which are seen and which are interesting from a clinical standpoint as well as from the standpoint of mere curious anomalies. [A.B.C.]

3.—Supplementary Lantern Test for Color Perception.—C. H. Williams finds some cases able to pass the Holmgren test who when examined with lights from a distant signal are unable to distinguish red and green. This occurs generally in acquired defects caused by tobacco and alcohol. The defect is central, and sometimes so small that the large skein of worsted is partly seen in the immediate periphery. A distant signal light would have its image formed wholly within the affected area. The author has devised a new lantern having on its face a disc with 18 colored glasses and within, two lights and a shutter. It is found that with two lights at one time a person is often more confused than with one. With a light and dark red he will often call one green. The shutter cuts off one light or changes the area. A record is kept by means of numbers accompanying each colored glass. The candle-power can be raised or lowered by a rheostat. With the two tests no dangerously defective case will be overlooked. With either alone it is possible that this should occur. [H.M.]

4.—Abating the Mosquito Nuisance.—H. L. Chase gives a description of the outfit, expense, and methods used in destroying breeding-places at Brookline. Pools, ponds, ditches and all places where water becomes stagnant were carefully located on a town map. These were petrolized, filled, or drained. One ounce of light fuel oil was used to 15 square feet. Petrolizing, of course, is only a temporary expedient, draining and filling being the only permanent remedy. After one month's work there was marked diminution in the number of mosquitos. [H.M.]

Medical Record.

August 1, 1903. [Vol. 64, No. 5.]

1. Chronic Postdiphtheric Laryngeal Stenosis as a Cause of Persistent Intubation of the Larynx. HENRY W. BERG.
2. Two Cases of Congenital Elevation of the Shoulder, with a Review of the Reported Cases. RUSSELL A. HIBBS and H. CORRELL-LOEWENSTEIN.
3. Life and Its Physical Basis. AXEL E. GIBSON.
4. A Signal Test for Color-blindness. PERCY FRIDENBERG.

1.—Chronic Postdiphtheric Laryngeal Stenosis as a Cause of Persistent Intubation of the Larynx.—Berg calls attention to the fact that in cases of diphtheria treated by intubation not infrequently the intubation has to be continued long after the diphtheria is cured. These cases he divides into three groups: 1. Cases of prolonged stenosis in which the original conditions which necessitated the intubation persist beyond the usual length of time. 2. Cases of prolonged stenosis, due to pathologic changes which have arisen during or subsequent to the primary intubation, and are not those of the diphtheric process which necessitated the primary intubation. Such lesions are due (*a*) to the injurious effect of the intubation tube upon the structures of the glottis, larynx, or trachea; (*b*) to traumatism produced by the operator either during intubation or extubation. 3. Cases of persistent intubation due to paralysis of the vocal cords: (*a*) Temporary paralysis or spasm; (*b*) persistent paralysis. The author reports 14 cases occurring in the Willard Parker Hospital; of these 7 recovered, 5 died, and 2 are yet under treatment. He is of opinion that these stenoses are caused by a badly fitting tube, and he condemns any modification of the original O'Dwyer tube which in length and shape is admirably suited to the larynx, different sizes corresponding to children of different ages of course. There are no symptoms by which decubitus of the larynx can be recognized during life, and the treatment of the condition must be mainly prophylactic. This consists in having tubes of the O'Dwyer design, together with care in intubation and extubation. [A.B.C.]

2.—Two Cases of Congenital Elevation of the Shoulder.—R. A. Hibbs and H. C. Loewenstein report the cases. One was a man of 32, whose marked elevation of the left shoulder was congenital and was occasioned, as was found upon Röntgen-ray examination, by a bridge of bone extending from the middle portion of the median border to the scapula to the base of the spinous process of the seventh cervical vertebra. This bridge was 3½ inches wide at its connection with the scapula and 5½ inches long, and was triangular in shape, its apex being directed toward the cervical vertebra. The spinous processes of the seventh cervical and the first two dorsal vertebras were pushed to the right and seemingly fused. The second case presented an elevation of the right shoulder, which condition was noticed immediately after birth. In this case delivery had been difficult and forceps were used. For the first few days of life, according to his mother, the child was more or less unconscious, and blood oozed from the ears. He appears now as one suffering from torticollis. On closer examination the right scapula is found considerably higher than the left and its course changed, the inferior angle pointing outward instead of downward, the right clavicle is one inch shorter than the left, the right arm is two inches shorter than the left; the supraspinatus, infraspinatus, biceps, and pectoral muscles are hypertrophied, and the head of the humerus process tightly in the glenoid cavity; the deltoid and biceps are poorly developed. In all the muscles, except those atrophied, the reaction to electricity is exaggerated. A review of the literature of the subject is given, and a number of cases reported. [A.B.C.]

5.—Signal Test for Color-blindness.—P. Fridenberg discusses the objections made to the Holmgren wool test. The judgment of the likeness or unlikeness of colored objects is an utterly different matter and demands a different form of mental activity from that involved in deciding whether a certain signal is red or green. The ideal test would be an immense number of lights under all variations of brightness, distance, fog, etc. The writer has devised an asbestos chimney to be used over an argand burner, electric bulb, etc., with a disc containing apertures ranging from 1 mm. to 25 mm., and with a series of ground and London smoked glasses to produce changes like those due to fog, smoke and snow. The colored glass used is that supplied for switch-lights on one of the largest railroad systems of the country. [H.M.]

New York Medical Journal.

July 25, 1903. [Vol. LXXVIII, No. 4.]

1. Removal of the Internal Jugular Vein and Carotid Arteries in Order to remove a Tumor in the Left Side of the Neck. NEIL MACPHATTER.
2. The Irritability of the Facial Muscles: A Study of Its Physiologic Causes and Clinical Significance. CHARLES L. DANA.
3. The Correction of Deformity at the Hip, the Result of Disease: A Study of the Best Methods and Best Positions. VIRGIL P. GIBNEY.
4. Retrodisplacements of the Uterus and Their Treatment. J. M. BALDY.
5. Edema of the Glottis. J. C. GITTINGS, with Notes by JOHN H. JOPSON.
6. Gastroptosis. JOSEPH N. LE CONTE.
7. The Fever of Dentition. EUGENE R. CORSON.
8. An Experience with the Röntgen Ray in Kraurosis Vulvæ. G. H. STOVER.

1.—Exsection of Jugular and Carotids.—The case reported by Neil Macphatter is that of a woman of 31, who had a tumor on the left side of her neck. The growth extended deeply and involved all surrounding structures in a dense, firm mass, so that it was necessary to remove a segment of the jugular vein, part of the common carotid, together with the entire internal and external carotids. The pneumogastric, glossopharyngeal and hypoglossal nerves were carefully dissected out. Following the operation the pulse, temperature, and respiration remained practically normal, and in two weeks the patient returned home. All the functions of the brain were carried on without the least indication of disturbance, mentally or in regard to vision. [C.A.O.]

2.—The Irritability of the Facial Muscles.—C. L. Dana gives a list of normal facial responses and a list found in pathologic conditions. He demonstrates that most of these responses are direct and indirect muscular reactions, not myotatic, and not reflex. He says the only normal reflexes of the face are the supraorbital and frontoorbital. A new reflex, the nasomental, rarely found in normal faces, is described. It is a contraction of the levator menti, brought out by striking the side of the nose near the exit of the nasal nerve. A frontalis skin reflex occurring in a case of paresis is mentioned. Dana says that the abnormal responses are more numerous in the psychoses, especially in paresis and in melancholia with agitation. They are seen also in motor neuroses accompanied with tremulousness, such as Basedow's disease and paralysis agitans. They are much diminished or lost on the affected side in hemiplegia and may be of use in determining the existence of that state in profound coma. [C.A.O.]

3.—See *American Medicine*, Vol. V, No. 22, p. 856.

4.—Retrodisplacements of the Uterus.—J. M. Baldy says that retrodisplacements of the uterus are mostly coincident with other lesions, and where such is the case the symptoms almost universally come from the associated disease. The most common disease with which these displacements are associated (and in fact which often causes the displacement) is inflammatory disease of the pelvis. Child-bearing, neoplasms, and traumatisms cause the greater part of the remainder. The treatment of these cases is, therefore, the treatment of the conditions in which retrodisplacements occur as an incident. In those cases in which it is desirable to bring a retrodisplaced fundus forward, the author favors an intraabdominal operation on the round ligament. In regard to the use of pessaries he says that if all possible good derived from them were balanced with the harm done by them, it would be better for women if the profession could forget there was such a thing as a pessary. [C.A.O.]

5.—Edema of the Glottis.—J. C. Gittings reviews the literature of the subject and reports a case with notes by J. H. Jopson. The following conclusions can be drawn: 1. Simple edema of the larynx usually occurs in cachectic diseases, especially of the heart and kidneys. In these there may be no apparent exciting cause, and inflammatory symptoms are absent. 2. Inflammatory edema of the larynx results from contiguity to other inflamed structures; as a local complication of the acute infections of erysipelas, variola, measles, scarlatina, influenza, etc., or as a result of severe grades of inflammation in simple acute laryngitis. 3. Traumatism to the laryngeal structures may result in edema, depending on the degree of "insult" to the tissues or to a possible predisposition. 4. Among rare causes of edema of the larynx are angioneurotic disorders and the blood dyscrasias, such as scurvy, purpura, etc. 5. The diagnosis rests on the evidence of palpation, and, if possible, visual examination, as well as on the signs of laryngeal obstruction. Membranous laryngitis cannot always be at once excluded. 6. Prognosis is unfavorable in all cases occurring in the course of chronic cachectic diseases and in severe types of the acute infectious diseases. In no case can it be other than guardedly favorable. 7. Treatment by intubation rarely affords relief unless the obstruction is infraglottic. Tracheotomy is absolutely demanded in extreme cases. The continuous inhalation of medicated steam is always to be employed; scarification and external depletion by leeches may be tried; cold and heat should be used externally and internally—cold as a prophylactic and heat as a stimulant and absorbent. General stimulating and supportive measures are necessary in all cases. [C.A.O.]

6.—Gastroptosis.—J. N. Le Conte discusses the etiology, symptoms, complications, and treatment of this condition. He divides the indications for treatment into (1) mechanical support for the prolapsed stomach and other viscera; (2) restoration of the lost tone and motor activity to the gastric and abdominal muscles; (3) increased nutrition; (4) treatment of the complication. One of the best forms of mechanical support is an elastic abdominal bandage fitted carefully. The use of zinc adhesive plaster strips 12 inches wide is useful. Intragastric electricity is recommended for the restoration of tone. The diet is very important. As a rule, fried food, condiments, and concentrated sweets should be forbidden. In addition to the drugs necessitated by the complications, nux vomica, iron, and arsenic are generally indicated. Water applied to the abdomen in the form of the Scottish douche is often of value. [C.A.O.]

7.—The Fever of Dentition.—E. R. Corson reports two cases, in the first of which violent convulsions, and in the second death followed the simple operation of lancing a child's gums. The death is ascribed to spasm of the glottis and shock in a very ill child, susceptible to the slightest irritation. He believes that the eruption of the teeth, whether it occurs early or late, is only quite indirectly the cause of the socalled disorders of dentition, and that these disorders may be ascribed directly to reflex troubles, or to deleterious influences upon a system rendered unusually susceptible at a period of great physiologic activity. The most common disturbance associated with this process is a gastric or intestinal or gastrointestinal one. This shows itself by constipation or diarrhea, by nausea, vomiting, anorexia, and various pains, stomachal or intestinal, and most important of all, by fever. This complication is also met in those infants of poor constitution in which the digestive functions are below the normal. Any interference with the gums is of secondary importance, if not absolutely harmful. A treatment directed to the disturbed digestion is the one thing needful. The use of potassium chlorate is advocated in diseased conditions of the mucous membrane of the mouth, caused by dentition or in any other manner, especially if the way is cleared for it by hydrogen peroxid. [C.A.O.]

Medical News.

August 1, 1903. [Vol. 83, No. 5.]

1. Fetal, Congenital and Infantile Typhoid. John Lovett Morse.
2. Some Cases of Prostatectomy Observed After an Interval. Alexander B. Johnson.
3. Case of Bothriocephalus Latus in a Woman Immigrant, with Remarks on the Occurrence of This Parasite in America. William N. Berkeley.
4. Hernia. S. W. S. Toms.
5. Thiocol. J. Leffingwell Hatch.
6. On the Presence of Specific Coagulins in the Tissues of Vertebrates and Evertebrates. Leo Loeb.
7. Pustulation and Its Accompanying Secondary Fever a Complication and not an Essential Symptom of Smallpox. Jennie G. Drennan.

1.—Fetal, Congenital and Infantile Typhoid.—J. L. Morse reviews cases reported since differentiation between the typhoid and colon bacillus has become possible. In regard to fetal and congenital typhoid the following conclusions seem justified: The typhoid bacillus can traverse the abnormal and possibly the normal placenta. Other organisms may also pass. Because of direct entrance into the circulation there is a general septicemia from the first and for this reason and because the intestines are not functionating the extrauterine lesions are wanting. The fetus usually dies in utero or at birth. It may be born alive but feeble. If so, death usually occurs in a few days without definite symptoms. If it lives longer some of the classical symptoms of extrauterine typhoid may develop. Death usually results, but certain imperfectly reported cases suggest that recovery may take place. It is possible but without proof that the fetus may pass through infection and be born alive and well. The pregnant woman does not necessarily transmit the disease to the child. Except for lessened exposure the first year through food there is no apparent reason why typhoid should be less common in infancy than later. Its infrequency may be real or apparent. In those cases giving the Widal reaction the symptomatology has been essentially the same as in adults, but mild cases may have been overlooked. In order to get statistics of value, the Widal test should be applied to a large series of cases not clinically typhoid. [H.M.]

2.—Prostatectomy Observed After an Interval.—A. B. Johnson performs the operation by making a prevesical incision for the purpose of introducing the fingers to make counterpressure. A curved transverse perineal incision is then made, the lobes of the prostate enucleated, and a rubber drainage-tube inserted. The after results in four cases are recorded. Case I: Aged 61; prostatectomy October, 1899. Symptoms of prostatism had existed for five years; residual urine, 5 ounces. January, 1900, residual urine, 1 dram—no cystitis; January, 1903, residual urine, 1 ounce—no cystitis. Case II: Aged 58; prostatectomy

February, 1901. Symptoms of prostatism had existed for four years; marked cystitis; absolute retention for four months. Three months after discharge from the hospital, no cystitis; no residual urine. January, 1903, normal frequency of urination. Residual urine estimated at 1 dram. Case III: Aged 57; first attack of retention a few weeks before admission. Since then complete retention with dribbling. Bladder enormously distended. Prostatectomy July, 1901. Forty-five days later, urine normal; amount of residual urine too small to be measured. January, 1903, normal frequency of urination. Residual urine, 1½ ounces. Case IV: Aged 64; history of prostatism extending over nine years; severe cystitis; residual urine, 1 pint. Prostatectomy August, 1902. Fifty-six days later amount of residual urine very small. Cystitis cured. Five months later urination was said to be of about normal frequency. Urine for most part entirely clear. Amount of residual urine not ascertained. In all the cases observed after an interval sexual desire has been absent or notably diminished. Erections have been either absent or feeble. [A.B.C.]

3.—Bothriocephalus Latus.—W. N. Berkeley reports a case seen in this country; the patient, however, had brought the parasite with her from Russia. He has found no authentic notices of cases of endemic origin in the United States or Canada. [H.M.]

4.—Hernia.—S. W. S. Toms gives a somewhat lengthy dissertation upon hernia, its causes, varieties, diagnosis, prognosis, etc. The portion of his paper dealing with trusses is of most value, since it is a phase of the treatment usually dismissed with but few words. The German and English patterns of the truss are strongly condemned, as are many others, including the belt-truss. He commends Holmes, who says: "The essential requisites of a good truss are that it should fit easily, should not shift by movement of the patient's body, not gall the skin, or any part project against the abdominal wall; its pad should cover the hernial aperture and its pressure should be directed properly and should be great enough to prevent the descent of the hernia in any position or exertion. The pads should be supported with the least possible force and the direction in which the pressure is made must correspond to that of the inguinal canal." The cross-body or Marsh truss and the Hood pattern meet these requirements admirably. The former includes fully two-thirds of the body and is applied from the opposite side, the points of pressure being over the internal inguinal ring and the gluteal muscles of the affected side by a counterpressure pad on the distal end of the spring. The Hood truss is an encircling spring with solid front, carrying 1 or 2 hernial pads and open at the back, being fastened by a short connecting strap. The spring being of German silver is readily malleable. This truss is so shaped that it passes about the pelvis at the most immovable point and is, like the cross-body, entirely out of the way of the muscles of locomotion. These 2 forms of trusses are efficient and combine security with ease of wearing when properly fitted, being suited to all ages and conditions that admit of a hernia being retained. He condemns the too common practice of permitting druggists and instrument makers to fit the truss. In operative procedures Bassini's is preferred. [A.B.C.]

5.—Thiocol.—J. L. Hatch recommends this potassium salt of orthoguaiacolsulfonic acid over other guaiacol preparations on account of its tastelessness and freedom from unpleasant odors, its free solubility in water, and permanence in the air, its high percentage of absorption, and its nontoxicity. He has used it in acute and chronic bronchitis, pneumonia, and phthisis pulmonalis. Resolution is accelerated, the temperature has been reduced four degrees in 24 hours. In tuberculosis night-sweats were stopped almost from the first, expectoration made easier and less purulent, and the cough less persistent. There was less nervousness, with better appetite and assimilation. At no time was there any derangement of digestion. The writer usually begins with 3 mg. (5 grs.) three times a day, increasing daily until a maximum of 2 gms. to 3 gms. (30 grs. to 45 grs.) is reached. [H.M.]

6.—Specific Coagulins in the Tissues of Vertebrates and Evertebrates.—Leo Loeb states the result of a series of experiments in which, in each case the influence of tissue extracts of a different class of animals was tested upon the blood of a mammal, bird, reptile, amphibian, and an anthropod. He holds that only such complete investigation is able to demonstrate the specificity of the action of the tissue extracts upon the coagulation of the blood. The following extracts were studied on rabbit blood, rabbit muscles, rabbit liver, cat muscle, cat liver, guineapig muscle, guineapig liver, pigeon muscle and pigeon liver, and as a control an 8% sodium chlorid solution. No marked difference between the action of the blood-clots or blood-serums used was found to exist. Among the extracts, however, a typical difference was present. The extract of rabbit muscle and rabbit liver were by far the most favorable. In case of the coagulins of rabbit blood, no marked difference between the extracts of the liver and of the muscles of the various species was found to exist. The experiments with other animals and birds were worked out along the same line of investigation, and he concludes that these experiments prove the existence of specific coagulins in the tissues of all the animals so far tested. We will therefore speak of specific isocoagulin existing normally in the animal tissue, in so far as the coagulins are the specific for the blood of the species from which they were obtained. The limits of this specificity remain yet to be determined. The coagulins are closely allied to certain substances which are obtained through the process of immunization, namely the agglutinins, precipitins, and lysins. They all resemble these substances, being decidedly useful to the animal in which they are found. [A.B.C.]

7.—Pustulation not an Essential Symptom of Smallpox.—J. G. Drennan believes pustulation due to the infection of the essential lesion by pus organisms present in the skin. These are present more or less all the time, and only require some morbid condition to excite them to action. The specific organism of smallpox should be searched for in the shotty papules when it is at the height of its activity. Visceral lesions are due to toxin irritation and not to the presence of the germ itself. The source of entrance to the body is probably mainly by the skin. The exposed portions are first attacked, the other portions later through autoinfection. With the appearance of the red papules the temperature falls and there is a cessation of other initial symptoms, and if no complication, such as pustulation arose, the duration of the disease would be short. On cessation of the excretion of the toxins of the smallpox germs by the death of the latter, the pyogenic organisms in the skin find the vesicular fluid a suitable medium in which to flourish. The writer does not believe in the formation of antitoxins. The serum manufactured contains the toxins produced by the organism. The treatment of smallpox should be by means of a toxin serum. Jenner's discovery has been of untold good, but it is only a half method. With a toxic serum many complicatory symptoms would be done away with, and in case of exposure the protective action would be more rapid. To prevent pustulation the skin should be disinfected and calcium sulfid be given internally. The vesicular fluid should be removed and the vesicle painted with aseptic collodion. [H.M.]

CLINICAL MEDICINE

DAVID RIESMAN A. O. J. KELLY

EDITORIAL COMMENT

What we do not know about gout might well have been the title of the July number of *The Practitioner*, which is devoted entirely to the consideration of that protean disease. This statement casts no aspersion upon *The Practitioner*, as the issue in question is one of the very best of its always good special numbers, but is prompted by the conclusions of the very able men who have contributed to the discussion of the subject. Several pages of editorial notes are closed with the statement that "gout is a disease which we do not understand." Mr. Clifford Allbutt, who was furnished the articles in manuscript with the request for his opinion as to what had been accomplished by the writers, says in a brief introductory essay: "From Sydenham's day to our own—to penetrate no farther into the past—we have not failed to talk about gout; how much more do we

know of it than he did? When Dr. Luff, that able physician, who knows so well to combine abstract science with practice, tells us that 'the gouty individual is one whose general metabolism is instable, and that instability may be present in one or more of the great physiologic systems—the digestive, the nervous, the circulatory, etc.;' and when Dr. Bannatyne, out of a rich experience at Bath, tells us that 'in gout we have a disease which may give rise to almost any symptom, or affect almost any organ or function,' we are pleased to think how thankful Sydenham would have been for a vision of these explicit results of 200 more years of progress!" Could there be more delightful sarcasm? Notwithstanding, every physician should read every one of these articles on gout. In our literature columns we have endeavored to outline them, but they do not well lend themselves to abstracting. This is due in part to the fact that gout, except in the minds of Haig and a few of his congeners, does not present itself as a definite, clear-cut pathologic entity. Is gout arthritis, and must there be arthritis before there can be gout? Apropos of this we again quote Allbutt: "Now if gout is uratic arthritis, at any rate we know where we are; when we quit this rock and, trusting to sundry pilots, try to plant the flag on a motley archipelago of dwindling kidneys, torpid livers, plethoras, flatulent dyspepsias, megrims and melancholies, we are sailing on uncharted seas. A patient in gout surely ought to be more or less gouty; and if we perceive other disorders consistently hovering about his gout, premonitory, contemporary, or consequential, as the case may be, know them by their associates, and include them cautiously in the same predicament; but to say of many and many a patient that he is gouty when he never had a uratic arthritis in his life, much as he may have prayed for it, seems a topsy-turvy nosology." Many of the vexed questions concerning gout might be settled if physicians would follow the scheme of Hall, who emphasizes the need of combined investigation by laboratory workers and clinicians. Among the points to be elucidated are the nuclein-metabolism of healthy individuals, the relation of intestinal disturbances to gouty symptoms, changes in the liver and pancreas, the vascular changes preceding acute attacks, cellular changes in the blood and marrow, etc. The determination of the etiology and pathology of gout will place its treatment upon a scientific basis. To those who have looked upon gout as comparatively a rare disease in the United States the statements of Dr. Futcher, that the apparent infrequency is largely due to incorrect diagnosis and that there are two cases in Baltimore to every three in London, will be a distinct surprise.

REVIEW OF LITERATURE

Banti's Disease and Splenic Anemia.—F. Marchand[1] disagrees with Banti in the explanation of the symptom-complex of the socalled "Banti's disease." He considers the splenic tumor as an expression of a grave blood disease, but does not believe that it can lead to a secondary hepatic cirrhosis. In his opinion the indurated enlarged spleen of this affection is a sequence of the liver disease, or in a number of cases it is a later stage of the enlarged spleen of congenital syphilis, complicated by congestion. In support of his theory he reviews the literature of the subject and reports two cases: In a man of 22, presenting the symptom-complex of Banti's disease, the autopsy revealed syphilis as the causal factor. In the other case, also typical, the section revealed clearly that the liver disease was certainly not caused by the splenic enlargement, but rather the opposite, or possibly that the same factor acted simultaneously on both organs. In a third case described, tuberculosis seems to be at the bottom of the disease. [E.L.]

Investigations Concerning Diabetes. — L. Schwarz[2] draws the following conclusions from lengthy and detailed investigation: (1) In healthy persons administration of fats produces only slight increase in the acetone excretion: (2) it is probable that in some circumstances, such as hunger, phosphorus poisoning, carcinoma, etc., the excretion of acetone bodies is dependent on a consumption of the bodily fat; (3) in severe diabetes the acetone bodies may come from the alimentary fat or from the bodily fat, when the latter is attacked on account of insufficient carbohydrate combustion; (4) the total excretion of acetone bodies through urine and lungs may vary considerably, even with constant diet. Betaoxybutyric acid in some cases forms a considerable part of this excretion; (5) the higher fatty acids take little part in this excretion, and those of the oleic acid series the least part; (6) this corresponds with the observation that butter causes greater excretion of acetone bodies than fats made up of the higher fatty acids, such as pork and beef fats; (7) the fats of the diabetic diet should be carefully regulated according to the acetone excretion; (8) gluconic acid diminishes acetonuria; (9) caramel does not affect glycosuria or acetonuria; (10) a day of fasting before starting the diabetic diet aids in the diminution of glycosuria; (11) betaoxybutyric acid may be converted in the body, but acetone is not changed; (12) the fat content of the blood is greater in severe diabetes than in nondiabetics, and its presence seems to be connected with the excretion of large quantities of acetone; (13) the absorption of large amounts of fat by diabetics is accompanied by alimentary lipemia, arising from a diminished lipolytic power of the blood; (14) levulose was frequently found in diabetic urine; (15) in only two cases did it depend on carbohydrate ingestion; (16) contrary to previous views, levulose does not appear to be more easily assimilated than grape-sugar in all cases of diabetes; (17) in a nondiabetic spontaneous levulosuria was observed without concomitant glycosuria. [B.K.]

Psychic Vomiting in Infants.—A. Delcourt[1] reports a case of this affection in a child 4½ years old. The attack occurred in the middle of the night, without any prodromes excepting a diminution in appetite. The vomiting continued for 15 hours. The vomited matter was fatty, of light yellow or greenish color, and finally white. Photophobia was present and the patient complained of headache above the eyes. The breath was sour, the tongue coated, but after the attack the latter returned to its normal condition. While the vomiting disappeared in 15 hours the photophobia persisted much longer, usually for about three days. Before the attack the patient was constipated. The heart was normal. The urine contained acetone but no albumin nor sugar. The reaction was acid, the specific gravity 1,024. Delcourt believes that the three prominent symptoms of this affection are: (1) The sudden onset without an appreciable cause, and the sudden termination of the symptoms; (2) the uncontrollable vomiting; (3) the reappearance of these symptoms at irregular intervals. The headache, the plaintive cries of the child, the position he assumes in his bed, the repeated vomiting, make one think of tuberculous meningitis, but in psychic vomiting the latter is easier and in spurts, the abdomen is generally retracted and not painful, the pupillary phenomena are not interfered with, and the pulse-rate differs. In doubtful cases Kernig's sign and lumbar puncture may be resorted to. During the attack the patient should have no food, but may be given sugar water. Two or three times a day a large amount of physiologic salt solution should be injected per rectum. This is done after the bowels are thoroughly cleaned out by a previous enema. After the attack the child should be given milk diluted with vichy water, cereals, etc. The diet later should consist of milk, eggs, and a little white meat, together with all the vegetables excepting tomatoes and sorrel. In other words the diet should be simple. Fruit is allowed and water or lime-water may be given as a drink. Hygienic measures and salines to keep the bowels freely open are recommended. [J.H.W.B.]

Has Uric Acid an Antiseptic Action?—Since gouty joints, even when opened accidentally, rarely undergo suppuration, and gouty individuals rarely develop tuberculosis, and then only a benign variety, it has been generally supposed that uric acid possesses bactericidal properties. To determine the truth of this Bendix[2] added to different culture media uric

[1] Münchener medicinische Wochenschrift, March 10, 1903.
[2] Deut. Archiv für klin. Med., Bd. lxxvi, p. 233

[1] Jour. Med. de Brux., 1903, p. 353.
[2] Zeitschrift für klinische Medicin, 1902, Vol. xliv, 165.

acid and to others the more soluble sodium urate. He then inoculated these tubes and others without this acid, acting as control tubes, with various organisms—coli communis, typhoid, tuberculosis, streptococcus, etc. The cultures developed equally well in the two varieties of media. Bendix explains the rare occurrence of tuberculosis in gouty people by the fact that they are well nourished. [E.L.]

Etiology of Acute Articular Rheumatism.—C. Philipp[1] has investigated 26 cases bacteriologically; in 21 cases he examined the blood, and in six cases the synovial fluid. All the cultures from the blood remained invariably sterile, after being in the incubator for weeks. The same was true of cultures taken from the synovial fluids. Inoculation of these fluids into animals gave a reaction only in calves, showing that these animals alone are susceptible to the rheumatic virus. These experiments, together with his clinical experiences, lead the author to the conclusion that acute articular rheumatism is a specific disease whose etiology is as yet unknown. [B.K.]

Changes in the Character of the Pulse in Icterus.—L. Bard[2] reports 2 cases of icterus in which the pulse-rate in one was 48 to 52 in the recumbent posture, 34 to 88 standing; in the second case 48 to 52 lying down and 96 standing. In both cases there was "rythme couplé," a condition in which there is a grouping of the heart-beats in couples, the second beat more feeble than the first and occurring very soon after the first, but in such a way that the total number in a minute is not modified. When the second beat is felt at the radial pulse it becomes a dicrotic pulse. It is a true couple-rhythm when the second beat is not perceptible at the radial pulse. Bard distinguishes three different forms of this condition: (1) The "rythme couplé" of toxic origin, in which the digitalis dicrotic pulse is a type; (2) the "rythme couplé" in relation to grave lesions of the nervous system, as in Stokes-Adams' disease; (3) the transient "rythme couplé," due to functional nervous diseases, of which the pseudobradycardia of neuropathic origin is a type. These three forms appear to be due to some disturbance of the centers of the pneumogastric nerve in the medulla. The symptomatology and gravity vary with the cause. The "rythme couplé" of icterus he attributes to a toxic action of the biliary element upon the medulla. Bard discusses the various theories accounting for the phenomena. [J.H.W.R.]

Direct Percussion of the Epigastrium as Diagnostic Aid in Gastric Ulcer.—Tenderness to direct pressure cannot be considered an absolute sign of gastric ulcer, as many nervous and anemic patients feel every pressure there as pain, and in cases of posterior or subcostal ulcers, tenderness is often absent. F. Mendel[3] has found that if we percuss the epigastrium lightly with a plexor, no pain is felt if no gastric ulcer exists; if one be present, no matter where, a circle will be discovered where even the slightest touch will be felt as intense pain. This circle does not necessarily correspond to the position of the ulcer. It diminishes in size as the ulcer heals, disappearing completely with its cicatrization. The size of the circle acts as a guide to the necessary treatment. In the case of duodenal ulcers, the zone of pain will always be found to the right of the median line, below the center, between costal margin and umbilicus. The area of pain elicited during other conditions (cholelithiasis, carcinoma, etc.) will not be as sharply defined and will always be associated with other symptoms, making an exact diagnosis comparatively easy. [E.L.]

General Idiopathic Edema with Fatal Termination.—R. Staehelin[4] reports a fatal case of edema involving the skin and several mucous membranes, beginning in the face and gradually extending to the whole body. The edema persisted in the hands and feet, but the head, buttocks, and thighs showed a tendency to return to their normal condition. Heart disease, nephritis, dermatitis, eczema, erysipelas, scleroderma, acute angioneurotic edema, and acute edema following infectious diseases, were all excluded from the diagnosis. No cause for the edema could be found at autopsy. The practically normal thyroid gland excluded myxedema. The case showed some similarity to Desnos's "oedème rhumatismal chronique;" but was evidently not allied to the chronic hereditary edema described by Milroy and Meige. By exclusion, therefore, it was put among those described by Wagner as "sogenannte essentielle Wassersucht." Two groups may be distinguished: (1) acute cases, recovering in a short time; (2) chronic cases, lasting months or years, and at times ending fatally. [B.K.]

Saline Injections in the Treatment of Relapsing Fever.—Justin Karlinski[1] experimented with the serum of patients suffering from relapsing fever and found that by adding salt to the serum which agglutinated cultures of the parasite of relapsing fever the movements of the spirillum disappeared much sooner than when salt was not used. For example, one case the serum from a patient on the third day after the fever had disappeared in the first attack agglutinated the spirillum within 3 hours, but when this same serum was mixed with .6% salt solution the agglutination of the spirillum was accomplished within 31 minutes. This suggested to him that possibly injections of saline solution might prove beneficial in the treatment of relapsing fever. Four patients were treated by injections of a 1% salt solution hypodermically in amounts varying from 1,000 cc. to 1,250 cc. None of the patients suffered a second attack after the injections. Karlinski shows that in 890 cases that he had under his observation 160 had had but 1 attack, 490 had had 2 attacks, 140 had had 3 attacks, and 92 had had 4 attacks. He suggests that possibly salt employed in some other way than hypodermically might prove equally useful. [J.H.W.R.]

Spinalgia as an early Symptom of Tuberculous Infection.—J. Petruschky[2] is of the opinion that tuberculosis of the bronchial glands always precedes pulmonary tuberculosis. He quotes several very striking instances of advanced glandular disease, associated with pulmonary lesions, so slight as to be without symptoms, and advances a theory to show how the tubercle bacilli reach the glands primarily. As a very early symptom of bronchial gland tuberculosis he mentions spinalgia, "tenderness of definite vertebral spines to pressure." The following symptom-complex is usually present: 1. Several spinous processes are tender to touch, while the others are not at all; this tenderness increases with repetition of pressure. 2. The painful spines are usually somewhat depressed. 3. The processes are usually broader, softer and more elastic. 4. They are usually included between the second and seventh dorsal vertebra. The tuberculin reaction is necessary to settle the diagnosis beyond a doubt. In 79 cases of spinalgia the tuberculin reaction was positive in 77 cases, and only 14 of these had tubercle bacilli in the sputum. In advanced cases the symptom is rarely present. It must not, however, be considered a pathognomonic sign, but only a link in the chain of symptoms. [E.L.]

Heat Sensation in Health and Disease.—F. Neumann[3] first describes the different methods of determining the sensibility to heat of various parts of the body. For normal persons the lowest degree of heat sensation varies between 30° C. and 42° C., and the lowest point at which heat becomes painful lies between 36° C. and 43.5° C. In diseases affecting the central nervous system the heat sense is frequently affected. In tabes sensation for both heat and pain is blunted. In myelitis there is distinct hypesthesia for heat, and less for pain. In spondylitis there is a slight diminution in both. Neurasthenia is characterized by marked hyperesthesia to heat; pain is produced at a much lower temperature than in normal individuals. Six cases of hysteria were investigated, of which two showed distinct hypesthesia, one showed hyperesthesia, and three showed no change. In the first two cases the thermohypesthesia was more marked on the left side than on the right, which seems to be the rule in hysteria. A patient who had an accident affecting the right side of his head and body, and in whom there were developed some nervous symptoms, showed considerable hypesthesia and hypalgesia, most marked on the right side. [B.K.]

Peculiar Diseases of the Circulatory System.—A. Josefson[4] mentions the case of a gardener of 24, who had worked hard for years, and always had good compensation.

[1] Deut. Archiv für klin. Med., Bd. lxxvi, p. 150.
[2] La Semaine Méd., 1903, No. 13, p. 117.
[3] Münchener medicinische Wochenschrift, March 31, 1903.
[4] Zeit für klin. Med., Bd. xlix, p. 461.

[1] Wien. klin. Woch., 1903, No. 15, p. 447.
[2] Münchener medicinische Wochenschrift, March 3, 1903.
[3] Deut. Arch. für klin. Med., Bd. lxxvi, p. 106.
[4] Nordickt Medicinskt Arkiv, Vol. xxxiv, No. 16.

He died shortly after contracting an acute articular rheumatism with symptoms of general septicemia. The heart showed dilation and hypertrophy, especially of the right side; the interventricular septum showed a defect through which four fingers could easily pass. The author has collected a number of similar cases from literature. He also relates briefly the case of a woman of 21, who at her admission to the hospital showed no pathologic changes of the peripheral arteries, but when she died four weeks later, her brachial, radial, and temporal arteries were as rigid as pipestems. The autopsy showed internal hemorrhagic pachymeningitis, serofibrinous pericarditis, marked deposition of lime in all the arteries of the body, chronic nephritis, etc. He considers the entire pathologic picture due to the marked toxemia existing during the last month. [E.L.]

Diagnostic Value of Lumbar Puncture.—G. Orglmeister[1] found that in 4 of 15 cases of tuberculous meningitis the supposedly characteristic fibrin formation in the cerebrospinal fluid did not occur. On the other hand, two cases in which fibrin flakes did form proved to be syphilitic spinal meningitis and brain abscess, respectively. Too much dependence must not be placed on the finding of abundant mononuclear leukocytes in the cerebrospinal fluid. The only exact and positive proof of tuberculous meningitis is the demonstration of tubercle bacilli in the fluid. A negative result, however, does not exclude the possibility of tuberculous disease. [B.K.]

Hemorrhagic Encephalitis.—E. Sträussler[2] bases his remarks upon the observation of three cases, which differed from each other in every way excepting the hemorrhagic inflammation. The first found its cause in gastrointestinal intoxication. Stupor and delirium preceded epileptic convulsions, paresis and death. The hemorrhagic foci were localized to the left cerebral cortex; in the temporal lobe was seen a focus the size of a pea, and an accumulation beneath the pia. Although no microscopic laceration of a bloodvessel was seen the author is still of the opinion that not only diapedesis, but also rhexis took place. The fixed tissues did not actively participate in the process. In a woman of 45, with cerebral softening, cutaneous and subcutaneous hemorrhages appeared suddenly; coma followed and death occurred four days after the appearance of the hemorrhage. The cerebral cortex presented the picture of a fresh hemorrhagic inflammation; there were also many hemorrhages in other parts of the brain. The third patient was recovering from pneumonia when symptoms of encephalitis set in, followed by death some weeks later. Hemorrhages were found in all parts of the body. Sträussler's chief conclusion from his observations is that inasmuch as hemorrhagic encephalitis is brought about by the same factors which are found at the root of the hemorrhagic diathesis (infectious diseases, alcoholism, intestinal autointoxication) and inasmuch as the two are frequently associated, he believes that the changes in the bloodvessel walls seen in the hemorrhagic diathesis, are a factor in the production of hemorrhagic encephalitis, in other words, that the hemorrhage does not belong to the nature of the encephalitis, but is due to the factor producing the inflammation, and to the tendency to hemorrhage connected with it. [E.L.]

Introduction of Air into the Veins during an Abdominal Hysterectomy.—M. Delore[3] has reported to the Société nationale de Médecine de Lyon the case of a woman with uterine fibroids on whom an abdominal hysterectomy was performed. During the operation a clamp slipped from the left uteroovarian pedicle, thus opening some large veins. The bleeding was readily controlled, but the patient suddenly collapsed and died. At autopsy air was found in the right auricle, the quantity that originally entered the veins being estimated at $\frac{5}{10}$ cm. (2 drams to 2½ drams). The "dangerous zone" for the entrance of air has previously been limited to the head, neck, and roots of the upper extremities, but it must evidently be extended to the pelvic vessels. Such accidents have been known to occur during intrauterine operations in the parturient woman or after abortions, but the author has been able to find only one other case in which it occurred during hysterectomy. [B.K.]

[1] Deut. Arch. für klin. Med., Bd. lxxvi, p. 142.
[2] Jahrbücher für Psychiatrie, 1902, Vol. xxi, p. 253.
[3] Lyon Médical, June 21, 1903, p. 1087.

GENERAL SURGERY

MARTIN B. TINKER

A. B. CRAIG C. A. ORR

EDITORIAL COMMENT

Carbuncle.—This is a pyogenic infection which doubtless arises in one or more hair follicles, sebaceous glands, or possibly at times sweat-glands. In contradistinction to the ordinary furuncle which develops one central circumscribed point of necrosis and exhibits one opening for discharge, a carbuncle presents a circular mass of necrosis, which may be from two to six inches in diameter, with several openings through the skin, giving rise to the descriptive expression "sieve-like." Warren explains the several openings by stating that the infection travels laterally in the cellular tissue between the dermis and the deep fascia, gaining access to the columns of fat which occupy the spaces between the columns of connective tissue extending from the former of these structures to the latter. Its wide extent, brawny edema, purple discoloration, multiple openings, and marked constitutional symptoms are characteristic. The existence of carbuncle presupposes a debilitated condition of the patient. Not infrequently it arises as a complication in diabetes and chronic nephritis, and the favorite situations are on the back of the neck, shoulders, back and buttocks. That which concerns us most is the treatment. Numerous lives have been sacrificed on account of procrastination and dallying. Temporising may be permitted until the diagnosis is established, *i. e.*, until multiple points of necrosis are manifested by the corresponding openings for discharge. Every day of delay after this only weakens the patient and delays recovery. Mere incision is practically fruitless, and is far short of intelligent treatment. The patient should be given an anesthetic for a brief period, a free crucial incision made, every pocket of necrosis thoroughly cureted, the overlying necrotic skin, which will inevitably slough, trimmed away, and a firm dressing applied. Unless the carbuncle be very large, Keen advises excising the entire mass, extending the incision into the healthy skin and down to the deep fascia. So soon as healthy granulations appear skin-grafting is done, and the wound usually heals promptly. Since the constitutional symptoms evince a general toxemia, prompt and vigorous internal medication, consisting of quinin, iron, strychnia, and milk punches should be had. The dilatory halting and make-shift treatment of this really serious condition should be relegated to the past, and prompt, intelligent, and radical surgical interference take its place.

REVIEW OF LITERATURE

The Importance of the Röntgen Examinations in Practical Surgery.—F. Frankel's[1] paper discusses the importance of radiography in surgery, and especially where the bones and foreign bodies are the structures in question. He finds it almost indispensable, but does not consider it an agent to be used by every practising physician, as its cost is high and much study and time is required in its application. He describes his personal technic, which has proved of value to him in the recognition and localization of foreign bodies, and calculi, the diagnosis of injured bones and joints, and the recognition of the position of fractures and dislocations. He warns against placing too much confidence in the search for localized foreign bodies, stating that we must be prepared for disappointments in such cases. He has never had a burn after exposure to the Röntgen rays. [E.L.]

Richter's Hernia.—This rare variety consists in a partial prolapse of the intestinal wall through the hernial ring with subsequent incarceration. Usually it is the wall of the small intestine which forms this hernia. The diagnosis is very difficult and most frequently an omental hernia is misdiagnosed. A. T. Bogaevsky[2] reports an interesting case occurring in a

[1] Münchener medicinische Wochenschrift, March 31, 1903.
[2] Chirurgia, March, 1903.

man of 65. The symptoms pointed to an incarcerated hernia. A right-sided inguinal omental hernia was diagnosed and an operation performed under local anesthesia with eucain (according to Schleich). It was found that the wall of the large bowel had become incarcerated. The hernial sac, moreover, contained 46 watermelon seeds! The sac being gangrenous, a resection was made. The patient recovered and was discharged 28 days after the operation. [L.J.]

Hydronephrosis Cured through Ureteroplasty and Plication of the Pelvis.—In the case of a man of 26 W. Peterson[1] made a diagnosis of renal calculus, basing his diagnosis upon pain, tenderness and swelling in the right kidney region, blood, albumin and pus in the urine, and an inflamed reddened ureteral opening into the bladder. The operation however revealed the case to be one of very large hydronephrosis, the cause of which was not found then. A pyelotomy failed to produce a permanent cure, so a second operation had to be resorted to, at which the cause of the pelvic enlargement was found to be a valve closing off a part of the ureteropelvic opening, and preventing proper drainage. This valve was removed after the manner of pyloroplasty and the pelvis was made smaller by catching it up in pleats and suturing them closely together. Perfect recovery resulted. [E.L.]

Extradural Hemorrhage.—J. H. Jopson[2] reports two cases of extradural hemorrhage from rupture of the middle meningeal artery. A third case reported simulated extradural hemorrhage very closely, but operation showed no rupture. The first was a boy of 9 years, who had fallen from a freight car and was picked up unconscious and in shock. He suffered from symptoms which indicated intracranial hemorrhage and pressure. Operation revealed a depressed fracture and a large clot of blood in the parietal region, which had come from the rupture of the middle meningeal artery. Removal of the clot and proper after-treatment resulted in recovery. The second case was an Italian of 33, who had been struck on the head by a piece of cable from the breaking of a derrick. He did not lose consciousness and refused to go to the hospital, but did not resume work. Several hours later he became unconscious and was taken to the hospital, where laceration of the scalp and hematoma were found. Pulse was 48, respirations 24, pupils reacted to light. There was partial paresis of the right side. Later, neither pupil reacted to light. Operation was performed, no fracture discovered. A trephine opening was made over the middle meningeal artery and skull opening was enlarged backward and a large blood-clot was found. The dura was apparently uninjured. Recovery was uneventful. Case 3 was a patient of 9, who had been struck by a trolley car; was unconscious when picked up and remained so for five minutes. He was semistuporous when brought to the hospital, pupils dilated, pulse small, skin clammy, no paralysis. Diagnosis was concussion. Later he became totally unconscious, developed muscular twitching of the right side of the face, vomiting, and convulsions. The right side of the face later became paralyzed. It was now believed there was cerebral compression, and operation was performed. A trephine opening was made over the middle meningeal artery of the left side. No abnormality was found even when the opening was enlarged posteriorly. A like opening was then made on the right side, and no abnormality found. No convulsions occurred after the operation. The facial paralysis disappeared, pupil reaction after operation, and the patient made an uneventful recovery. The author believes that in view of the peculiar symptoms in the third case he was justified in operating, as they pointed strongly to compression of the brain, and the history of the case gave every reason to suspect such a condition. [A.B.C.]

Repeated Suturing in a Wound of the Internal Jugular Vein.—Venous sutures are a comparatively recent general surgical acquisition. In view of the danger attending venous wounds a safe method ought to be very welcome. S. F. Tchish[3] recommends the continuous suture for wounds of large veins as the most reliable hemostatic measure. The vessel retains its lumen under this treatment and circulation is not interrupted. Even the presence of moderate infection of the wound is no contraindication to suturing provided an appropriate packing follows: An original case is reported in illustration of the principles enunciated. While operating upon tuberculous cervical lymph-glands the internal jugular vein was inadvertently opened. The condition of affairs became threatening and the author was summoned. He exposed the jugular vein as much as possible and applied a continuous silk suture. No secondary hemorrhage took place. [L.J.]

Extirpation of a Cystic Kidney.—A mass filling almost the entire left half of the abdominal cavity, was diagnosed by O. Seitz[1] as multilocular ovarian cyst. At the operation, however, the mass was found to be retroperitoneal; a ureter-like structure terminated in it, and a number of large concretions filled some of its compartments. The microscopic diagnosis revealed an interstitial nephritis, and it was evident that the kidney had not functionated for a long time. The urine was at no time decreased in amount. [E.L.]

Röntgen-ray Treatment of Lupus, Rodent Ulcer, and other Skin Diseases.—M. Morris and S. E. Dore[2] give the results of their experience in the treatment of these affections with the Röntgen rays in the following conclusions: Röntgen-ray treatment has a well-defined sphere of usefulness, but in the case of lupus vulgaris it is much inferior in curative efficacy to the Finsen-light treatment. The use of the rays, however, supplies certain shortcomings of the light treatment, as they can be applied to cavities inaccessible to the latter. In dealing with lupus of the mucous membranes the Röntgen rays are most effective; for the healing of ulcerated surfaces and for the relief of pain they are especially indicated. The combination of the two methods reinforced, if need be, by the use of pyrogallic, salicylic or carbolic acids for caustic applications, may be trusted to give good results in cases of lupus in which the disease is not too extensive to be overtaken in its development by the therapeutic agencies. As to the permanency of these results it would be rash at present to speak too confidently, but there is good reason to believe that the disease may be kept under control if the case is watched and treatment applied so soon as there is any appearance of recurrences. In regard to rodent ulcer practically the same may be said within certain limits. Here, in their experiences, relapses after varying periods of time are the rule. In some cases the most that can be done is to keep in check the extension of the disease. Röntgen ray treatment in other skin affections is too limited to form the basis of definite conclusions. [A.B.C.]

Spontaneous Fracture of Stones in the Bladder.—G. Kapsammer[3] reports a unique case of this condition in an old man of 70. He removed from the bladder, through the abdominal wall 49 fragments, the composition of which was uric acid. When placed together these 49 fragments formed 10 complete stones, weighing in all 103.75 gms. (3½ oz.). Kapsammer has collected only 60 similar examples of this condition in literature, and in these cases the stones were composed principally of urates, and in some instances of phosphates and oxalates; 90% of the cases were in old men. He believes that the fracture of the stones was due, in his case, to contraction of the bladder. [J.H.W.R.]

Treatment of Ulcer of the Stomach by Resection of Dorsal Nerves.—C. Alvarez[4] relates in detail the histories of two cases of ulcer of the stomach in which he divided the roots of the seventh, eighth and ninth dorsal nerves. The first patient was operated upon for a fatty tumor of the back in the region indicated. The operation was followed by complete cure of an undoubted gastric ulcer which had been present for three years. This result led the writer to deliberately section the nerves in the second patient. Relief followed in that case and was practically complete for six months when relapse occurred and the condition of the stomach became as bad as before the operation. This is explained by the supposition that the ends of the cut nerves reunited while in the first case, now well at the end of 5½ years, enough of the nerves came away with the tumor to prevent reuniting. [A.G.E.]

[1] Münchener medicinische Wochenschrift, March 17, 1903.
[2] Annals of Surgery, March, 1903.
[3] Chirurgia, March, 1903.

[1] Münchener medicinische Wochenschrift, March 24, 1903.
[2] British Medical Journal, May 30, 1903.
[3] Wiener med. Woch., No. 18, p. 529, 1903.
[4] La Médecine Moderne, May 13, 1903.

Syphilitic Parenchymatous Nephritis.—F. Mühlig[1] reports the case of a man of 26 who had marked edema and anemia; the urine contained albumin, casts and blood. Believing it to be a case of nephritis due to cold, he was treated with hot baths and milk diet, without any improvement. Later a roseolar eruption and other syphilitic manifestations appeared, and the patient confessed to a syphilitic infection two months before. Antisyphilitic treatment produced immediate improvement. The nephritis appeared two weeks after the chancre, and five weeks after the infecting coitus. The other secondary lesions did not appear until three weeks later. [E.L.]

Knife-blade Removed from Lung.—J. F. Baldwin[2] reports the case. The patient was a man of 28, who was stabbed with a pocket-knife, the blade being broken off in the lung. The wound of entrance was in the right side, just below the axilla. The wound was received three months before the patient came under the writer's observation. It had healed promptly, but there developed signs of disease in the lung on that side. His general appearance was that of a patient with consumption. The point of consolidation in the lung could be mapped out. Coarse rales were heard. There was purulent expectoration and the manifestations of infection. Radiographs anterior, posterior and lateral were taken, which showed distinctly the knife-blade. Operation was performed, the overlying rib was resected, adhesions found, thus rendering it necessary to open the pleural cavity. A finger pushed into the lung substance caused no hemorrhage and located the blade at the depth of the finger's length. The foreign body was extricated by means of forceps. Drainage was introduced for several days, purulent material evacuated, and the patient made a prompt and uneventful recovery. [A.B.C.]

Tumor of the Pancreas; Duodenal Stenosis; Intense Icterus.—Georg Lotheissen[3] reports such a case occurring in a woman 72 years of age. A few months prior to admission the patient became emaciated, had pain in the abdomen, and developed a deep icterus affecting the whole body. There was vomiting, but no fever, and the heart and lungs were normal. The gallbladder was distended, and medianward a deep resistance was palpable. The stools were acholic, though there was no fat present. The urine, though high colored, contained no albumin or sugar. The stomach contents contained free lactic acid, but no free hydrochloric acid. The patient was operated upon, and a tumor of the head of the pancreas was found. The duodenum was stenosed, and the gallbladder distended. A gastroenterostomy was done, the gallbladder punctured, and an anastomosis was made between the lower surface of the gallbladder and the lower part of the stenosed portion of the duodenum. The patient did well, the wound healing by first intention, until the tenth day, when necrosis of the subcutaneous fatty tissue developed in the neighborhood of the wound, which, however, after the application of iodin healed by granulation. Only 17 cases of duodenal stenosis with pancreatic tumor have been observed. The result of palliative operation is of short duration, the patients living usually in relatively good health for six to eight months, and in rare cases longer. [J.H.W.R.]

GYNECOLOGY AND OBSTETRICS

WILMER KRUSEN FRANK C. HAMMOND

EDITORIAL COMMENT

Treatment of Prolapsus Uteri.—It is somewhat surprising to an American gynecologist to note that Küstner, of Breslau, is an advocate of pessary treatment for prolapse of the uterus, and that he believes that the pessary insures a better position than any operation. We are willing to admit that the pessary has an important place in the armamentarium of the gynecologist, and that there is a class of cases in which the administration of an anesthetic, the age of the patient, or some physical condition contraindicates operative procedures, but which may be relieved by the prosthetic method. However, there are many women who are extremely averse to wearing a foreign body in the genital canal and want a permanent cure rather than temporary relief for the malposition of the uterus. And such relief can most certainly be afforded by the selection of suitable operative procedures. It seems somewhat antiquated, in the face of the splendid results attainable, to return to the pessary in these cases. No one operation is sufficient or applicable in every case; the average patient suffering from a prolapse of the uterus of the second or third degree, usually requires five operations, which may be done at one sitting: (1) A curetment of the uterus which is indicated to restore the endometrium to a normal condition; (2) either an amputation of the cervix of the infravaginal portion, if much hypertrophied, or a repair of the cervical tears which are almost invariably found in cases of marked prolapse; Shroeder's method of single-flap amputation of the cervix is a very satisfactory one, as it removes the eroded and inflamed cervical tissue; (3) an anterior colporrhaphy is usually required for the restoration of the anterior vaginal wall in cases of extensive cystocele, and where the malposition is of long standing it is often necessary to take a reef in the base of the bladder in order to restore it completely to its normal situation; (4) a perineorrhaphy either by the method suggested by Emmit or Hegar will effectively restore the pelvic floor; (5) an abdominal incision with either ventral suspension or fixation, or a shortening of the uterosacral ligaments in order to maintain the uterus in its proper position of anteversion so that the intraabdominal pressure will be directed upon the posterior wall of the uterus rather than upon the fundus, driving it downward into the axis of the vagina. By this combination of operations the vast majority of the cases of uterine prolapse can be permanently relieved. It may be well to say a word or two as to the value of prophylaxis. The early treatment of retroversion of the uterus and the prompt repair of lacerations of the pelvic floor will do much to prevent prolapsus and to render the quintuple operation unnecessary. There is a certain proportion of cases in which total extirpation of the uterus is indicated, particularly when there is erosion or ulceration of the cervix and when the possibility of incipient malignant disease is present. Bumm, of Halle, has reported a series of 105 patients treated by total extirpation, 93% of which have regained their complete working capacity. His mortality has been 2 in 105, and in 176 cases reported in literature the mortality was 6.9%.

REVIEW OF LITERATURE

New Remedies in Gynecology.—M. Popescul[1] speaks of two new remedies in gynecology, zymin or sterile permanent yeast introduced by Albert, and the formalin treatment recommended by Menge for chronic endometritis. The former, zymin, is prepared as a dry powder having the same characteristics as the living yeast. This is mixed with an equal amount of pure pulverized cane sugar, and when used is moistened with water until it is the consistency of syrup and then applied by means of saturated tampons, etc. It is used for fluor albus of gonorrheal or other origin. Popescul has experimented with it and found it efficacious in cases of blenorrhagic inflammation of the vagina, chronic catarrhal cervical metritis and especially in erosion of the cervix. The results were less favorable in suppurative endometritis; for to obtain the curative effects of zymin its contact with the diseased mucous membrane is essential. 2. Menge's method of formalin treatment consisted in washing out the uterine cavity by means of hard rubber sticks wrapped around with pieces of cotton saturated in 30% to 50% solution of formalin. This intrauterine formalin treatment has been found valuable in chronic hemorrhagic endometritis, postpartum maturum or postabortum; or for hemorrhage at the period of development (chlorosis); hemorrhage with or without fluor albus and endometritis fungosa (preclimacteric), and for hemorrhage at the menopause; also for endometritis chronica hypersecretoria, existing with gonor-

[1] Münchener medicinische Wochenschrift, March 24, 1903.
[2] Annals of Surgery, March, 1903.
[3] Wiener klinische Wochenschrift, 1903, No. 14, p. 409.

[1] Wiener klinische Wochenschrift, June 25, 1903.

rheal infection; or without such infection as fluor at puberty, at maturity, or at the menopause; for senile endometritis or atrophy of the uterus. In the catarrhal cases treated, there was a prompt reduction of objectionable secretions. Popescul generally made the formalin applications at intervals of eight days. [W.K.]

Treatment of Puerperal Fever with Antistreptococcic Serum.—Steinhauer[1] publishes the details of 2 cases of puerperal sepsis cured by injections of antistreptococcic serum. In both cases it was necessary to repeat the injections. After the first injections of 40 grams the temperature fell, to rise again after 24 hours. A second injection in each case sufficed to neutralize the poison and prevent further elevation. The second patient had a profuse postpartum hemorrhage one hour after delivery; uterine exploration discovered a second placenta adherent to the right uterine cornu. [E.L.]

Forceps Operations in Chrobak's Clinic during the Last 10 Years.—R. Sachs[2] states that in 10 years, from January 1, 1890, to December 31, 1899, out of 30,973 women who came into the hospital for delivery 764, or 2.46%, were delivered by the use of the forceps, 688 being typical cases of forceps operation and 76 were atypical. Of the former in 455 cases the indications for the use of forceps were the condition of the child, the majority being weak heart sounds; and in 192 cases the indications were on the part of the mother. Of the 764 cases of forceps delivery 562 were primipara, the greater part of them between the ages of 21 and 25 years, and the 202 multipara were between 26 and 30 years. The total mortality of mothers was 2.65% and of the children 17.57%. The writer gives in detail the condition of both mothers and children, the reasons why forceps delivery was necessary, the number and nature of the injuries received, and causes of death. He also reports the histories of 17 cases resulting in death. [W.K.]

A Case of Puerperal Sepsis Treated by Intravenous Injections of Formalin.—This case is reported by G. L. Brodhead,[3] the patient being a multipara of 25. Signs of infection began the sixth day after forceps delivery. On the eleventh day, when admitted to the hospital, smears from the uterus and vagina showed numerous streptococci, but blood cultures were sterile. Two days later 500 cc. of a 1 to 5,000 aqueous solution of formalin was injected. This gave rise to a chill and to higher temperature, but the latter fell in a few hours to normal, remaining there, however, only six hours. Two days later 750 cc. of formalin solution was given, followed by the same results as the first. Death occurred on the nineteenth day, from edema of the lungs and septic pneumonia. Brodhead says that, although the injections of formalin gave temporary relief, they certainly in no way influenced the course of the disease. In view of all the reported cases and experiments, he thinks it is useless to continue the use of this method. [A.G.E.]

The Principles of Perineum Support and Expression.—R. F. v. Budberg-Bonninghausen[4] describes a procedure for the support of the perineum during delivery. This he divides into three parts: (1) A continuous supporting contact between child, uterus, and forearm of the obstetrician; (2) vibratory and slightly rotating movement which, proceeding from the lower arm and hand, extends itself to the spine and advancing part of the child; (3) a perineum supporting procedure in a narrow sense, which follows essentially the method described by Mekerttschiantz.[5] A detailed illustrated description of the whole process of delivery is given with the patient in the dorsal position. He concludes that the essential point is the continuous contact with child and uterus. This is the condition *sine qua non*. This is accompanied with more or less pressure as the case demands, and with the perceptible advance of labor a purely instinctive and moderate use of recommended manipulations comes into play. Connected with this is the psychic influence upon a patient who while suffering pain has the consciousness that she is receiving help and holds her confidence in the physician. [W.K.]

[1] Deutsche medicinische Wochenschrift, March 19, 1903.
[2] Wiener klinische Wochenschrift, June 18 and 25, 1903.
[3] Postgraduate, July, 1903.
[4] Zentralblatt für Gynäkologie, June 13, 1903.
[5] Archiv für Gynäkologie, 1886, Bd. xxviii, p. 503.

TREATMENT

SOLOMON SOLIS COHEN
H. C. WOOD, JR. L. F. APPLEMAN

[The editor of this department disclaims responsibility for the last abstract on page 208, issue for August 1; it appeared through error of printers in make-up. S.S.C.]

REVIEW OF LITERATURE

Intercostal Neuralgia.—In intercostal neuralgia, dyspeptic disturbances and constipation are frequent causative factors. These disorders must be sought and corrected when in the presence of this affection. In rare instances a rebellious neuralgia may depend on a pleuropulmonary lesion or on Pott's disease. Aneurysm is also a causative factor. The treatment of an intercostal neuralgia should consist in removing the cause. If the pain is very severe analgesics may be tried. Galvanic electricity sometimes gives excellent results. The force of the current should be from 6 to 10 milliamperes, and the application should be continued for 10 minutes. External applications in the form of liniments or ointments may be found useful, such as:

Methyl salicylate	10 grams (2½ drams)
Compound oil of hyoscyamus .	40 grams (10 drams)
Chloroform	10 grams (2½ drams)

For external use.

To this may be added the extract of belladonna or hyoscyamus in the dose of 1 gram (15 grains). [L.F.A.]

Carbonated Baths in Pneumonia.—Abrams[2] advocates carbonated baths in the treatment of acute lobar pneumonia, and reports good results on cardiac action and nervous symptoms. The temperature of the patient is disregarded. The water of the bath should have a temperature in excess of 100° F., the patient's head and face being cooled with ice or ice-water while he is in the bath. The immersion is for 15 minutes, and the patient sweats profusely after returning to bed. [S.S.C.]

Alcohol Dressing in Blennorrhagic Funiculitis.—Vinokourov[3] reports a case of funiculitis complicating a blennorrhagic epididymitis, in which he employed the alcoholic dressing recommended by Salzwedel. This consisted in the application of compresses dipped in 90% alcohol to the inflamed area; this is in turn covered with cotton and renewed when dry. This treatment was tried after all other means had failed, and when the pain had become intolerable, the temperature was 104° F., and the peritoneal reaction had become manifest. The pain and fever disappeared rapidly as a result of this treatment. A return of the trouble was promptly stopped by the same means. [L.F.A.]

Opium or Purgatives in Appendicitis.—C. Krafft[4] points out that in the treatment of appendicitis many well-known physicians at the beginning of the affection prescribe opium, while others prescribe purgatives and enemas. In explanation of this he states that he believes that many of the patients reported cured did not have appendicitis at all. Before appendicitis was known of, only colitis and typhlitis were recognized; since appendicitis has existed, colitis and typhlitis seem to have been forgotten. This is, perhaps, an abuse, and the source of therapeutic mistakes. There are individuals with more or less puffiness of the iliac fossa, with tender abdominal wall, although not exquisitely painful, who are suffering from colitis; these are proper subjects for purgatives, enema and massage; but when an individual is suddenly attacked with pain, and excessive tenderness most pronounced at McBurney's point, if the abdominal wall is sensitive to the least pressure, the patient has appendicitis, or, still worse, peri-appendicitis; these patients require opium until time for operation. In brief, purgatives, enemas, and massage are useful in simple inflammation of the colon; absolute immobilization with ice locally and opium internally are to be used in appendicitis. It is hard to determine at times whether there is involvement of the peritoneum or not. The exquisite pain at McBurney's point is a sign which is ordinarily absent in typhlitis

[1] Journal des Praticiens, Vol. xvii, No. 13, 1903, p. 200.
[2] San Francisco Medical Fortnightly, July 10, 1893, p. 510.
[3] Vratchebnaya Gazetta, 1903.
[4] Journal des Praticiens, Vol. xvii, No. 19, 1903, page 298.

when it exists it signifies that the peritoneum is inflamed. In those patients who have never had excessive pain at McBurney's point it is probable that they have never had appendicitis or periappendicitis. In doubtful cases purgatives should not be employed. [L.F.A.] [One of the best purgatives in suitable cases is magnesium sulfate guarded with morphin sulfate, 4 grams (1 dram) of magnesium sulfate, 2 mg. to 8 mg. ($\frac{1}{32}$ grain to $\frac{1}{8}$ grain) of morphin sulfate held in solution with 10 drops of of diluted sulfuric acid in 30 cc. (1 ounce) of water, or if preferred with the addition of a pepsinated vehicle, may be given every hour until purgation occurs. Usually four doses suffice. Rarely more than eight are needed. [S.S.C.]

The Danger of Revulsives in Nurslings.—Donnadieu[1] reports the case of an infant 15 days old, who was brought to him with the history that he had not slept since the previous evening; he refused the breast and had several convulsions, which threatened his life. The infant was perfectly healthy 48 hours previously; he was nourished at the breast and showed no signs of digestive trouble. Upon undressing the child Donnadieu found the chest covered with half a sheet of Wlinsi paper. The whole area covered by this plaster was extremely sensitive. This was at once removed, despite the protests of the mother. The child cried slightly, then went to sleep. There was no return of the symptoms. This case demonstrates the danger of applying revulsives or counterirritants to the skin of infants for any length of time. If it is necessary to employ them, they should be left in place for only a short time. [L.F.A.]

Treatment of Infantile Convulsions.—Ausset[2] employs the following treatment in infantile convulsions: The child is completely undressed and placed on a bed with the head raised. It is not necessary to materially raise the temperature of the room, it is even preferable to be cool, and if the season permits, allow a window to be open. Absolute quiet should prevail and all unnecessary persons kept out. Strong light should be avoided. When the crises are repeated the patient must be plunged into a bath of water at the temperature of 95° F., which is then rapidly lowered to 85° F. He is left in this for 15 minutes. An ice-bag or cold compress should be applied to the head and renewed when it becomes warm. While the bath is being prepared, a few drops of chloroform may be inhaled, being careful that plenty of pure air is obtained at the same time. After the bath the following enema may be administered:

Asafetida	28 ms. (30 grains)
Yolk of egg	1
Milk	100 cc. (3½ ounces)

A plug of cork should be inserted between the teeth to avoid injury to the tongue. The author never employs general bleeding; exceptionally a leech may be applied behind each ear, but only in older and very vigorous children. Cutaneous revulsives, blisters, or mustard plasters are also avoided on account of the peripheral irritation of the nervous system which they induce. After the acute paroxysms have passed the cause must be looked for and appropriate treatment instituted. [L.F.A.]

The Lack of Toxicity of Phosphoric Acid.—F. Cautru[3] reports the results of his experiments on the toxicity of phosphoric acid and finds that no toxic symptoms are produced nor are there any toxic changes in the internal viscera. He administered the drug to animals in doses which corresponded to 6½ ounces daily to a man weighing 145 pounds. Phosphoric acid should not be given in too large a dose at the beginning; it is necessary to test the nervous susceptibility and gastrointestinal tolerance, and to give it sufficiently diluted, for it is very caustic. [L.F.A.]

Methyl Acetyl-salicylate.—Huchard and Ambard[4] have employed this preparation as a substitute for methyl salicylate in the treatment of rheumatism. It has the advantages of being just as efficacious as methyl salicylate without possessing the odor of the latter drug. It has also the advantage of being unchanged in the presence of weak acids. For this reason it does not irritate the stomach, since the gastric juice does not attack it, being only broken up in the intestine. Methyl acetyl-salicylate is a crystalline substance, melting at the temperature 118° F., odorless, insoluble in water, soluble in glycerin, alcohol, chloroform and oils. By boiling in water, it is decomposed into acetic acid and methyl salicylate. Alkalies decompose it into sodium salicylate and acetate of the alkali. The drug gives a distinct violet color to the urine. The authors have used methyl acetyl-salicylate in doses of from 5 grams to 8 grams (1 dram to 2 drams) daily in the treatment of rheumatism. The therapeutic effects have appeared equal to those of sodium salicylate. No symptoms of cinchonism or gastric irritation have been observed. As it is not acted upon in the stomach, it may be administered in those cases in which the irritability of this organ prevents the use of sodium salicylate. [L.F.A.]

Treatment of Whoopingcough.—J. Bernard[1] employs the following to relieve the paroxysms in this disease:

Bromoform	1 gm.	(15 grs.)
Tincture of aconite	1 gm.	(16 m.)
Alcohol 90%	20 gms.	(5 ℥)
Syrup of codein	100 gms.	(3½ ℥)
Syrup of tolu	150 gms.	(5 ℥)

One dessertspoonful 3 times a day.

Huchard associates quinin with aconite, thus:

Quinin sulfate, Extract of cinchona	of each 2 gms. (30 grs.)
Extract of aconite	0.1 gm. (1½ grs.)

For 20 pills. One 3 times a day. [L.F.A.]

The Incorporation of Certain Drugs in Wax when it is Desired to Liberate Them in the Intestine.—M. Maurel[2] recommends that drugs which are administered to act on the intestine be incorporated with wax to prevent them from acting on the stomach and to protect them from being modified by the gastric juice. The author has used this means of administering copaiba, ipecac, polygala, and other drugs, with good results. Moderate heat should be used in preparing the drugs in this manner. [L.F.A.]

Treatment of Acne Rosacea by Phototherapy.—Leredde[3] reports eight cases of acne rosacea of the nose which were cured by the use of phototherapy. In all but one case the disease had existed for many years. In slight cases, phototherapy offers no advantage over the older methods of treatment. But, in the rebellious forms of the disease it has distinct advantages over the older methods; it is more efficacious, more rapid and painless. [L.F.A]

Drug Headaches.—It is not uncommon to hear a patient admit taking enormous doses every evening of some advertised preparation which they claim has produced wonderful results, and which is nothing less than some common soporific.[4] These patients do not realize how harmful such a drug is. Not only are gastric disturbances produced, but often a headache which has special characteristics according to the drug ingested. In certain individuals these effects are produced only after excessive and prolonged use of the drug, in others, such as nervous and neurasthenic persons, small doses at times cause grave disturbance. In these patients it is often manifested by severe and persistent headache. Although very frequent, drug headaches are often unperceived or ascribed to some indiscretion; it is important that the physician does not overlook it. Drug headaches at times possess certain characteristics by which they may be identified. By introducing 3 or 4 drops of trinitrin under the skin of a man, Dujardin-Beaumetz produced in a short time violent headache and roaring in the ears; it seemed to the patient that his head was dilating and about to burst. Quinin produces roaring in the ears and deafness; the headache is accompanied with transient vertigo, which is increased in intensity when the patient passes from the recumbent to the erect posture. Theobromin and the iodids may cause intense pain in the head. In all patients suffering from a rebellious headache careful inquiry should be instituted to determine if any drug has been taken which might produce it. [L.F.A.]

[1] Journal des Praticiens, Vol. xvii, No. 19, 1903, p. 300.
[2] Le Mois Thérapeutique, Vol. iv, No. 3, 1903, p. 28.
[3] Bulletin Général de Thérapeutique, Vol. cxlv, No. 6, 1903, p. 223.
[4] Journal des Praticiens, Vol. xvii, No. 8, 1903, page 121.

[1] Le Mois Thérapeutique, Vol. iv, No. 3, 1903, p. 35.
[2] Bulletin Général de Thérapeutique, Vol. cxlv, No. 6, 1903, p. 221.
[3] Journal des Praticiens, Vol. xvii, No. 16, 1903, p. 242.
[4] Le Mois Thérapeutique, Vol. iv, No. 6, 1903, p. 56.

THE PUBLIC SERVICE

Health Reports.—The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended August 1, 1903:

SMALLPOX—UNITED STATES.

			Cases	Deaths
Alabama:	Mobile	June 18–25	4	
California:	Los Angeles	July 11–18	1	
	San Francisco	July 12–19	5	
Illinois:	Belleville	July 11–25	3	
	Chicago	July 15–25	1	1
Indiana:	Indianapolis	July 18–25		1
	South Bend	July 18–25	1	
Louisiana:	New Orleans	July 18–25	3	
Massachusetts:	Fall River	July 18–25	7	
Michigan:	Detroit	July 18–25	6	3
	Grand Rapids	July 18–25	1	
	Port Huron	July 18–25	2	
Mississippi:	Natchez	July 11–18	1	
Missouri:	St. Louis	July 18–25	2	
New Hampshire:	Manchester	July 18–25	5	
New York:	Rochester	July 14–21	1	
Ohio:	Cincinnati	July 17–24	3	
	Dayton	July 18–25	5	
	Toledo	July 18–25	2	
Pennsylvania:	Norristown	July 11–18	3	
		Imported from Philadelphia.		
	Pittsburg	July 18–25	14	6
	Scranton	July 18–25	2	1
South Carolina:	Charleston	July 18–25	1	
	Greenville	July 11–18	4	
Utah:	Salt Lake City	July 18–25	2	
Washington:	Tacoma	July 13–20	1	

SMALLPOX—FOREIGN.

Argentina:	Buenos Ayres	May 1–31		11
Austria:	Prague	July 4–11	5	
Belgium:	Antwerp	July 4–11	3	3
	Brussels	July 4–11		3
Brazil:	Rio de Janeiro	June 14–28		12
China:	Hongkong	May 31–June 13	3	1
Colombia:	Bocas del Toro	July 7–14	5	1
France:	Paris	June 27–July 4		1
Great Britain:	Dublin	July 4–11	5	
	Dundee	July 6–13	3	
	Edinburgh	July 4–11	1	
	Leeds	July 11–18	6	
	Liverpool	To July 18	13	3
	London	June 20–July 11	42	
	Manchester	July 4–11	2	
	Newcastle-on-Tyne	July 4–11	1	
	Nottingham	July 4–11	10	
	Sheffield	July 11–18	1	
Japan:	Kobe	June 13–20		1
	Nagasaki	June 11–20	1	
Mexico:	City of Mexico	July 5–19	31	25
	Tampico	July 11–18		2
	Vera Cruz	July 4–11	1	
			Imported.	
Russia:	Moscow	June 27–July 4	5	4
Turkey:	Constantinople	July 5–12		2
Uruguay.	Montevideo	May 31–June 20	4	

YELLOW FEVER.

Brazil:	Rio de Janeiro	June 14–28		4
Costa Rica:	Limon	July 8–16	2	1
Mexico:	Altamira	July 14	Present.	
	Motzorongo	July 13	Present.	
	Progreso	July 12–19	3	1
	Tampico	July 11–18		45
	Tierra Blanca	July 13	Present.	
	Vera Cruz	July 11–18	43	13
	Zongolica	July 13	5	

CHOLERA.

China:	Amoy	July 22	Present.	
	Hongkong	June 6–13		1
India:	Calcutta	June 20–27		30
Straits Settlements:	Singapore	June 6–13	8	
Turkey in Asia:	Catana	May 24–June 6		10
	Damascus	June 6–20		6
			In Province.	
	Duma	June 2		2
	Zibdani	May 31		1

PLAGUE—UNITED STATES.

California	San Francisco	June 15		1

PLAGUE—FOREIGN.

Africa:	Cape Colony	May 31–June 6	15	4
	Natal	May 16–23	2	
Australia:	Sydney	June 13	1	
Brazil:	Rio de Janeiro	June 14–20		5
China:	Hongkong	May 31–June 13	256	172
Egypt:	Alexandria	June 20–27	5	4
	Port Said	June 20–27	2	1
	Other localities	June 20–27		2
India:	Calcutta	June 20–27		14
	Karachi	June 14–28	14	11
New Caledonia:		July 26	Present.	

Changes in the Medical Corps of the U. S. Army for the week ended August 1, 1903:

BROWN, HENRY D., contract surgeon, is assigned to duty at Vancouver Barracks.

STONEY, R. C., contract surgeon, will proceed from Fort Williams to Fort Leavett for temporary duty.

GEDDINGS, First Lieutenant EDWARD F., assistant surgeon, is relieved from duty at Fort Brady, to take effect upon the return of First Lieutenant William Roberts, assistant surgeon, to duty at that post, and will then proceed to Fort Keogh to relieve First Lieutenant Paul C. Hutton, assistant surgeon. Lieutenant Hutton will proceed to Pekin, China, and report to the commanding officer of the United States legation guard for duty, to relieve First Lieutenant Frederick M. Hartsock, assistant surgeon. Lieutenant Hartsock will proceed to the United States, and report by telegraph to the adjutant-general of the Army for further orders.

WOOD, HALSEY L., contract surgeon, will, upon the return of Contract Surgeon W. A. Wickline, to Fort Lawson, for duty, proceed to Fort Worden to relieve Contract Surgeon John M. Hewitt, who will comply with his orders from the War Department.

ADAIR, Lieutenant-Colonel GEORGE W., deputy surgeon-general, is relieved from duty in the division of the Philippines to take effect August 31, and will proceed to the United States, and report by telegraph to the adjutant-general of the Army for further orders.

PURNELL, First Lieutenant HARRY S., assistant surgeon, Fort Wingate, and MORRIS, First Lieutenant SAMUEL J., assistant surgeon, Fort Grant, will proceed to San Francisco, Cal., and report for transportation to the Philippine Islands, where they will report for assignment to duty.

MABEE, First Lieutenant JAMES I., assistant surgeon, now on temporary duty at the Presidio, is assigned to permanent duty at that post.

PIKSTON, O. W., contract surgeon, is granted leave for one month, to take effect upon the termination of the season of target practice at Camp Stoney Point, N. Y.

RUTHERFORD, First Lieutenant HENRY H., assistant surgeon, is granted leave for ten days.

JOHNSON, Major R. W., surgeon, is granted leave for one month from about July 28, with permission to apply for an extension of one month.

CHAMBERLAIN, First Lieutenant WESTON P., assistant surgeon, leave granted July 29 is extended one month.

PEED, First Lieutenant GEORGE P., assistant surgeon, now at Portsmouth, Va., will proceed to Washington Barracks, and report at the United States General Hospital for duty.

THOMASON, First Lieutenant HENRY D., assistant surgeon, now at Albion, Mich., will proceed to Whipple Barracks for duty.

PORTER, First Lieutenant RALPH S., assistant surgeon, now at Chicago, Ill., will proceed to Fort Leavenworth for duty.

JONES, First Lieutenant PERCY L., assistant surgeon, now at Atlanta, Ga., will proceed to Fort Monroe for duty.

PALMER, First Lieutenant FRED W., assistant surgeon, now at Brooklyn, Mich., will proceed to Jefferson Barracks for duty.

VEDDER, First Lieutenant EDWARD B., assistant surgeon, now at Chester, Pa., will proceed to Fort Columbus for duty.

PIPES, First Lieutenant HENRY F., assistant surgeon, now at Fort Barrancas, will report at that post for duty.

FOSTER, First Lieutenant CHARLES L., assistant surgeon, now at Fort Meyer, will report at that post for duty.

BOSLEY, First Lieutenant JOHN R., assistant surgeon, now at Fort McPherson, will report at that post for duty.

LOVERING, First Lieutenant ROBERT C., assistant surgeon, now at Philadelphia, Pa., will proceed to Fort Leavenworth for duty.

STEDMAN, First Lieutenant CHESTER J., assistant surgeon, now at Fort Adams, will report at that post for duty.

BROWN, First Lieutenant ORVILLE G., assistant surgeon, now at Washington, D. C., will proceed to Fort Monroe for duty.

SILER, First Lieutenant JOSEPH F., assistant surgeon, now at Fort McPherson, will report at that post for duty.

WHALEY, First Lieutenant ARTHUR M., assistant surgeon, now at Sault Ste. Marie, Mich., will proceed to Fort Sheridan for duty.

FANNING, GEORGE J., contract surgeon, upon his relief from duty at Whipple Barracks by First Lieutenant Henry D. Thomason, assistant surgeon, will proceed to his home at Cacaton, Ariz., for annulment of contract.

VAN KIRK, HARRY H., contract surgeon, is relieved from further duty at Fort Wingate and will proceed to Fort Washakie and report for duty, to relieve Contract Surgeon John F. Jones, United States Army, who will proceed to Fort Schuyler for duty.

JONES, JOHN F., contract surgeon, is granted leave for one month, with permission to apply for an extension of one month, to take effect upon his relief from duty at Fort Washakie.

HALLOCK, Captain HARRY M., assistant surgeon, now at the United States General Hospital, Presidio, is relieved from further duty in the division of the Philippines, and will proceed to Fort Porter for duty.

HUTTON, First Lieutenant PAUL C., assistant surgeon, is granted leave for one month.

CABLE, G. L., contract surgeon, leave granted is extended ten days.

SMITH, CHARLES F., contract surgeon, is relieved from duty at Fort Leavenworth and will proceed to his home, Whitehall, Mich., for annulment of contract.

WOOD, HALSEY L., contract surgeon, is relieved from duty in the department of the Columbia, and will proceed to his home, New York City, for annulment of contract.

SABIN, WALLACE E., contract surgeon, is relieved from duty at Fort Apache and will proceed to Vancouver Barracks for assignment to duty.

RICHARDS, J. W., contract surgeon, is granted leave for one month on surgeon's certificate.

Changes in the Medical Corps of the U. S. Navy for the week ended August 1, 1903:

SIMONS, M. H. medical director, commissioned medical director from June 9, 1903—July 24.

SCOTT, S. L., PEASE, T. N., and ABEKEN, F. G., doctors, appointed assistant surgeons from July 10, 1903—July 24.

MAY, E., hospital steward, appointed pharmacist from March 28, 1903—July 24.

PHILLIPS, T. N., hospital steward, appointed pharmacist from June 8, 1903—July 24.

BLACKWELL, E. M., and FREEMAN, G. F., passed assistant surgeons, commissioned as such from June 7, 1903—July 24.

RYDER, C. E., assistant surgeon, ordered to the Naval Hospital, Chelsea, Mass.—July 24.

American Medicine

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PUBLISHED WEEKLY AT 1321 WALNUT STREET PHILADELPHIA BY THE AMERICAN-MEDICINE PUBLISHING COMPANY

VOL. VI, No. 7. AUGUST 15, 1903. $5.00 YEARLY.

A Strange Legal Decision.—In matters of the law the physician is "a layman," and may therefore err in judgment, as we find even the best-intentioned of *our* laymen do as to medical ethics. In spite of the caution this thought gives, one must feel something like a shock at a recent decision of the United States Court of Appeals. Previous decisions had established the precedent that no insurance can be collected on the life of a man executed for crime. One by the name of Burt was executed for murder, but it was subsequently demonstrated that he had not been guilty of the crime. The family claimed, in view of his innocence, that the life insurance company should pay the amount of his policy. The Court has decided against the claim, "even if the policy makes no provision for forfeiture on that account." This appears a capital illustration of adding insult to injury. The law's imperfections permit an innocent man to be hanged and then refuse his widow the little justice of the money of his life insurance policy! We allude to the matter less to criticise the law than to ask for the wide publication of the name of the insurance company, which can bring itself to illustrate a "low-down" meanness that no American business man should be guilty of and which should not be left unpunished.

Maleficent Benevolence. — The advocates of scientific charity are constantly running the danger of discouraging useful and proper kindness in trying to avoid the equally great or greater danger of an increase of the evil by improper methods of cure. It may be unhesitatingly stated that whatever the danger of injury by not giving, there is certainly a worse and more pernicious danger of giving without investigation. In our complicated life it is utterly impossible to make the special investigation required in a given instance. Nowadays to give without such investigation means simply to hire people to be in want and to suffer for the satisfaction of the foolish and ineffective alleviator. Hence the duty and the necessity of asking the charity organization societies to make the investigations, and to determine, as is their function, who are the worthy and who the unworthy. But the scientific charity societies must be paid for their work! In carrying it on they will also save the almsgivers most of the money which would otherwise be wasted, and with the balance they will do many times the service. The *Public Ledger*, of Philadelphia, is the authority for an illustration of mistaken charity which in these days needs the greatest publicity: A good many years ago a wealthy and philanthropic English woman left to her native village, which was one of the most delightful, beautiful and prosperous in the British Isles, a large sum of money to be held in trust, the income to be applied from time to time to the genuine needs of worthy applicants. After a generation of the administration of the trust a sociologic inquirer made a study of the village, and found that the money thus generously but unwisely given had practically pauperized the whole place. The stamina of the self-supporting yeomen had departed, and from being a self-respecting and self-supporting, virile people they had gradually come to lean more and more on this fund, which they knew was held in reserve as a last resource, until finally they nearly all became paupers and dependents and incompetents. The generous and philanthropic giver had laid a blight on a smiling land worse than any curse.

Sale of the public lands should be stopped, says J. D. Whelpley (*Science*, June 12, 1903) in warning the nation that only about 500,000,000 acres now remain subject to the law of Congress. But of these not 100,000,000 are suitable for occupation by farmers. In 1902 about 20,000,000 acres were sold, and probably 25,000,000 acres will be sold in 1903. The large landholders are doing everything possible to get possession of all they can before public sentiment shall recognize the wrong done to the nation. Every Secretary of the Interior for twenty-five years has recommended in vain the curtailment of the land privilege. The wood consumption of the leading industrial nations has constantly increased, greatly in excess of that of population during the last forty years. The total for the United States is estimated to be at present about 25,000,000,000 cubic feet, and the supply will not last over thirty years at the present rate of use. The relation of forests to health is now so well recognized that leaving aside the economic problem, the medical profession may well use its influence with its representatives to prevent the vast injury to the nation by the present improvidence.

General Social Betterment and the Eradication of Disease.—How strange it would have sounded to those of a previous generation, how strange even now it

seems, that there should be enough lay people interested in abolishing disease and evil social conditions, to form a "School in Philanthropic Work." But what is at last more natural? What more needed? Since religion began a large part of human energy has been directed to the alleviation of want and suffering by the more fortunate and kindhearted. With civilization the recognition of the truth has grown that most of this energy has been wasted, and even worse, has increased the evil it sought to cure. Therefore it has at last come to this that men and women have consented to go to school to learn how, not only to wish and to try to do good, but how in very fact to accomplish the good they desire. The immediate result of this schooling might at first seem disappointing, but closer attention shows it to be greatly enheartening. Before the New York Summer School in Philanthropic Work, recently, a noble lay practitioner, Miss Brandt said:

> The problem of preventing tuberculosis would soon disappear of itself if it were possible for everybody to breathe fairly pure air, to keep clean with a reasonable effort, and to have enough of the right sort of food to eat. Theoretically, it would not seem extravagant to hope for such a situation, but practically it will require vigorous action to bring it about. In looking over a "plan for municipal action in the control of tuberculosis" a few days ago I was struck with the fact that it amounted, in brief, to a plea for the solution of all the problems now vexing society. It has occurred to me that it is not so amusing as it seemed at the moment, for it serves to emphasize the necessity for concerted action, and at the same time it suggests the encouraging reflection that every bit of social effort "works together for good," whether consciously or not, to decrease the suffering from tuberculosis.

Photograph Science and Portrait Literature.—Whenever a quack advertises, the most prominent part of the advertisement, the most of the costly space is occupied by the portrait of the great man. The more a man in the regular profession approaches to quackery and secret advertising the more his photograph appears in the lay or socalled professional journals. It has even been said that some physicians have had lithographs made, and carry the blocks with them to national and other medical meetings in order to save the newspaper reporters trouble, delay, and expense. When vanity or money-making enterprise becomes an outspoken disease this tendency is illustrated most amusingly as well as instructively. In all the literature of faddism and crankery the everlasting photograph appears, and in one journal every contributor's picture heads his article, and each of the dozen "editors of departments" has the inevitable photograph in every week. The *New Thought* advocates and editors are especially prone to this sort of thing. The pictures of "Ella" and of "William" and of "Elizabeth" are everywhere. (They call each other in this familiar way in their papers, so no disrespect is implied here.) Ella's rings and arm are very "fetching," and William's (one of the Williams) stern piercing glance transfixes you with true Hubbardesqueness. But Elizabeth's photograph would certainly scare away an intending lover, so indescribably terrible is it. "Glasses" would not "destroy that magnetic gaze." She publishes and sells her own books, and praises them too, as straight at you as her photographic eyes would indicate. Each copy of "The Constitution of Man," she says, is "full of power and inspiration," and "contains a speaking likeness of the author." "Experiences in Self-healing" "is the latest and greatest of my books" (each is always the greatest), "alive, helpful, inspiring. Beautiful book, good picture of me."

"The Nautilus," Holmes' poem will be forever spoiled for anyone who has ever read *The Nautilus* of the New Thought. "Build thee more stately mansions, etc.," is the motto of the title page each week. The issue of December, 1902, devotes a page or more to the thesis that "The root-cause of all socalled self-consciousness is really self-unconsciousness, a lack of self-knowledge and self-valuation." So morbid has morbid self-consciousness become that it is even encouraged as a virtue. Vanity is here deliriously inflamed. A praised illustration that extends through the columns of this article is that of a girl who spent her life in practising poses, facial expressions and tricks of speech before a mirror, cultivating blushing, as she had learned it was pretty and becoming, etc. We are informed in the fourth column that "self-knowledge *includes* a knowledge of the universe as a whole, and of every human being as a part of the whole." The *Nautilus*, according to motto No. 2, is "devoted to the art and science of self-expression." Ida C. Craddock (arrested for abuse of the mails with obscene literature) is called editorially "a sweet, earnest, clean soul, who chose for the sake of forcing her teachings upon an unready world to butt her head repeatedly against the stone wall of law, etc." One of editor Elizabeth's new, greatest, latest, most inspired books, "Just How to Wake the Solar Plexus," explains—let us say everything, but chiefly man's relation to the sun, shows what the solar plexus is to the human body, how to control emotions and thoughts, to develop concentration, kill fear, etc., and to insure the attainment of a strong, poised selfhood. The advantages to purchasers is shown by testimonials; we have space for only one:

> J. F. WILLIS, BRECKENRIDGE, COLO., writes:—"I received more special benefit from one reading of 'Just how to Wake the Solar Plexus' than I have during a period of ten years with medicine chest and doctors' bills of over $800, aside from much time lost."

The editor prints the following letter from a subscriber:

> I am enjoying a vacation and rest from all care and responsibility, where my friends hope to cure me of my belief in astrology—the best place I could ask to be in for study and observation of extremes of character, etc. Please send *Nautilus* here. *Others here as well as myself will appreciate it.* X. Y., Manhattan Hospital for the Insane, Central Islip, L. I. [Italics not ours.]

The Business Aspect of "The Nautilus."—We nowhere find any notice that admission to second-class postal rates is desired, accorded, or not desired. The extent to which the advertisement columns are used for the editorial books would seem to prejudge an application to General Madden as completely as in the case

of the publisher of *New Thought*. The advertisements are emphatic in the following subjects:

Astrology.
You can Be Healed.
Experiences in Self-healing.
A $10.00 Book for 50 cents, on Hypnotism.
How to Concentrate.
Graphology.
Secret of Health and Wealth.
Occultism.
Secret of Health and Success.
The Constitution of Man.
How to Grow Success.
Suggestion.
Mental Treatment.
Eat Some Air.
The Conquest of Death
Ten percent a year.
Heart of the *New Thought*.
Paths to Power.
1,000 Shares (mining) for $50.00.
Invest where Dollars Double.
The Sun Worshiper.
The Washington Sanatorium and School of the Art of attracting Opulence.
How to live forever, Physical Immortality.
The Sacredness of Sex.
Costless Cures.
Psychopathy.

The Editor says:

Ad rates for *The Nautilus* are now $3 per inch, no discounts for time, space or agents; and you will have to come early and bring the cash to get in at that. I had to reject over $100 worth of clean advertising for November issue, and December bids fair to be as bad. *Nautilus* now reaches fully 65,000 people (counting five readers to each paper) every month, the most of whom show their confidence in it by answering its ads.

An editorial note by William reads:

Elizabeth's latest gift from one of her western subscribers is three small images of the sacred monkeys of Japan. Monkey No. 1 has his hands over his eyes and is supposed to be saying, "I will see no evil." No. 2 has his ears covered by his hands and is saying, "I will hear no evil." No. 3 has his mouth covered and is saying, "I will speak no evil." The last monk must have the hardest time of all.

"The Success Circle" is the title of an enterprise thoroughly advertised by *The Nautilus* and its editor, with the incomparable photograph attending. It says:

The Success Circle is designed to aid all who are seeking to better their condition by understanding and applying the laws of mind. It is simply a very large class of students who are being taught, through my writings and my silent Word, the principles of success; who are coming into touch with me and drawing inspiration to go in and win for themselves. What I teach I know. I have practically demonstrated every step of the way from a state of dependence to one of freedom and power to command. I know how I did it and I can tell others how. I teach by the Word (*i. e.*, statements of truth) printed in my book, "How to Grow Success;" printed in the monthly letter to the Success Circle, published on page seven of each number of *The Nautilus*, and conveyed telepathically to the members, whom I treat individually and collectively. Water is free to all, but if some man pipes it to your kitchen sink you have to pay him, not for the water, but for the piping. I have piped the Word, the creative power of the universe, and I offer it to you as the printed Word, in my book and paper. For these I ask a reasonable price. You pay for nothing but the book and paper. For the Word conveyed telepathically I make absolutely no charge. My silent Word, or statement of truth, goes out to all the world, and whosoever will may receive and vibrate with me for the upliftment of himself. Each copy of "How to Grow Success" contains a three-quarter length portrait of the author, and is signed and numbered in my own handwriting.

As to the success for the author of the Success Circle there is no question; and none, according to the testimonialists on their part. Mrs. Jones' health and "good looks have improved 100%," and "Mr. Jones' business is everything we could wish for." It brings rain and good crops to Mr. and Mrs. Joseph Jackson, of New Athens, Ill., when their neighbors have none. Mr. Ridout, a land agent, of Bruce, Wis., writes:

The year previous to joining the Circle was quite uneventful in a business way; it started on a jump the very day I got your receipt for the money sent to join the Success Circle. Note that I am in the real estate business, and I sold more land the very day I got your receipt than I had sold in the six months' previous, and nearly every day since I have had all the business that I could attend to. People marvel at my success. My daughter found employment the very next day after getting her receipt of membership.

Dr. James W. Cormany, Mt. Carroll, Ill., says:

I am getting every one I can to join the Success Circle. I have increased my business 50%. Now that "ain't to be sneezed at," when I was doing a good business before.

Even electricity obeys the all-commanding Elizabeth, for C. E. writes:

I am happy to say I am succeeding in the line of my desires since joining the Success Circle. Am night watchman in a large manufactory, and some of the machinery is kept running all night by electricity. Now I have noticed that when things go wrong with the electric current or the machinery it is when I am out of tune myself. So now, when I find myself raking over old troubles or dwelling on wrongs, real or fancied, I say to myself, "Look out, old boy, some of this machinery will be catching the melancholic and making trouble for you." Then I pull myself together and look on the bright side.

Without comment, and properly so, the editor of *The Nautilus* copies the following from the *Boston Herald*:

Tenderly she laid the silent, white form beside those that had gone before. She made no outcry, she did not weep. Such a moment was too precious to be spent in idle tears. But soon there came a time when it seemed as if nature must give way. She lifted her voice, and cried long and loud. Her cry was taken up by others who were near, and it echoed and echoed over the grounds. Then suddenly all was still. What was the use of it all? She would lay another egg tomorrow.

The Medicine of "The Nautilus."—Of "Elizabeth Towne's Experiences in Self-healing" she herself says:

Those who want real experiences in the new thought and its application will find this book a mine of information. I have shown plainly just how I grew up in the new thought, healing myself of almost every imaginable kind of disease from heart trouble to the catching-cold habit, from all sorts of chronic and acute things, and from all sorts of faults of disposition and temperament. I have described every method I used in overcoming not only diseases mental and physical, but poverty as well. And incidentally I have described at length the methods I have used and evolved in the healing of others as well as myself. Not a thing in my experience have I glossed over or omitted. The book is an inspiration and has been written in a white glow of purpose to reveal a soul's efforts and progress and accomplishment, to the end that other souls may see and understand and be inspired to greater self-conquest and self-expression. It contains more of me than anything, or all things else I have written.

To cure asthma, beside vegetarian dietetics, "mental breathing," and physical ditto the patient is instructed

to read "Solar Plexus" book every day for a month and get into the spirit of it and shine for dear life all the time! She is to stand or sit straight, chest out, and breathe down and out, taking pains to hold the breath and then let it out more slowly and evenly than she took it in. With each breath she is to mentally affirm, I am whole, or I am love, or I am power—using one affirmation for each day. "Solar Plexus" book tells how. Above all and in all she is to wake up and go at it with a will. To put will into bodily action is the cure for asthma. Will is just what an asthmatic is averse to using, will and persistence. Asthma means a curled-up will and it is not easy to uncurl it.

Baldness can be cured:

Perhaps you will ask me "what thought you are to hold" for dying hair. This item is written presumably for those who have been "holding the thought" without apparent results—as I did for several years. Then it came to me that I must supplement "the thought" with action. So I went to studying causes and thinking out what to do. I've been doing it. Faith and works will accomplish anything. The only thought to hold for dying hair is the thought of life. Keep thinking it right in with every rub of your finger-tips until it gets to thinking itself without special effort.

The following questions and answers of puzzled correspondents are to be noted:

"When you treat yourself for a cold who is doing the treating, the objective or subjective self? Does mortal mind tell the spirit to do so and so?" B.

There you go calling yourself a "mortal mind." You are immortal mind. When you talk or treat it is immortal mind talking or treating—talking to itself and treating itself.

"When you pray is it the God in you talking to the Universal God?" J. A.

Ye gods, no! It is the Universal God talking to himself. You are the Universal God. Crawl up out of that little tadpole-you and spread your wings in the Universal.

"I wish you would have more to say about treating."

Why, everything I say is "about treating," and everything is a "treatment." Everybody on earth is treating all the time. If he isn't treating for health he is treating for sickness; if not for happiness, then for grief; if not for wealth, then for poverty. Every thought is a treatment, and every individual has the power of choosing what he will think. Choose ye this minute what you will "treat" for. Treat yourself and your relatives and the whole world, etc.

"The Higher Thought," said to be "a journal of Realization," with the motto, *Ye are Gods*, is also "entered as second-class matter at the postoffice, etc." In praise of its foremost writer of the forelying issue it says he

has been a "jack of all trades" and has done almost everything—carpenter, gardener, homesteader, herder, hygienic physician, pioneer in Kans., Tenn., and Fla., book-agent, farm-laborer, orange-grower, poultry-farmer, professional nurse, newspaper-correspondent, story-writer, poet, editor. At twelve was a dreamer on Socialism, at thirteen an Atheist and in a few months converted and by rapid stages Calvinist, Armenian, Swedenborgian. At one time a revivalist, later a working student in a hydropathic college. Became Agnostic about twenty-one and remained so till receiving the illumination of the Dawn Thought.

"The next symposium" is to be on "the sex question." It all finally comes back to a question of "health and disease" with these wonderful metaphysical, supernatural journals. One would suppose all the "Gods" (the "editors"—and their "patients," who also are "Gods") were in a strangely bad state of health, although each one of them is "the perfect idea of perfect mind." "I am all; I have all; I know all, for I am the likeness of all; all is now." "Health is the direct result of Harmony and harmony only exists through agreement or oneness." "I want to tell you," says one correspondent, "that spiritual poise is all right." "Highly successful in treating absent patients;" distant treatments for health, wealth, and success" are advertisements of other "healers," and Weltmer has come into the Higher Thought! Weltmer is one of the "Gods," with all the other advertisers of "drugless science," of "Realization," of "Books of Health," "Breath of Life," "The New Man," "Purity Journals," "Free Healing," "Life's Great Healing Law," and all the rest!

Osteopathic and Massage Procedures on Women by Men.—In the "New Thought," "Sexology" and "Vibralogy" journals, one finds a certain advertisement next to those of "Bust Developers," "Healers," "Feminology," "Flesh Foods," Ella with her hand, and the like. It is that of a "College of Osteopathy," asking for "operators" and holding out glowing glimpses of making from $50 to $200 a week, upon the investment of JUST ONE DOLLAR! The noteworthy feature of the "ad." is the ever present and striking picture of a putty-faced booby of a man with his left hand upon the abdomen of a pretty girl prone before him, who has a funny lackadaisical, do-with-me-what-you-please expression and attitude. The "operator's" right hand is upon the placid and pleased girl's thigh. The operator appears to be hunting for something and is puzzled. One question is suggested: What is the teaching of osteopathy generally, and what is the practice of "D. O.'s" as to massage of women by men?

What Constitutes a Good Nurse?—In the accompanying extract from a letter sent by a physician to the superintendent of nurses of a large training school for nurses, it is interesting to note that the writer makes no reference to any requirement on the part of the hospital authorities as to the education, training, or mental fitness of the nurse to fill the position of superintendent of the hospital. He is, however, very specific in detailing personal requirements, which to others would seem a secondary matter. Is it any wonder that while serving such a physician a nurse should occasionally act as if she regarded good looks and a pleasant manner a substitute for knowledge and efficiency? Until physicians establish a better standard the nurse cannot surely be expected to depend upon her knowledge rather than her personal charms for success in her profession.

Wanted within a few weeks a graduate nurse to superintend and manage a small hospital of about twenty beds.

This nurse will be superintendent, matron and head nurse, and will be expected to assume full control of the institution so far as overseeing everything is concerned.

She should have some executive ability, Age, 25 to 32; height, 5 ft. 3 in. to 5 ft. 6 in.; weight, 118 to 145 lbs. Fine personal appearance, neat and stylish, elegant form, well developed, good looking, dignified, pretty mouth and teeth, splendid health, elegant disposition, popular, good education, medium complexion, pretty eyes, first-class references. Applicants will please send recent photographs, which will be returned if desired. State whether single, married or widow. Where born and raised, city or country. Salary expected.

BOOK REVIEWS

The Practical Application of the Röntgen Rays in Therapeutics and Diagnosis.—By William Allen Pusey and Eugene Wilson Caldwell. Philadelphia: W. B. Saunders & Co., 1903.

Part I, 215 pages, of this book was written by Caldwell and is devoted to "X-ray Apparatus and its Use in Diagnosis." The author states that "there is a tendency among medical men either to underestimate the value of the x-ray as an aid to diagnosis or to fail to appreciate its limitations. I have therefore tried to show in a conservative way just what may and what may not be accomplished with it in the present state of the art." He has succeeded well. The various makes of apparatus are given consideration, but enough is said to indicate the preference of the author as based on his large experience. This part of the book contains a vast amount of information put in an unusually clear manner. This is particularly true of the chapters on Fluoroscopy and Radiography. The four colored plates illustrating tubes when properly and improperly working are of very great practical value. Part II, comprising about 350 pages, was written by Pusey and deals with "The Therapeutic Application of X-rays." It includes a careful review of the literature of the subject supplemented by many of the details of the author's own experience. As is well known to all, that experience is a rich one and entitles every statement of the author to a careful consideration. The effects of the x-ray on tissues and bacteria are discussed, the technic of x-ray exposures for therapeutic purposes outlined, and the treatment, or rather avoidance, of x-ray burns indicated. The various lesions for the relief of which the x-ray has been employed are then considered in order, including affections of the appendages of the skin, inflammatory diseases of the skin, tuberculosis, cutaneous and deep-seated carcinoma, sarcoma, pseudoleukemia and various other affections. Authentic literature is freely quoted, the numerous references given forming a rich bibliography of the subject. The author's results in the treatment of the conditions named make a valuable part of this work, 158 cases being more or less fully detailed. The numerous plates illustrating these cases are unusually clear, this being made possible by the excellent paper used in the book. Pusey says that in order to arrive at satisfactory conclusions regarding the limitations and possibilities of x-ray therapeutics, facts are needed. He has endeavored to record facts, and each reader is thereby put in position to give them the weight to which they are in his opinion entitled. This treatment of the subject is in marked contrast to that of many writers of the present day who, unconsciously or not, have a hobby which they ride rough-shod over any and every objection that may be offered. Both parts of the book are most rational and bear the stamp of being written by men who know much of their subject and who know how to present that knowledge to their readers. This book is unquestionably the best contribution to x-ray literature that has yet appeared. The mechanical work on the book has been well performed.

Materia Medica for Nurses.—By John E. Groff. Published by P. Blakiston's Son & Co., Philadelphia. Price $1.25.

The second edition of this work has appeared, enlarged, revised, and up-to-date. As the title signifies the work is designed for the use of nurses primarily. Although abridged it is sufficiently comprehensive for all practical purposes. The chapter on poisons has been revised. A chapter on the newer remedies, and on the serum and animal products has been added in the new edition. The arrangement of the book is satisfactory, and we predict its merited popularity will be enhanced by the second edition.

The Physician Himself.—By D. W. Cathell and William T. Cathell. Published by F. A. Davis Company, Philadelphia.

The new edition, designated by the authors the "twentieth century edition," has appeared, revised and considerably enlarged. This book has already found a wide circulation and is deservedly popular. It deals entirely with the ethical or personal side of medicine, and it contains valuable and ennobling thoughts, directed mostly to young men entering or about to enter the practice of medicine. It should be read and studied by every beginner in medical practice, for it is practical, healthful, clean, and inspiring. It is the code of personal and medical ethics elaborated upon, and as such it is worthy of the attention of physicians in particular, but even laymen would find pleasure and profit in its perusal.

Tuberculosis.—By Norman Bridge. Published by W. B. Saunders & Co., Philadelphia and New York.

This is a volume of some 300 pages, and while manifestly not an exhaustive treatise on the one subject which is attracting most attention in medicine, it nevertheless contains a great deal that is of paramount interest and of supreme importance. The chapters devoted to the tubercle bacilli, the pathology of disease, and its diagnosis are important. But in the light of modern investigation naturally more interest is felt in those chapters devoted to prophylaxis, the treatments of various kinds, and the prognosis. A final chapter is devoted to sanatoriums for the tuberculous. The work is a valuable one and will commend itself to all who study it.

Practical Examination of the Urine.—By James Tyson. Published by P. Blakiston's Son & Co., Philadelphia.

That the tenth edition of this little volume has appeared is sufficient comment upon its practical value. It now comprises a volume of nearly 300 pages and its late revision brings it entirely up to the latest investigations and discoveries. It is particularly adapted for ready reference and is sufficiently exhaustive for all practical clinical puroposes.

Diseases of the Heart and Arterial System.—By Robert H. Babcock. Published by D. Appleton & Co., New York and London.

This is a volume of some 850 pages devoted to the various pathologic conditions of the heart and its vascular system. The book is well written and abounds in illustrations. Special attention has been given by the author to the subject of treatment. This, together with the rather full consideration of diagnosis, makes the work one particularly suited to the wants of the student and the general practitioner. The author is up-to-date in his consideration of the various mechanic apparatuses for taking pulse-tracings and estimating arterial tension, though some would probably differ from him as to the relative value of certain of these instruments. On the whole, however, the book reflects credit on both author and publisher, and is a valuable contribution to the literature of a very important field in medicine.

Practice of Medicine.—By William Gilman Thompson. Published by Lea Brothers & Co., New York and Philadelphia.

The second edition of this book contains a number of changes. The articles on dysentery, yellow fever, and malaria have been rewritten to conform to the latest discoveries in connection with these diseases. The present volume is practical, and in most respects up-to-date. We had expected, however, to see the metric system adopted; and while in point of treatment not all, by any means, of the newest discoveries are mentioned, there are doubtless those who would hold that the author's conservative position is the correct one. The comparatively few faults which might be found are insignificant when compared with the value of such a treatise in practical medicine.

Medical Microscopy.—By T. E. Oertel. Published by P. Blakiston's Son & Co., Philadelphia.

This little book of some 350 pages is designed for students of medicine, and for the practitioner who wishes to pursue microscopic work and is deprived of the advantages of a well-equipped laboratory. Practical instruction is given in the accepted methods of preparing and examining the various tissues, blood, urine, stomach-contents, etc. The pathogenic bacteria are described and methods of culture are given. The work is valuable in that it is practical, concise, of convenient size for ready reference, and it gives the necessary and practical information without becoming cumbersome and voluminous.

AMERICAN NEWS AND NOTES.

GENERAL.

Charitable Bequests.—PHILADELPHIA: John E. Garrett bequeathed his entire estate, valued at $30,000, to various hospitals and charitable institutions. Mary E. Craige disposes of an estate, valued at $117,000, to 6 hospitals. Her sister, Martha J. Craige, also bequeathed $97,000 to similar institutions.

Health of the Philippines.—The report of Commissioner of Health Carter for March, 1903, shows an annual deathrate for Manila of 21.01 per 1,000 population. Figures show that thus far during the present year the Manila deathrate is less than half what it was for the same period 4 years ago, the figures being respectively 22.17 and 46.80 per 1,000.

Opium in the Philippines.—It is reported that the opium habit among the Filipinos is reaching large proportions. In some quarters the revival of the old Spanish law against the use of the drug is being advocated. Recently a commission consisting of Commissioner Carter, Bishop Brent, and Dr. Albert, has been appointed to investigate the question and also to study the opium condition in Japan, China, Singapore, and Burmah. A report is to be made within 4 months.

Oleomargarin Defies Detection.—It is said that oleo manufacturers have discovered a method of making the product that enables them to pay only the minimum tax of a fourth of a cent a pound and that this is encouraging them to turn out large quantities. In June last a total of 2,572,234 pounds of oleomargarin passed the government officers at the rate of a fourth of a cent a pound, and yet a large part of it is said to have been richly colored and easily marketable because of its appearance. The revenue officials were unable to detect any ingredient in it that would cause it to bear the 10 cents rate for artificially colored goods.

Adulteration of Foods in New Jersey.—The report of the Chemical Department of the Laboratory of Hygiene of New Jersey for the year ended April 30, 1903, contains some very interesting data regarding the foods and drugs sold in that State. Of 1,476 samples received for analysis, 836 were classed as foods, 616 as drugs, and 24 as miscellaneous. Of these the following numbers were found to be adulterated: Foods, 341 or 40.8%; drugs, 370 or 60%; miscellaneous, 7 or 29.1%. This gives a total of 718 adulterated samples, an average of 48.6%. The report gives briefly the methods of analysis used in each instance which makes it valuable for reference.

Deaths on the Railroads.—A bulletin issued by the Interstate Commerce Commission regarding railroad accidents in the United States in the 3 months ended March 31, 1903, shows that during that time 300 persons were killed and 2,834 injured in train accidents. Other kinds of accidents, including those sustained by employes while at work and by passengers in getting on and off cars, etc., bring the total number of casualties up to 827 killed and 11,481 injured. Many items in the tabulation show an apparent increase as compared with similar items in the preceding bulletin, but this is partly explained by the fact that the commission now secures more complete returns of accidents than heretofore have been made by the railroad companies.

New Army Medical Poster.—The Surgeon General of the army has authorized a new poster, the conspicuous ornamentation of which is a soldier dressed in khaki, with the regulation helmet, blowing a bugle, the blast of which is made to have the effect of giving resonant birth to the word "Wanted," being the attractive introduction to the need by the hospital corps of men within a prescribed age limit and other qualifications of physique and character. It is stated that those "with some experience in nursing, cooking, pharmacy, clerical work, the handling of tools, and care of animals are particularly desired, but any bright young man can be enlisted, provided he is of good moral character, is able to pass the required physical examination, and has a common school education." The poster also publishes the rates of pay of the new grades of the hospital corps.

Will Hold up Impure Foods.—The Secretary of Agriculture has asked the Secretary of the Treasury to refuse entry to a number of cargoes of goods from Europe which are suspected of being adulterated. These cargoes are on the way over, and are, for the most part, canned meats and sausage from Germany, olive oil from France, and spices from India. This is the first request for the detention of imported goods under the new law against the admission of adulterated articles of food. The Secretary of the Treasury has no discretion under the law, and the cargoes will be held up until the chemists of the Department of Agriculture analyze the various articles and determine whether they are adulterated or injurious to the public health. The customs inspectors at New York and Philadelphia, where these goods are consigned, will take samples from the different packages and forward them to the Agricultural Department at Washington, and the goods will be held in the custody of the customs authorities until a report is made as to the composition of the articles.

Social Economy at the St. Louis Exposition.—In a circular issued by the superintendent of the section of charities and corrections, information is given regarding the exhibits to be classed under these departments. The following subjects are included: "Destitute, Neglected, and Delinquent Children;" "Institutional Care of Destitute Adults;" "Care and Relief of Needy Families in Their Homes;" "Hospitals, Dispensaries, and Nursing;" "The Insane, Feeble-minded, and Epileptic;" "Treatment of Criminals—Identification of Criminals:" "Supervisory and Educational Movements." The circular contains a classification and analysis of each subject.

EASTERN STATES.

Summer Practice in New Hampshire.—The New Hampshire Legislature at its last meeting so amended the medical practice act as to require that physicians who practise at summer hotels in that State during the summer months must pass an examination before the State Board of Medical Examiners. Heretofore such physicians have been exempt from examination.

NEW YORK.

River Baths Unhealthy.—President Lederle of the Department of Health does not regard with favor the free municipal baths along the river fronts. He believes they are the primary cause of a certain number of cases of infectious disease among those who frequent them. The water is always more or less polluted with sewage, hence it is impossible to keep it otherwise than unsanitary. Since the hot weather began it has been necessary to move several of the houses from their former locations. In some instances it has been necessary to put 2 houses at the same anchorage because of lack of suitable locations. The question of substituting the river-front baths by plunges and shower baths of clean water is now being considered by the Health Department.

PHILADELPHIA, PENNSYLVANIA, ETC.

A New Hospital to be Erected.—A new hospital to be known as the Union Mission Hospital is to be built by the John B. Stetson Company, in Fourth street, below Montgomery avenue. The new hospital will be a three-story fireproof brick structure, 65.2 by 102 feet. A roof-garden will surmount the building.

Milk Plant in Operation.—The plant for Pasteurizing milk, donated by Nathan Straus, of New York, was put in operation in Philadelphia, August 5. The milk will be given free on an order from a physician or a recognized charity, but people who can pay will be charged as follows: 6-ounce bottle, 1 cent; 8-ounce, 2 cents, and 16-ounce, 3 cents.

Pension Swindler Arrested.—The *Record* announces the capture by U. S. Secret Service agents of a swindler who for 5 months has been victimizing old soldiers. The swindler, who has respectable connections in Maryland, is Jervis Maxwell Jewell, and since the swindle began he has operated under the aliases of "Dr. Frances," "Dr. T. B. Scott," "Dr. W. H. Hunter," "Dr. M. H. Russell," and "Dr. C. M. Black."

Prosecutions by Food Commissioner.—Suits have been begun against at least six Philadelphia firms for alleged selling of beer adulterated with salicylic acid. Eight grocers have been fined $50 each for selling impure molasses. The entire State is being canvassed in order to detect impure milk. It is said that Milton, Northumberland county, is the only town failing to reveal a violation of the dairy laws.

Court Upholds Quarantine.—Judge Davis, of Philadelphia, in Quarter Sessions Court dismissed the writ of habeas corpus brought to gain the liberty of a man and his family, who were declared to be starving to death after a week's smallpox quarantine at their home. The action of the Bureau of Health in denying the man, his wife and 3 children the means to obtain food was said to be due to the man's persistent refusal to have one of his children, suffering from smallpox, removed to the Municipal Hospital. After hearing the testimony of both sides, Judge Davis said the case narrowed down to the question as to whether the Board of Health had a right to quarantine the house. This right was given, the Judge said, in an act of 1818.

Municipal Hospital.—Dr. Edward Martin, Director of the Department of Health, has appointed Dr. B. Franklin Royer as chief resident physician of the Municipal Hospital, to take up duty on September 1. Dr. William M. Welch, who for 25 years was in charge of the hospital, will then become the consulting physician of the institution. Dr. Martin, in speaking of the appointment of Dr. Royer, said: "He is a young man, and was particularly recommended by Dr. Hobart A. Hare. As for Dr. Welch, he has been advanced to the position of consulting physician. The position of chief resident is new, and I shall ask City Councils to create the position by ordinance. Dr. Welch is an old man, and has been in the city employ for many years. He does not live in the hospital, and Dr. Royer will."—[*Public Ledger.*]

SOUTHERN STATES.

Medical Conditions in the Bahamas.—Dr. C. A. Penrose, chief of the medical staff of the scientific expedition sent to the Bahama Islands by the Geographical Society of Baltimore, has given a general outline of the conditions there existing. Prominent among the subjects of investigation were leprosy and a clan of degenerates. The latter seem to be the descendants of one American Tory and have intermarried for many years. The degeneracy takes the forms principally of idiocy and club-foot, although many other features are noted. Enough data to construct a family tree have been secured, and this will undoubtedly furnish many points of value regarding degeneracy from intermarriage.

WESTERN STATES.

Nurses Ask for More Pay.—The union comprising the attendants and nurses at the Dunning (Ill.) institutions has made a demand for more salary and shorter hours. They ask for an eight hour day at the rate of 17½ cents an hour, and 25 cents an hour for overtime. The finance committee of the county board will consider the demand.

Jails Denounced as Schools of Crime.—In a recent address at Chicago, former President Henderson of the National Prison Association stated that "the most disgraceful thing that exists in this country in the name of law and civilization is the county jail. Idleness and bad associations make crime, and at public cost we are maintaining free schools of crime in every county in the United States." The speaker said that there is no necessity for the present system, and spoke favorably of the European practice of keeping prisoners in separate cells until they are tried.

Palo Alto Takes Rigid Measures to Prevent Typhoid Fever.—An epidemic of typhoid fever that carried off nearly a score of victims before its ravages could be checked occurred recently in Palo Alto, California. So soon as the Palo Alto authorities discovered that the disease was due to impure milk, the infected dairy was closed and the source of the disease was removed. No more cases developed, and the epidemic was at an end. But in order to prevent a similar outbreak in the future a city ordinance was passed which provides for rigid examination of the dairies by the Board of Health and for the licensing of the dairymen. To sell milk in Palo Alto without a license from the board will hereafter be a criminal offense. —[*City and State.*]

A Clean Newspaper.—The Huron (S. D.) *Journal-World*, and its managing editor, Mr. W. E. Holbein, deserve great credit for a clean sheet, and a refreshing freedom from offensive advertising. This paper does not carry in its columns the advertisement of a patent medicine or a medical fakir. A country newspaper that has the courage to exclude such matter and the moral strength to decline a source of revenue from such advertising should receive applause, commendation and support from every right-minded physician. The people of Huron are to be congratulated upon the presence of such a man as Mr. Holbein, and Mr. Holbein is to be congratulated for living in a community that will support a clean and reputable paper.—[*Northwestern Lancet.*]

Suit to Oust Medical Board.—Suit has been filed in the Supreme Court of California to oust the present members of the State Board of Medical Examiners. The action is brought by the Attorney-General. The complaint sets forth that at the thirty-fourth session of the Legislature an act was passed entitled, "An act for the regulation of the practice of medicine and surgery in the State of California and for the appointment of a board of medical examiners." This act became a law without the governor's approval, February 27, 1901, and a board consisting of nine members was appointed. The act fixed their compensation and directed that five members be elected by the Medical Society of the State of California, two members by the California State Homeopathic Medical Society, and two members by the Eclectic Medical Society. The complaint recites the following: "That there is no other provision made by law for the appointment of said officers, to wit: the said members of the said board of medical examiners of the State of California. That each of said societies is a private, civil corporation, organized and existing under the laws of the State, and has no authority, and neither of them has any authority under the Constitution and Laws of the State to elect or appoint said members of said board, or any or either of the members of said board."

CANADA.

Number of Physicians in Canada.—The *Canadian Journal of Medicine and Surgery* compares the situation of the medical profession in France to that of the profession in Ontario. The comparison is significant. In the rural districts of France there are about 3 doctors per 10,000 of population. In the larger cities there are 7.4 per 10,000, and in Paris 10.65 per 10,000. Throughout Ontario there are 11.4 doctors per 10,000, while in the city of Toronto the physicians number 20 to the 10,000. Roughly speaking, therefore, there is in Ontario double the number of physicians per head of population that there is in professionally overcrowded France.

FOREIGN NEWS AND NOTES

GENERAL.

Nursing Service Changes Name.—The Indian Army Nursing Service is to be known in future as "Queen Alexandra's Military Nursing Service for India."

X-Ray Apparatus for Calcutta.—The Indian correspondent of the *Lancet* states that an x-ray apparatus is to be supplied on loan to the Medical College, Calcutta, by the medical stores depot at Bengal. It would naturally have been expected that the largest medical school in India would have had an x-ray plant several years ago. The slowness is attributed to the lack of honorary physicians and surgeons to the hospital.

Irish Hospitals Remembered.—King Edward has commanded the Lord Lieutenant of Ireland to announce that His Majesty had received from Lord Iveagh (Edward Cecil Guinness) $250,000 to be devoted to the Dublin hospitals, Catholic as well as Protestant, in memory of the king's visit.

Imperial Vaccination League.—E. Garrett Anderson, honorable secretary of the Imperial Vaccination League, has written the following letter to the London *Times*: "The Imperial Vaccination League has now been at work for a year. It has in view two objects: (1) To study the working of the vaccination act of 1898 in order to consider if in any way the act or its administration can be improved, and (2) to press upon the attention of all classes of the community the great value of vaccination and revaccination as a protection against epidemic smallpox. The league has so far mainly occupied itself with making a critical study of the act of 1898. As a result of this study it recommends the general obligatory revaccination of children before leaving school; the extension of the conscience clause to revaccination; the transference of the administration of the vaccination laws from the poor law to some other authority charged with public health functions; the giving to public vaccinators the same amount of security of tenure as is now enjoyed by the vaccination officers, and the placing of all establishments in England for the supply of calf lymph under government inspection and control."

GREAT BRITAIN.

Massage by the Blind.—It is reported that a new field of work for the blind is to be opened by a London institute for massage. This is claimed not to be an experiment, as it has been proved that the blind can become expert in the practice of massage, which in Japan is recognized as part of their work. The London project only awaits necessary funds.

Jenner Institute of Preventive Medicine.—A special meeting of the members of this institute was recently held for the purpose of changing the name to "The Lister Institute of Preventive Medicine." The movement has the support of the largest donor to the institute. The motion to change was unanimously adopted, and a second meeting for confirmation was appointed.

Infection by Anthrax an Accident.—In a case under the Workmen's Compensation Act at Kidderminster, the county judge decided that anthrax infection is an "accident" under the meaning of the act, and that the widow of a man who died from that disease acquired while sorting wool for his employers is entitled to compensation at their hands. The judge held that some force caused the anthrax bacilli from the wool to float in the air and to impinge on the deceased, this making the infection an accident. The case will probably be appealed.

CONTINENTAL EUROPE.

Typhus in Germany.—According to Consul General Guenther, at Frankfort, the chancellor of the German Empire has appointed a commission of which the president of the imperial German health office is chairman, to visit southwest Germany for the purpose of studying the means in use for the prevention of the spread of typhus.—[*Washington Star.*]

Care of the Body.—Interesting facts regarding personal cleanliness were recently related at a conference held at Charleville, France. Of 100 working people selected at random, 2 took baths in a bath, 18 washed their feet when they changed their stockings, 52 washed their feet twice during the winter, their bodies and neck every Saturday and their heads never, while 28 never washed at all.

The Water Supply of Gibraltar.—A recent issue of the *Lancet* contains a very interesting account of the sanitation and water supply of Gibraltar. The present storage capacity being insufficient, a tunnel more than 2,000 feet long is being cut through the rock to Catalan Bay where a sandy slope is to be covered with corrugated iron and thus utilized as a collecting ground. At first but 10 acres are to be thus covered, but 40 acres are available. The tunnel is to be made large enough to act as a huge reservoir holding 17,000,000 gallons.

OBITUARIES.

Louis D. Kastenbine, widely known as an analytical chemist died in Louisville, Ky., July 29, aged 61. He was a graduate of the Bellevue Hospital Medical College, New York City. He served during the Civil war, and in 1865 was selected as the first demonstrator of anatomy at the Kentucky School of Medicine. He subsequently became associate professor of chemistry in the University of Louisville; in 1878 he accepted the chair of anatomy and toxicology in the Louisville Medical College, and held this position until a few years ago when he resigned and took the chair of chemistry in the Louisville College of Pharmacy. He was special examiner of drugs of the port of Louisville for the United States Government.

Edmond Nocard, of Paris, August 2. He was one of the collaborators of the late M. Pasteur, and was a wellknown authority on contagious diseases of animals. He was a member of the French Academy of Medicine, and wrote many valuable papers on veterinary subjects.

Clarence B. LeVan, in Buffalo, N. Y., July 26, aged 39. He was a graduate from the Niagara University, Buffalo, in 1888. He was a member of the Buffalo Academy of Medicine, Erie County Medical Society, and the Esculapian Club.

Andrew R. Barbee, of Point Pleasant, W. Va., August 6, aged 76. He was graduated from the medical department of the University of Pennsylvania, in 1885. He was secretary of the West Virginia State Board of Health for several years.

E. Virginia Baker Norton, of Lancaster, Pa., Augnst 6, aged 50. She was a graduate of the Woman's Medical College of Philadelphia, and subsequently became associated in a professional capacity with a State institution at Augusta, Me.

George W. Nash, in Indianapolis, Ind., July 26, aged 68. He was graduated from the Central College of Physicians and Surgeons, Indianapolis, in 1888, and was a coroner of Marion Co., Indiana, from 1898 to 1900.

Thomas J. Yarrow, of Philadelphia, August 6, aged 63. He was graduated from the medical department of the University of Penna. in 1861. He served as surgeon in the Union Army during the Civil war.

George W. Rolerfort, one of the most prominent negro physicians in New Jersey, died in Newark, August 6, aged 43. He was graduated from the North Carolina Medical College, Davidson, in 1889.

Charles A. Ring, in Berlin, Me., July 8, aged 58. He was graduated from the Medical School of Maine, Bowdoin College, Brunswick, in 1872, and was professor of obstetrics in the same institution.

John Phillips, at Stevens Point, Wis., July 28, aged 79. He was graduated from the Rush Medical College, Chicago, in 1853, and was a member of the American Medical Association.

Adolph Cudell, of Cleveland, Ohio, was drowned August 5. He was graduated from the medical department of the Western Reserve University, Cleveland, Ohio, in 1898.

Ernest H. Lueke, of Cleveland, Ohio, was drowned August 5. He was graduated from the medical department of the Western Reserve University, Cleveland, in 1898.

Gotthold Pape, of Hoboken, N. J., August 2, aged 61. He was graduated from the University of Göttingen, and was a veteran of the Civil war.

B. F. Choppin, of Saint Patrick, La., at Covington La., July 15. He was graduated from the Tulane University, New Orleans, La., in 1884.

Horace B. VanNorman, in Cleveland, O., July 9, aged 69. He was graduated from the Homeopathic Hospital College, Cleveland, in 1864.

James W. Blount, in Kenansville, N. C., July 15, aged 80. He was graduated from the University of Pennsylvania, Philadelphia, in 1845.

J. M. Woodall, in Estill Springs, Tenn., July 18, aged 36. He was graduated from the Vanderbilt University, Nashville, Tenn., in 1889.

Arthur E. Graham, in Handley, Texas, July 23, aged 46. He was graduated from the Vanderbilt University, Nashville, Tenn., in 1885.

Rachel H. Allyn, at East Charleston, Vt., July 22, aged 93 She was a graduate of the New England Female Medical College, Boston.

John M. Wilson, in Williamstown, Ky., July 20, aged 71. He was g aduated from the Medical College of Ohio, Cincinnati, in 1851.

S. B. Taylor, in Fremont, Ohio, July 15, aged 60. He was graduated from the Starling Medical College, Columbus, Ohio, in 1875.

Charles A. Morin, in Thedford Mines, Quebec, July 24, aged 37. He was graduated from the Laval University, Quebec, in 1890.

Edmund Brink, at Saugerties, N. Y., July 21. He was graduated from the Berkshire Medical College, Pittsfield, Mass., in 1856.

George K. Cross, of Chester, Pa., August 9, aged 55. He was graduated from the University of Pennsylvania, in 1889.

A. E. Rogers, at Bonner Springs, Kan., July 16, aged 33. He was a graduate of the Medical College of Ohio, Cincinnati.

I. C. Wait, in Juliaetta, Idaho, July 15, aged 70. He was graduated from the Rush Medical College, Chicago, in 1858.

Walton H. Yeager, at Worthville, Ky., July 13. He was graduated from the University of Louisville, in 1891.

Joseph J. Cox, at High Point, N. C., July 19. He was a graduate of Jefferson Medical College, Philadelphia.

E. Barnes, in Tulia, Texas, July 16. He was graduated from the University of Louisville, in 1875.

CLINICAL NOTES AND CORRESPONDENCE

[Communications are invited for this Department. The Editor is not responsible for the views advanced by any contributor.]

UNIQUE CASE OF INGUINAL HERNIA.

BY

G. C. MACDONALD, M.D.,

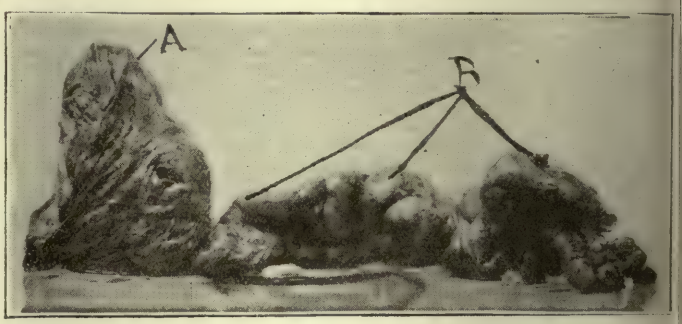
(Hons., University Brux, F.R.C.S., Ed.; M.R.C.S., Eng.),

of San Francisco.

Member Medico-Chirurgical Society, London; Member San Francisco County Society; Surgeon St. Mary's Hospital, San Francisco.

W. M., aged 24, native of Germany, by occupation a clerk, was admitted to St. Mary's Hospital under my care on March 1, 1903. He complained of a tumor in the right inguinal region extending into the scrotum, which was intense and painful.

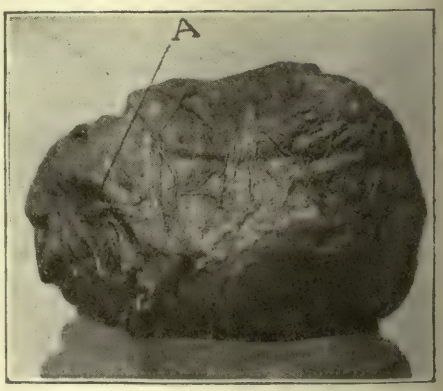
History.—The patient says he has had a rupture from early childhood, which could never be properly returned. The night



A, sac turned back. B, contents of sac.

previous to his admission he tripped and fell while crossing the street; the swelling increased in size and became so painful as to cause him to seek admission to the hospital. Dr. McGinty, the resident surgeon, saw him immediately on entering and noted the following: A hard tense tumor in the right scrotum which feels boggy, is dull on percussion, very slight impulse on coughing, and is painful on manipulation. Flatus had been passed; bowels are constipated. A diagnosis of incarcerated hernia was made, the foot of the bed raised, and an ice-bag applied over the tumor.

When I saw him the following morning the swelling had considerably diminished, but as it was impossible to reduce the whole of the mass it was decided to operate the next day. The man was prepared in the usual way and chloroformed on the morning of March 3. On cutting down a large scrotal hernial sac presented itself containing a soft boggy material. It was carefully dissected from its attachments (the cord being to the inner side and below); when this was done as far as the internal abdominal ring an effort was made to reduce the contents, but without avail; the sac was therefore opened and the condition as shown in the illustration presented itself; lying in the cavity was what appeared to be a long, old, hardened mass of omentum, which reached to the bottom of the sac, and at this point became a portion of that structure; it was not a condition of adhesion but of structural continuity, the fibrous material blending and carrying bloodvessels with the fibrous portion of the sac, while the peritoneal covering of both sac and contents was continuous. A considerable amount of this omental structure was pulled down from the abdominal cavity, the higher portions appearing to exhibit more the true structure of omentum; about six inches of it came into view, and at that point it was sutured in portions, excised, and the stump returned into the abdomen. The upper end of the sac was treated as recommended by Bennett, closed and invaginated



A, sac and its contents.

like the finger of a glove and fastened one inch above to the inner side of the internal abdominal ring.

This is a practice I have followed for many years with uniform success. During the operation it was found that the man had also varicocele; the vas was carefully dissected from its connections for about three inches; a portion of the cord thus isolated was ligated and excised to that extent. The ligated ends were sutured together; this procedure brought the testicle on that side to a slightly higher level than its fellow.

None of the abdominal muscles except the fascia of the external oblique was cut. The internal oblique was pushed up and dilated by the finger, allowing the cord to be raised from its bed; at the lower angle and below the cord thus raised three kangaroo tendons were passed suturing the conjoint tendon and Poupart ligament; two sutures were also inserted above, the superficial fascia containing a fair amount of fat was sutured with catgut; the skin was closed by the same material, using the subcutaneous stitch.

The man made an uneventful recovery, leaving the hospital to return to work on March 27. No weakness could be discovered anywhere around the seat of the operation. So far as a physical examination would show he was perfectly cured.

THE USES OF RADIUM.

To the Editor of American Medicine:—It has occurred to me that perhaps you would care to publish the enclosed letters, and thus start some one experimenting with the radium rays in the manner suggested.

Z. T. SOWERS.

DEAR DR. SOWERS:

I understand from you that the Röntgen rays, and the rays emitted by radium, have been found to have a marked curative effect upon external cancers, but that the effects upon deep-seated cancers have not thus far proved satisfactory.

It has occurred to me that one reason for the unsatisfactory nature of these latter experiments arises from the fact that the rays have been applied externally, thus having to pass through healthy tissues of various depths in order to reach the cancerous matter.

The Crookes' tube, from which the Röntgen rays are emitted, is of course too bulky to be admitted into the middle of a mass of cancer, but there is no reason why a tiny fragment of radium sealed up in a fine glass tube should not be inserted into the very heart of the cancer, thus acting directly upon the diseased material. Would it not be worth while making experiments along this line?

[Signed] ALEXANDER GRAHAM BELL.

[REPLY.]

DEAR DR. BELL:

The suggestion which you make in regard to the application of the radium rays to the substance of deep-seated cancer I regard very valuable. If such experiments should be made I have no doubt they would prove successful in many cases in which we now have failures.

[Signed] Z. T. SOWERS, M.D.

PURE HOMEOPATHIC TEACHING.

To the Editor of American Medicine:—Concerning the faculty of one of the oldest and best organized homeopathic colleges I note the following facts:

The professor of gynecology educated his son in a wellknown regular institution; the son is registered as a regular and is assisting his father in teaching.

The professor of obstetrics has two sons engaged in the practice of medicine, both regulars.

The associate professor of obstetrics is registered as both regular and homeopathic.

One of the professors of surgery is registered as a regular. The other professor of surgery has a son who is a regular.

The professor of pedology has a son who is a regular graduate.

This college among its advertised "advantages" names "pure homeopathic teachings."

Considering the purity of its teaching, the regulars seem to be enjoying a somewhat unusual growth. How long will it be before this old and well-equipped institution will drop its sectarian name and come into the medical profession? Such a move would involve no change in its teaching. It is teaching much science today, and some nonsense, but few institutions are free from the latter.

PHYSICIAN.

THE BOUGIE-CATHETER: AN APPARATUS FOR USE IN GENITOURINARY SURGERY.[1]

BY

SCHUYLER COLFAX GRAVES, M.D.,

of Grand Rapids, Mich.

Any continued interference with the normal evacuation of the urine is fraught with grave danger, directly or indirectly, to the life of the individual unfortunate enough to be afflicted with such a disability. As a direct danger may be mentioned urinary infiltration with its attendant sepsis; and, as an indirect one, ascending nephritis.

The performance of the sectio alta in two stages, as recommended by Senn, emphasizes the reality of the former by a very successful endeavor to combat it; and the multiform procedures intended to remove the obstructions offered by an hypertrophied prostate aim at reducing the latter to a minimum if not altogether preventing it. Eliminating the factor of defective urinary secretion with all the uremic dangers associated therewith we know that retained urine, except in some temporarily acute conditions, soon becomes a foul, offensive and exceedingly poisonous fluid.



Heretofore, the various methods employed to carry out the principle of drainage after urinary operations; or, to put the matter in another way, to provide against absorption, have been either imperfect, or dilatory, or cumbersome, or associated with collateral elements which are in themselves threatening.

For instance, the ancient plan of draining urethral stricture cases by the inserting and the tying in situ of a silver catheter all must admit is a surgical barbarity. It is exceedingly defective and therefore more or less actually dangerous. Again, the plan of Senn, to do a suprapubic section in two sittings consumes as much as five days of valuable time and, while safe, causes a temporal loss which ought to be obviated. The siphon plan of suprapubic drainage, endorsed by Dawbarn, while meritorious in a way, is cumbersome, limits the freedom of the patient and becomes taxing through the constant attention demanded by the irrigating-jar. Finally, McBurney's method of independent perineal drainage with no regard to the distal side of the perineourethral wound is quite open to criticism, not from the viewpoint of drainage, because this is quite incapable of betterment; but by reason of the fact that accessory features, to be demonstrated during the course of this paper, present conditions not desirable.

It was formerly my practise to drain in urethral and bladder operations except in cases operatively paralyzing urinary control, by the soft rubber catheter *à demeure;* but severe rigors, high flights of temperature and generally alarming symptoms were frequent concomitants of this method.

During the fall of 1896 I had the privilege of seeing considerable of the work of Dr. McBurney, at the Roosevelt Hospital, New York, and in his cases of a similar nature to the foregoing he drained directly through the wound in perineal sections and through an independent perineal incision in cases of internal urethrotomy, leaving the urethral canal anterior to the wound unoccupied. He so acted, he said, because by this plan he could eliminate the chills, sweats and infective symptoms men-

[1] A paper read before the Surgical Section of the Michigan State Medical Society at Detroit, Mich., June 12, 1903.

tioned, and with which all surgeons are familiar. Recognizing at a glance the simplicity and apparent efficacy of this idea, viz.: direct drainage from level of vesical floor plus siphonage after the tube becomes filled with urine, I immediately espoused it and found that in the matter of drainage it left scarcely anything to be desired.

This type of drainage, provided the tube is ample in diameter, is wellnigh perfect, and with it one almost never notes a chill or a rise in temperature to a point high enough to cause any concern. Generally it is not over 100° F. or 100.5° F.

But with this excellent record for drainage I soon noticed an accessory feature which called for eradication. In a goodly percentage of cases granulations would form about the proximal end of the excluded urethra, sometimes sufficient to block this orifice completely. Upon the passage of a steel sound, in such cases, the sound-tip would either come up against an absolute bar or would be directed, more or less, toward the perineal wound. This showed me that something ought to be done to maintain urethral patency during the healing process. At first I tried leaving in this portion of the urethra a soft catheter passed per meatum and out through the perineal wound by the side of the drain; but this, while helpful, was not sufficient, because granulations would fill the triangular space at the base of the wound between the catheter and the drain and thus create a source of distress and even danger to the patient in their destruction or removal. I saw the necessity for a double instrument, which, while affording means for the most efficient drainage, would at the same time prevent any tendency toward a perineal fistula, and obviate the pain and risk incident to granulation-destruction by the maintenance of normal urethral patency.

After various experiments, I devised the instrument which I herewith present. I realize that unity in construction would make a more ideal instrument; but the rubber men demanded so much for making a mold that I devised a coupler, by the use of which two rubber catheters, or, in adult patients, a small rectal tube and a catheter can be united and made to serve the purpose admirably.

The drainage portion of the bougie-catheter must be as large as possible and well fenestrated at the vesical end. The bougie portion could be solid, as its function is simply the maintenance of patency and it is not concerned at all with drainage or irrigation. I use a catheter for the purpose because, under the circumstances, there is nothing better.

After insertion the apparatus is held securely in position by suturing the drain to the lips of the perineal wound, a single suture, preferably of worm gut, being sufficient.

With a class connector a rubber tube 2 feet long can be attached to the distal end of the drain and led under the patient's leg to a waste-vessel at the side of the bed. Under these circumstances, with the leg propped up by a pillow to avoid pressure upon the tube, the patient can change position as often as he desires.

I leave the apparatus in situ for two weeks, occasionally irrigating with mild antiseptic solutions and, now and then, because of the tendency in some cases to develop ropy, mucoid urine, remove, cleanse and replace it. Under this plan of treatment in cases which have heretofore been the source of much worriment to the surgeon, and, to say the least, considerable danger to the patient, the patient will pass through a generally uneventful and rapid convalescence.

In conclusion, and with the expression of my intention not to weary you by the recital of cases illustrative of the multiform types of disease in the treatment of which I believe this apparatus to be of value, I will close by a summary of the operative procedures in which the apparatus can be used, hoping that by the presentation of this paper I may add something to the total of our knowledge which will be of value to my brother practitioners and through them helpful to our suffering fellow creatures.

1. Internal urethrotomy for stricture in spongy urethra.
2. Ordinary perineal section for deep stricture.
3. Perineal section for deep stricture necessitating intravesical or retrovesical catheterization.
4. Suprapubic lithotomy.
5. Transvesical cauterization, or other transvesical operative attack, for prostatic hypertrophy.
6. Plastic repair of penile deformity (hypospadia) or persistent traumatic fistula.

THE EVILS ATTENDING THE WHOLESALE ADMINISTRATION OF DRUGS IN TABLET FORM.

BY
CHARLES E. ABBOTT, Ph.G., M.D.,
of Buffalo, N. Y.

The article by Dr. Holmes, in the correspondence column of *American Medicine*, June 20, is but one among many which I have recently noted, and which collectively tend to create the impression that despite the fact of the administration of drugs in tablet form being convenient, that with few exceptions it is a method unsafe and unreliable, in many cases inimical to the welfare of the patient and the reputation of the physician.

During my experience as a pharmacist I have frequently seen a patient return tablets prescribed by the physician and ask to have them powdered, as they had taken several and noted that they had passed through the bowel unchanged; this is especially true of such substances as salol, phenacetin, acetanilid, sodium bicarbonate, potassium bicarbonate, boric acid, and the combination known as cystitis tablet.

I firmly believe that the administration of drugs in tablet form tends to make a lazy fellow of the average physician, as well as a substituter who does his patient an injustice and takes a fee for so doing. Perhaps it is far easier to prescribe T. T., heart tonic, Doctor so-and-so's formula, or T. T. fever, tonsillitis, etc., than to bother about keeping in mind any of the 997 official drugs and preparations in the U. S. Pharmacopeia; however, it is not rational therapy. A physician examines his patient and concludes he or she needs certain drugs; he goes to his tablet case, looks it over and finds that he does not have just what he had intended to give, so he dispenses something else and consoles himself with the idea that it may do good, or at least it will do no harm.

In prescribing or dispensing tablets the practitioner must rely only upon the word of the manufacturer that they contain such drugs as denoted by the label. In the case of a few reputable firms this may be sufficient, but why not adhere to the pharmacopeia in prescribing and be certain that what is used is of standard purity and strength, and can be absorbed by the body fluids?

THE HYPODERMIC NEEDLE AS AN AID TO DIAGNOSIS.

BY
M. B. McCAUSLAND, M.D.,
of Covert, Mich.

To the Editor of American Medicine:—I wish to report what seems to me an interesting case illustrating the usefulness of the hypodermic needle as an aid to diagnosis:

A short time ago a young man of 23 came to me with a tumor about the size of a walnut just to the right of the median line of the trachea and slightly above the isthmus of the thyroid. The growth had been slow, he having first noticed the bunch in the fall of 1902. His family history was negative. The tumor was smooth, somewhat elastic, nonadherent to the skin, freely movable on the tissues beneath, and followed the trachea when the patient swallowed. Fluctuation was not distinct. He had been given to understand that the growth was serious and an operation needed at once, and he was badly frightened. I suspected a cyst and asked him to let me use the hypodermic needle, to which he consented after a great deal of deliberation. I used the hypodermic needle and withdrew about 1 dram of serosanguinous fluid and the tumor immediately disappeared.

As accessory thyroids are found in the region of the isthmus it seems to me that this was a cystic accessory thyroid. I have seen a number of cystic thyroids but have never seen, nor can I find any account of cystic accessory thyroids in any of my books, although I have no doubt a great many cases have been reported.

The hypodermic needle is not used frequently enough by general practitioners as an aid to diagnosis.

ORIGINAL ARTICLES

RUBELLA.

BY

FREDERICK H. DILLINGHAM, A.M., M.D.,

of New York City.

Adjunct Professor of Dermatology, New York Polyclinic; late Assistant Sanitary Superintendent, Department of Health, City of New York.

The general profession has paid little attention to this disease, as it is the mildest of the exanthemas; and the physician is not often called in, or does not see the patient more than once or twice.

So many names have been given to this malady that it is often difficult, in referring to the literature on the subject, to know what disease is meant; the Germans having described many cases as rubeola, a term at the present time only used to designate measles. The disease is now generally known as rubella, German measles, or rötheln; the last being used by the Germans. The term rubella was advocated by Veale in 1866, and has been generally adopted by the best American authorities. German writers pronounced it a distinct disease 150 years ago, and Selle reported an epidemic in 1780. Later its independent existence was denied, not only in Germany, but in England, and other countries; but now the disease is generally recognized as entirely distinct from scarlet fever and measles; there are still some authorities, however, who dispute this or claim that rubella is a hybrid of scarlet fever and measles. Henoch says: "My own experience does not justify me in giving a positive opinion upon the question. Even if I have seen here and there, in a family, a few children sick of a disease, corresponding to rötheln of authors, and have not infrequently observed cases which made me doubtful of the diagnosis, yet I have not had the opportunity of observing great epidemics, or endemics, of the kind; and so long as this is the case, I am not in a position to disclose myself in favor of the independence of rötheln." On the other hand, Dukes claims that beside scarlet fever, measles, and rubella, there is a fourth disease, which resembles scarlet fever, and differs from it in a longer incubation period, absence of prodromes, vomiting, high pulse, and severe angina, the eruption usually appearing first on the face, otherwise very similar to the scarlatinal exanthem.

I do not see how anyone, who has had a chance to study the subject thoroughly, can help reaching the conclusion that there is a contagious disease which resembles scarlet fever and measles, but which is entirely distinct from either; always reproducing itself, and attacking those who have had scarlet fever and measles, as well as those who have not. I should want more proof of the existence of Dukes' fourth disease before I could accept his views. I have seen a number of cases, such as he describes, that were undoubtedly rubella, and were isolated with marked cases of that disease, without the result that would naturally arise from placing two different diseases together. There are also mild forms of scarlet fever to which his description would apply; and, in my opinion, we have only scarlet fever, measles, and rubella.

When I was diagnostician of the Department of Health, I saw in an institution one evening, two children about 7 years old, ill with an eruptive disease. There was no history of exposure, and a rash a few hours previous was the first thing noticed. On the body and face was an erythematous eruption, which disappeared on pressure, and was slightly punctate in places. The temperature was about 100°, with no vomiting or enlarged glands. There was slight angina, and the tongue was coated with enlarged, red papillas at its tip. The light was poor, and I made a diagnosis of scarlet fever: on the eruption, tongue, throat, and absence of enlarged glands. The next day the rash and constitutional symptoms had nearly disappeared, and the cervical glands were plainly enlarged. I changed my diagnosis to rubella, and later other characteristic cases of that disease developed. At no time was there any albumin present in the urine, or marked desquamation.

Several years ago I was called to see a child 4 years of age, who had, apparently, been in perfect health the evening before. There was a slight erythematous eruption on her face and chest, which disappeared within 24 hours. At no time was the temperature over 100°, and it became normal with the disappearance of the eruption. The tongue was slightly coated with a few enlarged, red papillas; there was no vomiting nor enlargement of the glands, and the throat was normal. I said I was unable to make a diagnosis without watching the case, but I did not think it was scarlet fever, as at that time I had never seen a case with a normal throat, although I have seen several since. The patient was isolated, and later, albumin was found in the urine, and the characteristic desquamation of scarlet fever followed, which proved it to be a case of that disease.

Another case was that of a boy, 8 years of age, who complained during the afternoon of being drowsy, and when he went to bed an eruption was noticed on his body. I saw him an hour later, and found a faint erythematous rash on his face and body, which disappeared on pressure, but was not punctate in character. The temperature was 100°, the tongue was coated with white fur, and covered with elevated, red papillas. There was slight angina, and no enlarged glands or catarrhal symptoms. The boy was constipated, but there had been no vomiting. I gave him one grain of calomel in $\frac{1}{10}$-grain doses, and when I saw him the next morning, his bowels had acted freely, and the eruption had disappeared. His temperature was 99°, but the tongue and throat remained the same. The diagnosis was between scarlet fever, rubella, and gastric disturbance. Rubella was excluded on the strawberry tongue and absence of both enlarged glands and catarrhal symptoms; the condition of the throat and tongue excluded gastric irritation. Scarlet fever was diagnosed on the eruption and condition of the throat and tongue, and later the characteristic desquamation of that disease developed.

It is not surprising that a good part of the literature is misleading, and that there are such varied opinions on the subject, as the cases of rubella differ so widely, and physicians are not able to study some of the anomalous forms and be sure of their diagnosis, unless there is an epidemic, when there are no cases of scarlet fever and measles—a condition found in New York and other large cities, only in institutions. In some epidemics all the cases will resemble measles, and in others scarlet fever, and again both types will be present at the same time. Sometimes both varieties of the eruption will be present on the same person; a condition claimed by some to be a combination of scarlet fever and measles, one disease affecting the nature of the other. Although it is not uncommon for a person to have scarlet fever and measles at the same time, I have seen cases of rubella with a mixed eruption, which were isolated with others suffering from that disease, and no marked desquamation or other symptoms followed, which would cause one to doubt the diagnosis. If it had been a mixed infection, some of them would have contracted scarlet fever or measles, and the attack ought to have given immunity from both diseases, instead of from rubella.

It is very likely that many have had rubella who are said to have had scarlet fever or measles twice, although the latter sometimes happens.

Several years ago the attending physician of one of the large institutions in this city asked me to see 24 children who were ill with an eruptive disease, which he first diagnosed as measles, but other cases developed that made him doubtful of this diagnosis. There had been no cases of scarlet fever or measles in the institution for

some time, and many of the children had had both diseases. Some of the children were quite ill with marked bronchitis, coryza, and conjunctivitis, and a temperature ranging between 102° and 103°. The tongue was coated, the cervical glands enlarged, and an eruption, papular in character, and arranged in irregular groups resembling measles, was present over the whole body. These cases showed all stages of the eruption, some at its full height, others when it was just appearing, and again when it was disappearing. A few of the cases, if seen alone, could not have been diagnosed from measles.

Other children had no acute invasion or catarrhal symptoms, the fauces were congested, the tongue clean or slightly coated with a few red papillas at the tip, and the temperature ranged from 99° to 101°. The cervical glands were enlarged and the eruption was erythematous, not elevated, punctate in places, and resembled that of scarlet fever, but did not remain on any part of the body over 24 hours, and was not followed by any noticeable desquamation. Two showed a mixed eruption, resembling measles, on part of the body and scarlet fever on other parts. The other cases were characteristic of rubella, the children were not very ill, there was slight congestion of the conjunctivas and fauces, other catarrhal symptoms absent or slight. The tongue was fairly clean, the temperature ranged from normal to 101°, and the cervical glands were enlarged. The eruption was characteristic, consisting of papules, pin-point in size and larger, especially marked on the trunk and extremities, with patches of normal skin between.

I diagnosed all as rubella, and later other cases developed in the institution; they all recovered, and in no case was there any sequels or marked desquamation. All were isolated in one large dormitory and none of them acquired any other disease, nor did any appear in the institution, which would not have been the case if they had not all been cases of rubella.

The epidemic was especially interesting, as it is unusual to be able to see all varieties of the eruption and various grades of the intensity of the disease at the same time.

Rubella is claimed by some to be very contagious, by others to be mildly so, or not at all. In my opinion it is an infectious disease, occurring, as a rule, in epidemics, and much less contagious than measles; if it were not there would be more cases, as there is often considerable exposure before the disease is recognized. No age is exempt, although it is most frequently seen between the ages of 4 and 16, one reason, probably, as there is more exposure during those years in schools and institutions. It is not usually seen in infants. A case has been reported of a child who developed the disease a few days after birth, but it was undoubtedly contracted in utero. One attack, as a rule, gives immunity, although Koplik says that it may occur a number of times in the same person.

Formey reported 1,180 deaths from rubella, and only 250 from scarlet fever and 103 from measles in Berlin from 1784 to 1796. There must have been some error in the diagnosis of these as well as in those severe cases reported by the older writers; many of them were probably scarlet fever or measles, as at the present time a severe type of rubella is not often seen.

It is contagious from the period of incubation until convalescence, and the contagium is transmitted by the breath, exhalations from the skin, and particles thrown off by desquamation.

The period of incubation is the most variable of any of the acute exanthemas and has been placed by different writers from five days to four weeks. It is usually impossible to determine definitely the exact time, but Griffith reports an epidemic in Philadelphia where the period of incubation of the first case was only 5 days, and 28 cases developed within 11 days. This in my experience is unusual, as it has been more often 14 days than under, and usually from 15 to 18 days. During the period of incubation there are no constitutional symptoms and no danger of contagion.

The stage of invasion lasts from a few hours to two days, but it is usually very short, and often the eruption is the first thing noticed. I have never seen the prodromal symptoms lasting 3 or 4 days, but such cases have been reported. During the stage of invasion there may be slight malaise, headache, and pain in the limbs; the digestive tract is not usually affected and nausea and vomiting are rare. We have the catarrhal symptoms of measles combined with the angina of scarlet fever. The tongue is clean or slightly coated with white fur. The fauces are usually congested and the tonsils swollen, but rarely accompanied by pain; there is also a slight congestion of the conjunctiva. There may be sneezing and a slight cough, but as a rule, catarrhal symptoms are absent or slight. The temperature is usually about 100°, rarely above 102°, and it may be normal. The superficial cervical and posterior auricular glands are usually enlarged, either on one side or both, although it may not be apparent until after the eruption appears; glands in other parts of the body may be affected, and although they may be painful do not suppurate.

Forchheimer has called attention to lesions in the mouth, which he says are characteristic of the disease and appear simultaneously with the eruption "as small, discrete, dark red, but not dusky, papules, on the soft palate, sometimes extending over on the hard palate, which disappear in a short time, leaving no trace behind." The eruption appears first behind the ears and upon the forehead, then upon the face and neck, and in a few hours may extend over the trunk and limbs, and usually is disappearing on the face while at its height elsewhere. No part of the body is exempt, and it is quite characteristic of the disease that it does not reach the highest point on all parts of the body at the same time. Cases have been reported without an eruption, but the question arises whether it was not very slight and not noticed.

The individual lesions, as a rule, are of a size between those of scarlet fever and measles, being not as red as scarlet fever nor as purplish as measles. The descriptions of the eruption given by different writers vary very much. Sometimes it appears as a light reddish flush of the skin, in which small macules, rose-red in color, appear, while in part the redness disappears. The macules are usually discrete and become papules, more or less sharply defined, elevated, but not usually arranged in groups, and may be surrounded by an areola, the center being most marked in color.

Again, it appears as an erythematous eruption, punctate, not elevated, and confluent in places; but usually there are a few elevated, isolated papules on the wrists and ankles.

Heim describes the rash as resembling the appearance produced by blotting moist white paper with a quill pen dipped in red ink.

Griffith very correctly says: "The disease may be divided into two types, resembling mild measles, and then resembling mild scarlet fever, and then all gradations from these types to either extreme.

"1. Eruption in which the spots are for most part nearly or fully size of split pea, more or less grouped, and having greatest resemblance to measles.

"2. Rash, confluent in patches, or universally; not elevated, uniform redness simulates scarlet fever. Careful investigation often reveals a few papules and general diffuse redness. It is best seen on the wrists and fingers."

Some observers have reported vesicles, and Dunlop has observed petechial lesions, especially about the axillary folds, but I have never seen either.

The eruption usually develops in a few hours, and may remain two or three days or longer, although it often disappears within 24 hours. It usually fades first on the face, and becomes of a brownish red color, although it may remain on the face while on the extremities. It

is sometimes confluent on certain parts of the body, especially the face and portions exposed to warmth and pressure, as the flexor surfaces and nates.

The constitutional symptoms may continue from the stage of invasion, or appear with the eruption, and usually disappear as the rash fades.

The catarrhal symptoms, temperature, respiration, and pulse are often, but not always, in proportion to the severity of the eruption. The conjunctivas may continue to be slightly congested, or be normal. The tonsils are swollen and the faucial mucous membrane is congested, especially the upper portion of the anterior pillars of the palate, but the congestion is not as marked as in scarlet fever. Nasal and bronchial catarrh are absent in most cases, but may be slight, rarely quite severe.

There is no characteristic temperature curve; it may be normal or become so on the appearance of the eruption, but usually there is a slight elevation, rarely 102°, which falls before the completion of the eruption, or remains 99° or 99.5° after it disappears. In a few cases the temperature has reached 104°. The tongue is usually clean, or covered with a yellowish-white coating, and may have a few red, elevated papillas toward its tip. The lymphatic glands remain enlarged until after the eruption disappears. As a rule, itching is not present. The eruption usually fades and leaves no trace, but spots of a faint brown or yellowish color may remain for a short time.

Desquamation is usually absent or so slight that it is with difficulty detected, but when present is very fine and branny, and commences as soon as the eruption disappears, and lasts only a few days.

In a few cases relapses have been reported; complications are rare, but sometimes pneumonia, bronchitis and nephritis develop. Death rarely occurs, unless from complications in children who are in poor physical condition.

Koplik says there should be no difficulty in the diagnosis of rubella, but at times nothing is more perplexing than diagnosing it from some of the anomalous forms of measles or scarlet fever, and it is sometimes impossible, especially during an epidemic of those diseases, or when they are endemic, as in the large cities. A history of exposure is often of great assistance.

The diseases most likely to be confused with rubella are measles, scarlet fever, influenza, and erythema multiforme.

Measles is apt to give the greatest difficulty, and with, perhaps, the exception of Koplik's and Forchheimer's spots, which may be absent, there is no feature of either disease that has not been observed in the other.

The following points will be of assistance in most cases:

Measles is more contagious, and the period of incubation is usually 14 days, instead of from one to three weeks. The prodromal symptoms in measles last three or four days, while in rubella rarely longer than 24 hours, or they may be absent. The invasion in measles is more severe and the catarrhal symptoms slight or absent in rubella. Koplik's spots, consisting of minute bluish-white specks at the summit of small, red spots on the buccal mucous membrane and on the inside of the lips, are usually present in measles, and are not seen in rubella. Forchheimer's spots on the palate, are not present in measles.

The eruption in measles is macular or papular, arranged in irregular, crescentic groups, and increases on the face while it gradually spreads over the rest of the body, a process taking two or three days; in rubella the lesions are smaller, not as elevated, as a rule discrete, and not usually arranged in groups, spreading rapidly, fading in part before they are fully developed elsewhere, and disappearing more quickly. During the eruptive stage catarrhal symptoms are severe in measles, and usually absent in rubella. Sore throat is rare in measles, but angina, as a rule, is present in rubella, and the tongue is not as coated. The lymphatic glands are enlarged in rubella, they are also seen in measles, but not to so marked a degree. In rubella there is no characteristic temperature curve, and it is rarely 102°, while in measles it is 102° to 104°, and ascends, reaching its maximum with the eruption. Diarrhea is rare in rubella and common in measles. Albumin is often found in the urine in measles, and desquamation is branny, while it is absent or slight in rubella.

Many writers say there is no difficulty in making a diagnosis between rubella and scarlet fever, but there are cases in which it is impossible from the eruption alone or without watching the case. The period of incubation in scarlet fever is one to seven days, instead of one to three weeks as in rubella. In scarlet fever there is an acute invasion, and the prodromal symptoms and angina are more marked, vomiting is usually present and catarrhal symptoms absent; there is a rapid pulse and marked nervous symptoms; the temperature is often 104° to 105° for three or four days from the onset. The tongue is not as red in rubella, and although there may be a few elevated papillas at the tip, it does not have the marked strawberry appearance seen in scarlet fever. The spots described by Forchheimer are not seen in scarlet fever, and the eruption appears first on the neck and shoulders instead of the face in rubella, and spreads more slowly, consisting of minute red points, confluent in patches, which reach their maximum in three or four days and usually remain six or seven. The rash disappears more quickly in rubella and is less punctate; and patches are seen around the lips, a condition not seen in scarlet fever. A few discrete, pin-head sized macules or papules can usually be seen on the wrists in rubella, and are of great aid in the diagnosis. The glands below the angle of the jaw are more apt to be enlarged in scarlet fever than the cervical glands. Desquamation is more marked in scarlet fever and the cuticle comes off in flakes; complications and sequels are common.

In influenza the period of incubation is seven days; there are no prodromes, the symptoms appear suddenly, and may be catarrhal, gastrointestinal, or nervous in character. Vomiting is absent, except in the gastrointestinal type; coryza and sore throat are well marked in some cases; the temperature may be high, and there is nothing characteristic about the tongue. Forchheimer's spots are absent, and, except as a complication, the glands are not enlarged. As a rule there is no eruption, but when present it is usually erythematous or urticarial, and may develop anywhere on the body; there is no regularity, and it may be confined to one locality or spread very rapidly over the whole body. There is no desquamation, or only such as follows a mild form of dermatitis.

In erythema multiforme there may be swelling and pain around the joints, but, as a rule, there is absence of fever, angina, and catarrhal and other constitutional symptoms. The eruption is not so extensive as in rubella and remains longer, the lesions being larger, with a tendency to ring shape and limited to certain parts of the body; a depression is often seen in the central portion of some of the lesions.

I have seen persons suffering at the same time with scarlet fever and rubella, or with measles and rubella, but the patient was convalescing from one disease when the other developed; if this had not been the case I doubt if it would have been possible to have made a positive diagnosis.

The patient should be isolated, and very little treatment is necessary, unless complications arise.

In conclusion, to one who has had a large experience in contagious diseases, the differential diagnosis of rubella should not usually give much difficulty, except as regards measles, and then, although he carefully considers every factor in the case, he may sometimes fail in making a correct diagnosis.

ENTEROPTOSIS: ITS ETIOLOGY, SYMPTOMATOLOGY, TREATMENT AND PROGNOSIS.

BY

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I wish to call your attention in a series of lectures to a subject to which the majority of clinicians pay but little attention, and yet one which from the frequency with which the condition is met should be familiar to every practitioner of medicine. The subject I refer to is enteroptosis or falling or descensus of the abdominal viscera, its etiology and pathogenesis, its symptomatology and the means we have of arriving at a correct diagnosis; its treatment, both medical and surgical, and the prognosis which we can give in each individual case. When we consider in the first place that by many careful observers that great symptom-complex, nervous dyspepsia and neurasthenia, is regarded as due in many cases to a falling of the abdominal organs, and in the second place that in the case of practically all women who have borne many children, and have lax abdominal walls, ptosis of the viscera is present to a greater or less degree, we easily understand why the condition should be carefully considered from every point of view in the hope that real help may be furnished to the clinician by such a discussion.

The term enteroptosis, from the two Greek words, ἔντερον and πτῶσις, signifies really a falling of the intestines, but the word, as introduced by Glénard, has acquired a wider significance, and now as generally used, signifies the falling of the abdominal viscera in general, while in discussing the descensus or falling of any special organ special terms are used, as gastroptosis, the falling of the stomach; nephroptosis, of the kidneys; hepatoptosis, of the liver; coloptosis, of the colon; splenoptosis, of the spleen; while by some authors splanchnoptosis is used to designate the falling of the intestines, by other authors the term is used synonymously with enteroptosis.

The subject is very complicated in many respects, as in some cases the organs have descended to an approximately equal degree, while in other cases one special organ has descended much more than any other, and the clinical symptoms derived from that special form of ptosis dominates the picture. Yet, on the other hand, especially from the standpoint of etiology and pathogenesis the ptosis of the various organs are so intimately connected together and associated that it is impossible to consider the ptosis of each organ separately.

Therefore it seems to me that the greatest value from such a discussion can be derived by giving at first a careful consideration of the general subject of enteroptosis, paying attention to the subject of the embryology and the anatomy of the abdominal organs, following this with a discussion of the pathogenesis of enteroptosis, giving in review the various widely diverse theories held regarding its etiology, next taking up the more practical questions of the factors which seem to be most active in producing this condition, and then discussing in detail the general symptomatology of enteroptosis and its relation to neurasthenia. At the conclusion of this general consideration of the subject the various ptoses will be taken up in turn and the especial symptom-complex of each one discussed in detail. The question of diagnosis will then be taken up and especial attention will be paid to the correct methods to be employed to map out properly the position of the various viscera in the abdominal cavity. The subject of treatment—the most practical side of our subject—will be considered in full, and the medical and surgical sides of the question treated as fairly as possible, while at the conclusion will be given a general review of the subject, the etiology, symptomatology, diagnosis, treatment and prognosis.

Before discussing the subject proper it will perhaps be of interest to mention briefly some of the facts of interest in regard to the development of our modern views regarding enteroptosis; in other words to give a brief history of the condition. To the anatomists and pathologists we owe the first recognition of the disease. Aberle is regarded as having given the first description of such a clinical picture, while in several of the writings by the older clinicians, such as Rayer, Rollet, and Oppolzer reference is made to the relation between hysteria and floating kidney.

Morgagni was probably the first to describe definitely this condition anatomically. Virchow is generally considered to have been the first to call attention to dislocation of the abdominal organs. In 1853 in the fifth volume of his Archives appears an article by him entitled "An Historical, Critical and Exact Consideration of the Affections of the Abdominal Cavity," and in this article, which is filled with observations showing the wonderful acuity of the great pathologist, he calls attention to his own observations and those of others in regard to changes in position of the intestines. He ascribes these changes to partial peritonitis and regards them and their mechanical effects as the cause and starting point of a number of symptoms of dyspepsia and indigestion.

Pathologists have frequently noted abnormalities of position in the abdominal viscera, but it has only been comparatively recently that clinicians have given the matter much consideration. Kussmaul was probably the first to call especial attention to the clinical symptoms due to a change in the form or position of the stomach, but general interest was first aroused by the appearance of the articles of Glénard, who believed that in enteroptosis he had found the anatomic basis for one type of nervous dyspepsia. We will discuss his views later in full, and it is only necessary here to state that while the French, as a rule, follow his teachings, the Germans, on the other hand, are in the main opposed to his views regarding this relationship. Among the majority of Germans the view is held that in most of the cases, the ptosis of the organs is not due to a congenital weakness of the tissues as Glénard thought to be so in many cases, but was acquired and was due to a variety of causes, such as pregnancy, pleuritic exudates, the pressure of clothing, inflammatory processes and adhesions, persistent abnormal distention of the stomach, carcinoma, peritonitis, curvatures of the spine, enlargement and increase in weight of various organs, by neoplasms, cysts, etc., and trauma. We will discuss in full the various theories held regarding the cause of the condition subsequently, but we wish here simply to bring out the fact that according to some authors the condition is usually congenital, according to others it is usually acquired, while a middle ground is occupied by many, who believe that both of these factors may be at work to produce the condition, often in the same case, that is, the congenital predisposition of an individual to this condition may be sufficient to produce enteroptosis with much milder provocatory causes than in the case of an individual not so inclined.

GENERAL CONSIDERATION OF THE EMBRYOLOGY AND ANATOMY OF THE ABDOMINAL ORGANS.

Before taking up the pathogenesis of enteroptosis it would be well to touch briefly upon the anatomy and the embryology of the abdominal organs. The abdominal organs are held in position partly by vascular, peritoneal, and ligamentous attachments; partly by the pressure of other organs, and partly by the abdominal muscles. Physiologically none of the organs is absolutely fixed in position, but each one is capable of a slight degree of movement due to various physiologic factors. Among the most important of these factors may be mentioned, whether the individual is in the prone or upright position, respiration, the ingestion of food, and the passage of urine and feces, and in women, pregnancy. Thus we

must not consider the abdomen to be filled with viscera that are normally fixed in their position, but rather of viscera capable of a slight degree of movement under a variety of conditions. The liver occupies the whole of the arch of the diaphragm on the right as well as a part on the left side, and for the most part lies under cover of the ribs; in the right hypochondriac region its lower margin just corresponds to the lower border of the thorax, while in the epigastric region a portion of both right and left lobes is in juxtaposition to the abdominal wall. On the left side it does not usually extend more than an inch and a half or two inches beyond the margin of the sternum. The upper limits of the liver depend largely upon the position of the dome of the diaphragm, which as Keith has shown, varies markedly in different subjects, but usually reaches to the level of the fifth or sixth chondrosternal articulation in the mammary line.

The stomach lies in the left hypochondriac and epigastric regions, its cardiac orifice being situated behind the seventh costal cartilage of the left side about an inch from the sternum, while the pyloric orifice is from 3 to 4 inches below the xiphisternal articulation, and in the middle line, when the stomach is contracted, in or immediately to the right of the median plane. The greater curvature in a moderate degree of distention of the stomach reaches to the infracostal line.

The transverse colon passes across in the upper part of the umbilical region, following closely the greater curvature of the stomach, while the splenic flexure reaches a higher level than the hepatic and is situated behind the stomach in the left hypochondriac region. The kidneys are situated at the back of the abdominal cavity, being lodged mainly in the epigastric and hypochondriac regions, that of the right side usually extending slightly into the umbilical and lumbar regions, that of the left side being frequently altogether above the infracostal plane. The length of the kidney is generally from 4 to 4½ inches and the inferior pole on the right side is about an inch above the level of the umbilicus, on the left side from ½ inch to an inch higher.

The pancreas lies over the first and second lumbar vertebras from 2½ to 5 inches above the umbilicus.

The spleen lies very obliquely, its long axis corresponding almost exactly with the line of the tenth rib, and its highest and lowest points are on a level respectively with the ninth dorsal and first lumbar spines; its inner end is distant about 1½ inches from the median plane of the body and its outer end about reaches the midaxillary line.

The embryology of the abdominal viscera is extremely interesting because of the fact that a number of authors regard enteroptosis as a reversion of the abdominal organs to the embryonic type. Rosengart,[1] from the study of a male fetus in the sixth month of its history, found that the small curvature of the stomach extended perpendicularly up and down; the ascending and transverse colon extended in a straight line from the right lower inguinal region diagonally upward; more than one-third of the right kidney lay upon the right iliac bone, while its upper end did not reach so high as the left. Upon the superior and exterior surface of the kidney the liver rested, while the lower portion of the kidney was pressed upon by the colon. This picture corresponds very closely to that given by Henle, in which there is a complete vertical position of the stomach. From this position of the viscera the position found in normal children and adults is produced by a gradual ascensus of the various viscera, it being necessary, of course, for the colon to pass in front of and over the right kidney, and the embryonic relation of the position of these two viscera and the peritoneal attachment between the two are of great importance to the proper location of the remaining abdominal organs. The rise of the abdominal organs is largely due to the fact that after respiration the liver rotates and rises into the dome of the diaphragm and also relatively undergoes a diminution in size.

Thus we see that in advanced cases of enteroptosis the position of the viscera very closely resembles that seen during embryonic life, and while this is, of course, no argument in favor of the congenital origin of enteroptosis, it is at least of interest in showing that whatever be the cause, the viscera in their ptoses tend in a way to follow in the reverse direction the lines of their development from the embryonic to the postembryonic condition.

THE PATHOGENESIS OF ENTEROPTOSIS IN GENERAL.

In discussing the pathogenesis of enteroptosis it will be necessary to take up in turn the various theories held regarding the etiologic factors involved in this condition, for, as we have said before, very divergent views are held in this connection. Glénard, a physician of Lyons, France, whose duties at Vichy brought him in frequent contact with many cases of neurasthenia and nervous dyspepsia, in 1885 gave the first complete and satisfactory clinical picture of enteroptosis, at the same time giving what he considered to be the anatomic basis for the neurasthenic condition, that is, a displacement or ptosis of several of the abdominal viscera. According to Glénard the usual picture is that of a thin, pale, young man or woman, of slight build with dyspeptic and nervous complaints and nervous expression and thin soft abdominal walls in which there is a marked lack of tone. He divided the symptoms into three special groups—hypostasis or lack of tone of the abdominal walls, splanchnoptosis and enterostenosis. The first shows three special symptoms—deformity of the abdomen, flabbiness of the abdominal walls, and the ease with which the hypochondrium may be compressed. Splanchnoptosis shows four special signs—splashing sounds in the stomach, epigastric pulsation, floating kidney and ptosis of the transverse colon. The first of these, the splashing sound of the stomach, is due to gastroptosis. Enterostenosis consists of three signs—a palpable, contracted band of the transverse colon, of the cecum, and of the sigmoid flexure.

According to Glénard the starting point of the condition is the falling of the right colic flexure due to a weakening of the hepatocolic ligament. This may follow injuries, pregnancies, strains, dyspepsia, typhoid fever, appendicitis, localized peritonitis, while the immediate consequences of the condition are those nervous and dyspeptic symptoms so difficult to treat satisfactorily. Glénard believes that this is due to a constitutional defect which is present in certain individuals as regards the strength and supporting power of the mesentery tissues. Glénard found 148 cases of enteroptosis among 1,310 patients examined by him at Vichy, although, of course, patients with nervous dyspepsia are common there, and he felt that the number given by him might be greater proportionally than among the average class of patients met at a general hospital. In three recent papers Glénard[2] gives the result of his observations during the 15 years since he published his first communication. Enteroptosis or ptosis of one or more of the abdominal viscera may, according to Glénard, occur in four separate conditions—nervous ailments, dyspepsia, diseases of the liver, and general constitutional illness. The symptoms are many, and include an expression of sadness and depression, a complaint of feeling badly all over, loss of memory and of the power of concentrating attention, irritability, indigestion, weakness, emaciation, while no treatment of the ordinary kind seems to prove beneficial. Examination of the urine, blood, and gastric juice will show them to be generally normal, but a careful physical examination will reveal tenderness in the epigastrium, marked epigastric pulsation, great diminution in the tension of the abdominal wall and a palpable cord-like transverse colon —Glénard's "corde transverse colique." The three main

symptoms, according to Glénard, are a stenosis of the colon, which lies low in the abdomen, movable kidney, and deformed liver. As a sequel to this condition, the sustaining ligaments of the viscera are relaxed, and there may be ptosis of any or all of the abdominal organs. From a study of 40 autopsies Glénard found that when the suspensory ligaments of the stomach and intestines are relaxed, coupled with the descent of these viscera, stenosis will occur, and the cecum alone will sustain its normal shape, as it has no suspensory ligament. One of the most important diagnostic tests of this condition, according to Glénard, is the belt test, *i. e.*, the physician stands behind the patient, encircling the abdomen with the palms of both hands, thus supporting and lifting up the abdomen; if this affords relief the diagnosis of enteroptosis is confirmed. The fundamental and characteristic symptoms of this condition are a sensation of weakness, a feeling of discomfort in the mesogastrium, reaching its maximum two or three hours after dinner, aggravated by fats, starches, raw foods, wine and milk, with constipation and insomnia during the middle of the night.

Landau believes that the primary cause is a weakness of the abdominal wall, in many cases congenital; while Bouveret holds that the neurasthenia is primary, and the enteroptosis and dyspepsia secondary to it. Ewald, since he found floating kidneys in young children, believes that the condition is congenital in certain cases, in which view Lindner, Kuttner and Drummond agree.

Stiller is probably the firmest and strongest adherent of the congenital origin of enteroptosis. He believes that inherited tendency is by far the most important factor, and that it is shown by a constant organic type—a slender skeleton, a long thorax, soft flabby muscles, while the panniculus adiposis is either diminished or wanting altogether. In an article published in 1896 Stiller[3] gives as his belief from five years' careful observation that in these cases, especially the severe ones, there is to be found a neurasthenic stigma (stigma neurasthenicum), the floating tenth rib (costa decima fluctuans), for while he found it very frequently in the type mentioned above, he did not find it more than two or three times during the five years in strong people with short thorax. He states that in many cases the diagnosis can be made by looking at the patients as they enter one's office—a view in which I thoroughly agree, as I have made the diagnosis in this way many times during the past three years, and in every time it has been verified by the physical examination. Stiller meets 300 or 400 patients every year in his hospital and private practice, especially the latter, while Kuttner during eight months met 100 cases of enteroptosis among 4,000 patients who attended Ewald's clinic. He frequently found floating kidney among children, in some cases associated with the floating tenth rib. According to Stiller, the basis of the disease rests upon an embryologic defect (vitium primæ formationis), and the numerous causes which many authors give for this condition are in reality not the real cause, but simply the factors which bring about a condition to which the body is already embryologically committed. Among the most important adjuvant causes Stiller places the disappearance of fat, due to various causes—carcinoma, tuberculosis, etc. Glénard differentiates distinctly the symptoms of enteroptosis from a true nervous dyspepsia, as he believes that the former condition has an amply sufficient anatomic basis to explain all the symptoms. Stiller does not deny that an acquired enteroptosis is also possible, as after acute and chronic injuries, peritonitic adhesions, rapid loss of weight, pendulous abdomen, etc. There are also met here and there cases of movable spleen and kidney, even gastroptosis, which are of purely local nature, and which are met in the strongest bodies, but these are not associated with the subjective symptom-complex of enteroptosis, so rich in vague and indefinite symptoms. Cases in which the left kidney is floating and is the only organ displaced are probably of this nature, but according to Stiller these cases of acquired enteroptosis are exceptional.

In a still more recent communication, Stiller[4] reiterates his previous statements as to the diagnostic value of the floating tenth rib in enteroptosis, nervous dyspepsia, and neurasthenia. He believes that by its means the stomach specialist is able to distinguish between the organic and functional forms of dyspepsia, while to the neurologist it reveals the congenital basis of the dyspeptic form of neurasthenia. It is of especial value to the gynecologist, as it shows him that in certain of his cases the displaced uterus is but one of the manifestations of enteroptosis, and not the cause of the nervous and dyspeptic disturbances so frequently met in retroflexion of the uterus, while to the general practitioner and to the pediatrist the costal sign, according to Stiller, is a very valuable guide, as it should warn them to use greater exertion in preserving children thus stigmatized from the neurasthenic and dyspeptic symptoms to which they are otherwise doomed.

Fuhs is a firm believer in the value of the costal stigma, and in his series of cases, besides meeting very frequently three floating ribs, he has found the ninth rib also very loose quite often. He also believes that the lack of power of the abdominal muscles is an important factor, but does not believe that the wearing of corsets exerts a markedly evil influence, for in many cases of Swedish girls, who have never worn corsets, enteroptosis is met. He believes the most important factor is severe disease, particularly typhoid fever and diphtheria which by producing long-standing malnutrition bring about changes in the ligaments which may result in permanent stretching and enteroptosis. He mentions a case in which the condition followed a too rapid obesity cure. Among other factors in the production of this condition he mentions occupations which require standing in one position for a long period of time, also pregnancies and all conditions tending to lessen the firmness of the pelvic floor.

Meinert, after an exhaustive study of several hundred bodies, makes the statement that Stiller's sign is of little or no value, and he believes that enteroptosis, especially when gastroptosis is one of the most pronounced parts of the picture, is one of the commonest causes of chlorosis, while Langerhans[5] recognizes five causes:

1. Relaxation of the abdominal muscles; such cases developing after child-birth he designates as Landau's enteroptosis.
2. Hereditary enteroptotic predisposition.
3. The pressure of clothing, as tight belts and corsets.
4. Chlorosis. These cases Langerhans designates as Meinert's enteroptosis.
5. Nervous dyspepsia.

Rosengart's theory has already been hinted at in our discussion of the embryology of the abdominal viscera. From very careful embryologic studies he believes that enteroptosis may be either congenital or acquired, the former being the persistence of the fetal situation of all or of a part of the abdominal viscera, while the latter is the gradual retrograde development from the normal to the fetal position, this retrograde movement taking place along the same lines, though in the reverse direction from the development of the normal position of the abdominal viscera from their position in embryonic life.

Hemmeter, in his textbook, inclines to this theory of Rosengart that enteroptosis is a pathologic reversion in the location of the abdominal organs to the embryonic type.

In America, undoubtedly the most work upon enteroptosis has been done by Einhorn, of New York. As regards the etiolgy of the condition he lays great stress upon the corset, to a congenital or acquired weakness of the abdominal walls, and to rapid loss of flesh. Many

other careful observers have insisted upon the importance of the corset in the etiology of this condition. Thus, Dickinson,[6] as the result of an extensive study of the influence of the corset upon the chest and abdomen, states, "The estimated total pressure of the corset varies between 20 and 30 pounds. The capacity for expansion of the chest was found to be restricted when the corset was on. The thoracic character of the breathing in women is largely due to corset wearing. The abdominal wall is thinned and weakened by the pressure of stays. The liver suffers more direct pressure and is more frequently displaced than any other organ. The pelvic floor is bulged downward by tight lacing one-third of an inch."

Kellogg is also a firm believer in the injury liable to follow the wearing of corsets, while Bouveret believes that the corset is the most frequent and most effective cause of enteroptosis. Wolkow and Delitzen in their experimental studies lay great stress upon the importance of the corset in the production of this condition. The following quotations from their work may prove of interest:

1. The use of the belt may dislocate the kidney downward, may fix it, and even move it upward, according to the direction of pressure exerted by the belt. The use of a high belt is of the greatest harm. A belt in the plane just below the twelfth rib fixes and even supports the kidney, and in this respect seems to exert a favorable influence. 2. The corset fixes the kidney as long as it is laced, but may increase the mobility of the kidneys by altering the form of the perivertebral spaces in a manner unfavorable for the fixation of the kidneys. It thus acts as a recurrent trauma, and must generally be counted among the unfavorable factors in relation to the socalled mobility of the kidneys. 3. The most plausible explanation of the influence of the belt and corset is found in their action upon the shape of the perivertebral spaces.

The muscular layer of the anterior abdominal wall is not only of physiologic, but also of anatomic significance for the fixation of the abdominal viscera. Take away the influence of the abdominal layer and the equilibrium of the abdominal organs will be disturbed. In very many cases the intestinal convolutions assume a deeper position, and, in consequence of the hermetic condition of the abdominal cavity; a retraction of the mesogastrium and epigastrium takes place. The kidneys descend, rotating with their lower poles to the front, the right usually in a greater degree than the left. In this condition kidneys that could not be felt become accessible to palpation, those that could be palpated before sink deeper and are more plainly to be felt. Kidneys that could be reached only while the patient was standing can now also frequently be felt in the reclining position. The cause of the greater accessibility of the kidneys is to be sought partly in the thinness of their abdominal covering, partly in a dislocation of the intestinal convolutions away from the kidneys. In all these relations there are essential individual differences, so that in some cases, in spite of a marked thinness of the abdominal wall, the kidneys cannot be reached, probably in consequence of other conditions, which increase the mobility or the difficulty of palpation of this organ.

Nephroptosis is only a prominent symptom of a certain pathologic condition, a symptom that is most apparent and which alone causes great functional disturbance. This symptom is an infallible index of an existing alteration of the intraabdominal equilibrium, and, looked at from this standpoint, the study of socalled mobility of the kidney assumes special importance.

Monteuuis lays a great deal of stress upon the weakened state of the abdominal walls as the cause of enteroptosis—he believes this tendency may be natural, but it certainly is developed by the use of the corset.

Schwerdt considers enteroptosis a constitutional disease, while Tuffier says "nephroptosis is one of the symptoms of a probably congenital weakness of the tissues."

Schwerdt believes that the corset is extremely harmful, as it encourages inactivity of several of the thoracic muscles, restrains the mechanical and chemic functions of the digestive and respiratory apparatus, thus lessening nutrition; causes diseases of the blood by encroaching upon its unlimited mobility, and injures the sense of equilibrium and the muscle-sense.

The latest and one of the most elaborate theories regarding the nature of enteroptosis is that propounded by Keith in the Hungarian lectures for this year, which are published in full in the *Lancet*, March 7 and 14, 1903. His aim is to show first that a knowledge of the respiratory movements of the viscera gives the key to the manner in which they are fixed and placed within the body, and second that with any marked deviation in the action of the muscles of respiration there is a disturbance in the visceral movements resulting in displacement and disorganization of function. The organs within the thoracic and abdominal cavities are poised between the muscles of inspiration and expiration, two contending sets, which throughout the life of the individual strive for the mastery. Keith deprecates the tendency in modern teaching to emphasize the respiratory importance of the walls of the thorax and to minimize the action of those of the abdomen, as he believes that the diaphragm in place of relieving the muscles of the walls of the belly of their respiratory function is in reality an ingenious addition to the inspiratory group of muscles and its evolution entailed an increased development of the muscles of the belly walls.

Every organ within the body cavity swings with the respiratory tide. With each breath taken the ordinary muscles of inspiration—the external intercostals, the intercartilagines, and the diaphragm—enlarge the body walls and displace the viscera; with each breath given the internal intercostals, the transversalis, the external and internal oblique muscles, and the rectus abdominis replace the viscera. In the majority of people the respiratory ebb and flow are so finely adjusted that at the end of life the viscera are poised much as they were in youth. Yet in the lifetime of a very considerable proportion of men and women, circumstances over which they may or may not have control, arise and upset the balance between the inspiratory and expiratory groups of muscles. In such cases it is, with the exception of emphysematous conditions, the muscles of inspiration that gain the upper hand and the muscles of expiration that yield. When the respiratory balance is upset the viscera, not only of the abdomen, but also of the thorax, are displaced downward and the condition of enteroptosis is produced.

Thus enteroptosis, according to Keith, is the result of a vitiated method of respiration and should be assigned really to a place among the respiratory diseases. It sometimes happens that the incidence of the disease falls particularly on one organ, very frequently the kidney, sometimes the stomach, liver or spleen. In such cases, although one organ has suffered the chief attack of the inspiratory force, yet a full examination will show that all are displaced although to a less degree.

In the foregoing paragraphs Keith expresses his views regarding the nature of enteroptosis. The arguments from which he bases these views are largely anatomic and are based upon an enormous amount of work on the human cadaver and on the bodies of the higher primates. He first calls attention to the variable condition of the diaphragm, and shows within what wide limits the domes may be found. In 50 subjects, which he either collected or examined, he found that the average position of the domes was just behind the upper border of the fifth costal cartilage in the mammary line, while the average position of the central tendon upon which the heart rests was one-third of an inch below the junction of the ensiform process and sternum. There is a wide and constant fluctuation from these average points, however, and the domes may rise above the third costal cartilage or lie below the sixth, while the central tendon may rest behind the sternum an inch or more above the average point, or it may fall as low as the extremity of the ensiform process. Thus there is a range of over 3½ inches in the level of the domes and more than two inches in the central tendon of the diaphragm. Keith found that on an average the position of the female diaphragm is slightly higher than the male.

According to Keith the diaphragm after death, when rigor mortis has gone, represents a phase of complete expiration, while during life the variations in the level of the diaphragm represent the phases of its respiratory cycle. It is essential to realize what are the supports of the diaphragm since Keith believes the downward displacement of the diaphragm to be a necessary feature of

all cases of ptosis of the viscera, especially also since the liver, spleen, stomach, and kidneys are firmly bound to its abdominal aspect. These supports are three in number—abdominal, supplied by the muscles of expiration, mainly those of the abdominal wall, which keep the abdominal contents pressed within the concavities of the diaphragm; thoracic, provided by the pericardium, heart, the great vessels, and the lungs, which directly or indirectly attach the upper surface of the diaphragm to the structures at the root of the neck and to the whole extent of the thoracic wall; and the costal, given by the abdominal ends of the lower six ribs. Each of the three supports is necessary for the maintenance of the diaphragm in position, and hence it is that in well-marked cases of enteroptosis the chest is deformed, the thoracic viscera occupying abnormal positions, and the contents of the abdomen are displaced. Keith next discusses the mobility of the central or interpleural area of the diaphragm and differs from the view held by most observers that this region is nearly immovable; in fact, he believes that the active contraction of the crura is the most important factor in the production of the condition of visceral ptosis, as, according to him, the crura with each inspiration from a firm spinal origin exert their strength in drawing downward the supports on which the central part of the diaphragm depends. Keith insists that the adhesion of the base of the pericardium to the diaphragm is one of the most effective supports against ptosis of the viscera, and he points out that this extensive attachment is peculiar to man and the orthograde anthropoids; in other words, is peculiar to the upright position. Cervical curvature or eweneck, which is frequently seen in visceral ptosis is explained by Keith by the attachment of the structures of the mediastinum, which support the central part of the diaphragm, from the upper aperture of the thorax and the structures at the roof of the neck. He also calls attention to the lungs as diaphragmatic supports, and in the conclusion of his first lecture discusses the structure and action of the diaphragm, which, however important the passive supports may be, is the active factor through its contraction in the production of displacement of viscera. He believes that the usual conception of its movements is entirely wrong, and that in structure, in development, in evolution, and in action the diaphragm is a true digastric muscle made up of two segments—a spinal or dorsal, and a costal or ventral.

Keith next calls attention to the manner in which the diaphragm has become a muscle of inspiration, showing that it is entirely due to the fact that the abdominal contents have become a respiratory piston; in fact, it is this relationship to the abdominal viscera that gives the diaphragm its importance as a factor in the production of enteroptosis. Thus, the effect which the diaphragm will exercise on the abdominal viscera on inspiration depends on two factors: (1) The opposition offered by the muscles of the abdominal wall to the descent of the viscera; and (2) the mobility of the lower six ribs, to the abdominal ends of which the costal fasciculi of the diaphragm are inserted. Whether the type of respiration is thoracic or abdominal depends upon whether the muscles of the abdominal wall offer a strenuous opposition to the descent of the viscera, or whether they do not, but in either case the effect of the contraction of the diaphragm may lead to displacement of the abdominal viscera, for while the visceral swing is greater in the abdominal type, the pressure to which the abdominal viscera are subjected is greater in the thoracic type. In the course of growth the ribs of man become depressed from 10° to 20°, and this depression being accompanied by a corresponding alteration in the direction of the costal fibers of the diaphragm tends to push the viscera more downward than forward, while if the ribs be still further displaced, as they frequently are by the application of corsets, or from disease, the action of the costal fibers of the diaphragm becomes still more vertical in the direction of their axis. Thus, in many cases of enteroptosis, especially in the case of women under 45, the subcostal angle measures 45° or even less.

There is but one immovable fixed area in the abdominal cavity, and this is the radix mesenterica, situated in front of the twelfth dorsal and first lumbar vertebras at the origin of the crura of the diaphragm where the aorta emerges from the dorsal mesentery of the thorax, covered with a strong fibrous coat and giving off the two great arterial trunks of the viscera, the celiac axis and the superior mesenteric artery. From the crura of the diaphragm and sheath of the aorta strong fibrous and fibromuscular strands stream outward on the arterial trunks of the liver, stomach, and intestines, while a special fibromuscular band—the muscle of Treitz—leaves the left crus, often the right, to end in the duodenojejunal flexure and to bind it to the fibrous mass, while in the space between the celiac axis and superior mesenteric artery is firmly bound a segment of the body of the pancreas. Thus, whatever displacement may happen to the rest of the abdominal viscera the duodenojejunal flexure and the part of the pancreas just mentioned remain in position. With the exception of the two parts just mentioned all the abdominal viscera are fixed to the muscular walls of the abdomen and are subject to the respiratory movements. Probably the most important organ in the production of enteroptosis is the liver, which is fixed solely to the diaphragm. It rests upon a visceral shelf, composed of the stomach, duodenum, pancreas, colon and right kidney, and this shelf is maintained by the action and tone of the abdominal muscles. The movement of the liver during respiration is threefold: (1) A rotary movement around a median anteroposterior axis; (2) a rotation around a vertical median axis, this being by far the most important of the three movements due to the length and looseness of the suspensory ligament; (3) a movement around the horizontal axis drawn from side to side of the body. While the normal respiratory movements of the liver take place without disturbing its function, unfortunately they are liable to be disturbed from many causes, such as relaxation or weakening of the abdominal wall, or by distortion of the costal margins by clothing or by diseases of the spine or of the thorax. The stomach is situated upon a visceral shelf made up of the transverse colon and its mesentery, the pancreas, the duodenum, and the left kidney, while it is further held in position by the coronary ligaments of the stomach and the suspensory ligament of the spleen, which binds the fundus of the one and the upper pole of the other to the left arcuate fibers of the diaphragm, and by the esophagus, the fibrous coat of which is continuous with the tissue of the diaphragm and the dorsal mesentery of the thorax. As the stomach is emptied its place in the left hypochondrium is taken by the ascent and distention of the splenic flexure of the colon. The contents of the left hypochondrium have two special bonds which are scarcely represented on the right: (1) The costocolic ligament, a derivative of the great omentum, which forms the shelf below the spleen; and (2) the lienorenal ligament, which fixes closely the renal surface of the spleen to the kidney, and which must be considered as partly accounting for the rarity of displacement of the left kidney.

From a clinical point of view the most important of the visceral bonds is the gastrohepatic omentum, and more than half the sequels resulting from ptosis of the liver and stomach are due to compression, straining or distortion of the bile, blood, nerve, and lymph channels contained in this omentum. Its two most important attachments are (1) that to the fibrous tissue of the radix mesenterica, and (2) that to the central tendon of the diaphragm by the fibrous remnants of the ductus venosus and by a strong set of fibers, which thicken the part of the omentum within the longitudinal

fissure of the liver. The respiratory movements of the stomach and spleen naturally correspond to those of the liver, but the one of far greatest importance is the swing forward. Keith believes that gallstones are commonly if not always present in cases of enteroptosis, and explains this by the descent of the duodenum, head of the pancreas and termination of the common bile duct, which is invariably caused by the displacement of the liver. This throws a marked strain upon the cystic duct, which is fixed by the gastrohepatic omentum to the central tendon of the diaphragm. As a result of the consequent difficulty with which the bile enters and leaves the gallbladder, a condition favorable to the formation of gallstones is produced. Thus, according to Keith, displacement of the liver and stomach springs chiefly from two causes, either from the relaxation or paresis of the abdominal muscles, which maintain the visceral shelves on which these organs are supported, or, as is more frequently the case, the body cavity is constricted by clothing or contorted by disease so that the normal respiratory swing forward cannot take place. In either case the visceral displacements are much the same, and thus this extrusion of the viscera from the subdiaphragmatic space is due, (1) to the constriction of the thorax; (2) to the pressure applied to the epigastric region, which prevents the stomach and liver swinging forward so as to override each other; and (3) to the depression of the ribs, which throws the costal fibers of the diaphragm into a more vertical position, thus tending to press the viscera downward rather than forward. The corsets, when worn, prevent an inspiratory depression of the liver so that the viscera when so restrained become a fulcrum on which the chest is raised, while, when the corsets are removed or undone, the muscles of the wall of the abdomen are poorly equipped to oppose the action of the diaphragm.

The most important of the various forces, which maintain the kidneys in their normal position, is the constant pressure exerted on them by the diaphragm on the one hand, and the muscles of the abdominal wall on the other, while unlike the liver, stomach, and spleen, the kidneys rest upon no visceral shelf. The diaphragm exerts its force directly on them, but the muscles of the abdominal cavity can act only indirectly through the abdominal viscera. These viscera are the liver, duodenum, colon, and small intestine in front of the right kidney, and the stomach, spleen, colon, and small intestine in front of the left kidney. Beside these supports, must be mentioned the loose connective tissue or perirenal capsule in which the kidney is imbedded and by which the kidneys are bound to the diaphragm, and the renal pedicle made up of renal artery, renal vein, renal nerves and lymphatics, and dense connective tissue derived from the radix mesenterica, which fuses with the perirenal capsule and with the fibrous coverings of the suprarenal bodies. The respiratory movements of the kidneys are easily understood when we remember that the kidney is in relationship only with the arcuate fibers of the diaphragm, while above the kidney the liver is bound to the arcuate fibers on the right side, and to the spleen and stomach on the left. These structures, being pulled downward by the arcuate fibers in each breath taken push the kidneys downward and inward before them, the extent of the excursion varying from 2 cm. to 4 cm. with each breath, while during expiration the muscles of the abdominal wall, especially the transversalis, return the kidney to its initial respiratory phase.

The condition essential to the displacement of the kidney is a diminution of the subdiaphragmatic space, and such a diminution may be produced in many ways: (1) By compression of the thorax with clothing; (2) by a partial collapse of the thoracic walls, following chest or spine disease, and (3) by a permanent contraction of the diaphragm, which follows a relaxed or paretic condition of the abdominal walls. According to Keith, in cases of general enteroptosis, the muscular fasciculi of the diaphragm measure on an average only 2½ inches against 3½ to 4 inches in a condition of health. Keith believes that the comparative rareness with which the left kidney is displaced is because the left hypochondrium is provided with a safety valve in the shape of the splenic flexure of the colon, which may enter or leave the hypochondrium with the greatest freedom, and also because the left kidney is bound to the spleen and the spleen is bound by its suspensory ligament to the diaphragm. We must also remember that the arcuate fibers draw down the unwieldy heavy base of the liver on the right kidney, while the fundus of the stomach, which is drawn down upon the left kidney represents a much lighter hammer. The much greater liability of women to renal displacement is not entirely due to their peculiarities of clothing, according to Keith, but is probably partly due to the expansion outward of the iliac crests, which is associated with the development of the female sexual characteristics, and which secondarily causes the fasciculi of the external and internal oblique muscles, which rise from the crest of the ilium, to expand the capacity of the loins and thus tend to prevent the return of the kidney during expiration instead of compressing the loins, and assisting the return of the kidneys as is normally the case in males. The fixation of the intestinal tract is far too complicated to consider in detail here, but from a study of the orthograde primates including man, Keith describes five areas of adhesion which bind the alimentary tract to the abdominal wall. These are the mesogastric, attached to the celiac axis, the mesoduodenal—the adhesion of the right aspect of the mesoduodenum to the hilum of the right kidney; the lower mesocolic adhesion, which leads to the fixation of the splenic flexure and the descending colon, and which is attached in the middle dorsal line along the aorta; the upper mesocolic adhesion, which fixes in position the transverse colon, the hepatic flexure and the ascending colon; and the mesenteric adhesion, or the adhesion of the mesentery of the small intestine to the posterior wall of the abdomen, the attachment taking place in an oblique line drawn from the termination of the duodenum to the cecum. The cecum and appendix being developed as protrusions from the bowel have no proper mesentery.

I have discussed at length the contribution of Keith to the subject of enteroptosis, not only because of the importance of the theory which he expounds as to the origin of the condition, but also because, entering into the study of the condition as he does upon an anatomic rather than a clinical standpoint, the paper gives in a most satisfactory way the exact position of the thoracic and abdominal viscera, and calls attention to the marked variations which may take place in regard to these positions, not only in disease, but also in health.

Briefly speaking, Keith's conclusions are as follows:

1. The contraction of the diaphragm is the factor which produces the displacement of the viscera in enteroptosis or Glénard's disease, and further, that of the various parts of the muscle the crura are the most important agents in producing this result.

2. Before the displacement can be produced either what he terms the "thoracic supports" of the diaphragm must have yielded or the antagonistic abdominal muscles have been hampered or weakened in their action, as for example, by tight corsets.

3. The bonds which fix the viscera to the walls of the abdomen are of quite subsidiary importance.

No theory of the development and origin of this condition explains all the facts; thus on Keith's hypothesis it is difficult to explain the occasional occurrence of enteroptosis in adult males without any constricting force having been applied or muscular paralysis being present; isolated displacements of the right kidney; curious localized and temporary contraction of the large bowel; the occurrence of enteroptosis in very young

infants; the fact that Riedel's lobe, that peculiar linguaform process which the extremity of the right lobe of the liver is so likely to assume in marked cases of enteroptosis, is occasionally met in infants without any other abnormality being present, and the presence of enteroptosis in young women who have never worn corsets and who have strong abdominal muscles.

I have considered at length in the preceding remarks the various divergent and widely conflicting theories held regarding the etiology of this condition. These theories may be roughly placed in three groups: (1) The condition is congenital and is due to an inherent weakness of the tissues which support the abdominal viscera; such factors as clothing, trauma, disease, etc., are not the primary causes of the condition, but simply contributory causes, which bring out and accentuate the inherited tendency; (2) the condition is due to the pressure of clothing, trauma, weakness of abdominal walls, various diseases associated with marked loss of strength or weight, various spinal and thoracic diseases, pregnancy, and parturition, abdominal tumors of various kinds; in other words, a number of conditions, each of which, however, has as its results the weakening of the various visceral supports, due in some cases to pressure, in other cases to adhesions, in other cases to trauma, and in still other cases to a marked diminution in the supporting power of the abdominal walls; (3) that each of the foregoing may be the primary causes of the condition; in other words, that there is both an acquired and a congenital form of enteroptosis. A careful consideration of the various theories evolved and of the cases of enteroptosis described in the literature and met in our own experience should, I think, make us take this third view. As to the exact way in which the ptosis is produced there are a number of possibilities, but the suggestions of Keith in this connection—that is, that the diaphragm is the most important factor in the production of this condition—should receive most careful consideration.

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[*To be continued.*]

A NEW CHOLERA VACCINE AND ITS METHOD OF PREPARATION.

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For the past several months I have occupied myself with the task of preparing a practicable vaccine against cholera. As it is necessary for me to interrupt my studies on this subject for a time, and as the results already obtained seem very favorable, it has been thought advisable to publish now a very brief account of some of the experimental work.

While there is little or no reason to doubt but that human vaccination against cholera, either after the "Ferran-Haffkine" or "Kolle" method, when properly applied gives rise to a good immunity in the inoculated, there is also little hope of either method ever becoming a general one, on account of the severe local reaction and constitutional symptoms, which usually follow the administration of both. Even Kolle himself admits that these methods are far too severe for practical use.

In my search for a practical vaccine, I first studied the local reaction and other toxic effects produced in animals after the injection, of both a very virulent cholera culture and also of one which through cultivation on artificial laboratory media for a long period of time (nine years) had lost most of its virulence. The effects of the killed as well as of the living organisms were also studied with each culture. These two stems for the sake of brevity will be referred to in this article as "*virulent*" and "*avirulent*," respectively.

Some time was spent in accurately standardizing these two cultures, and the minimal lethal dose for guineapigs of 250 gm. weight was carefully determined. After numerous passages of virulent through animals a minimal lethal dose of one-tenth of a standard oese of a 24-hour agar culture was reached. Such a dose of "virulent" suspended in 1cc. (0.85%) sodium chlorid solution and injected intraperitoneally into a guineapig of 250 gm. weight regularly causes death within 24 hours. With "avirulent" on the other hand 1½ standard oese of a 24-hour agar culture injected intraperitoneally are required to produce death within this time in such an animal. The former stem therefore may be said to possess 15 times the virulence of the latter. Throughout the course of the work this relation of virulence between the two organisms was carefully preserved and continually tested by animal inoculation. As the virulence of cholera cultures changes in a few days on laboratory media, it is necessary to make daily animal inoculations and to use always the same generation of the stem.

It soon became evident that the local reaction upon the tissues in animals after the subcutaneous injection of "avirulent" was much less than that after injection with "virulent" cholera spirilla, and I determined to see what character of serum could be produced with this "avirulent" organism and to compare it with one produced by the virulent stem. Accordingly six rabbits of average weight of 1,500 gm. were inoculated intravenously, three with ½ oese "virulent" each and three with ½ oese "avirulent" each, the organisms in each case being suspended in 1 cc. normal saline solution. After seven days the rabbits were all killed by bleeding, and the value of the serum in each case determined for agglutinative and bactericidal properties. It was then seen that the rabbits which were inoculated with "virulent" culture always furnished a better serum than those which were inoculated with "avirulent," but that the value of the serum from the virulent animals both in bactericidal and agglutinative properties was in no case above twice that value obtained from the avirulent treated animals.

The technic used in the experiments was as follows:

The reactions for agglutination were performed in the test-tube. One oese of the living organisms of a 24-hour agar culture was thoroughly emulsified in 1 cc. (0.85%) sodium chlorid solution. The thin serum suspended in 1 cc. saline solution was then added to the microorganisms and the mixture placed in the incubator at 37° C. for two hours. In a complete agglutination the liquid overlying the precipitated bacteria should appear entirely clear.

The bactericidal reactions were performed in the abdominal cavities of guineapigs, after the wellknown method of R. Pfeiffer. The dilutions of serum were made in 0.85% sodium chlorid solution; 1 cc. of the thinned serum was then added to 1 cc. bouillon containing one oese of a 24-hour agar culture of "*virulent*" in suspension. One cc. of the resulting mixture was then injected into the peritoneal cavity of the guineapig; the animal thus receiving five times the fatal dose of living organisms. A fresh guineapig was used for every reaction, and each case was controlled by the microscopic examination of the contents of the abdominal cavity obtained by means of a capillary tube, as well as by the inoculation of control animals, without serum. The result to the animal, whether living or dead, after 24 hours, was regarded as the final test of the reaction, though the condition of the organisms in the abdominal cavity of the animal one-half hour after inoculation was always carefully noted.

As some such outcome as obtained in the above experiments was not entirely unexpected, but as these results were somewhat at variance with the ideas of Haffkine and quite different from what R. Pfeiffer found upon the intravenous injection into rabbits of *dead*

cholera spirilla of different virulence, it was determined to repeat them. Accordingly a second series of animals was inoculated just as the first, and on the day of inoculation, as in the previous series, the virulence of the injected organisms was verified as 15 to 1. The result was practically the same, for after seven days the examination of the serum showed that the virulent stem had in but one case given a serum of more than twice the bactericidal value of that from the "avirulent" germ. In this one case the value of the avirulent serum was one-fourth as strong.

In the experiments with the subcutaneous injection of the avirulent organism, both living and dead, while the local reaction as mentioned was much milder than with the virulent germ, there was always considerable inflammation about the point of inoculation, and it soon became evident that it would be highly desirable to do away entirely with the bacterial cells if possible. I therefore occupied myself with this problem, namely, the extraction of the immunizing properties from the bacterial bodies.

After trials of numerous methods it was found that by autolytic digestion of the killed spirilla in aqueous solution, cholera receptors were set free in great abundance in the fluid, which after filtration were easily demonstrable both by the fact that such filtrates could be shown to possess the power to bind cholera uni and amboceptors (agglutinin and bacteriolysin) in a cholera-immune serum, as well as by their power to give rise after injection into rabbits to the appearance of bactericidal and agglutinative substances in the blood-serums of these animals.

Such a filtrate, therefore, immediately recommended itself for trial in protective inoculation. After the demonstration of its efficiency as a vaccine was determined by animal experiment the cholera receptors were obtained in solution in large quantities after the following manner: The surface of large flat-sided flasks filled with cholera agar are sprayed with 20-hour bouillon cultures, and the flasks then put aside in the incubator at 37° C. for 20 hours;[1] the growth is then emulsified with sterile water removed from the surface of the agar and the emulsion placed in a sterile flask and kept at a temperature of 60° C. for 24 hours. The mixture is then put aside in the incubator for from 2 to 5 days. The best results were obtained apparently after 5 days autolytic digestion. After such digestion the emulsion is filtered through a Reichel filter. The fluid thus obtained must of course be examined for sterility and carefully standardized before being used as a human vaccine.

By means of the intravenous injection into rabbits of 1 cc. of such a filtrate (representing the amount of receptors obtained from 2 oese "virulent" after 2 days digestion), a serum is obtained after 7 days equal in bactericidal and agglutinative properties to that obtained by the intravenous injection of ½ oese of the living "virulent" cholera organism. By the single intravenous injection of 6 cc. (obtained from 12 oese after 5 days digestion) a serum was obtained of double this strength, namely, agglutinating in dilutions of 1 to 900 and showing a bactericidal reaction of 1 in 24,000. Rabbits receive large intravenous injections, as high as 12 cc. of a not too concentrated filtrate, and show but little the effects of the inoculation. Usually there is about 1° of temperature on the day following the inoculation. Too concentrated solutions of the filtrate however may cause death. The injection of filtrate obtained from digestion of the "avirulent" stem likewise gives rise to immunizing properties in rabbits, and serums are obtained from one-fifth to one-twelfth as strong as those obtained from the injection of corresponding amounts of "virulent" filtrate. The filtrate in either case may be evaporated in a vacuum at 37° C. to a powder, and this also, when dissolved in water and injected either subcutaneously or intravenously, gives rise to good immunity, although not so excellent results are obtained as with the filtrate before evaporation. We have repeatedly injected from 1 cc. to 5 cc. of "virulent" vaccine filtrate subcutaneously into a large number of both guineapigs and rabbits without practically any signs of a local reaction appearing. A *small* guineapig inoculated with 5 cc. of "virulent" filtrate intraperitoneally, died after 24 hours, but there were no evidences of injection of the bloodvessels at the point of inoculation, no injection or hemorrhage in the peritoneal cavity, and only a marked edema of the abdominal walls. One-half cubic centimeter, however, of the thick material which remains behind on the filter in the form of an emulsion, when injected intraperitoneally results in the death of the guineapig with the most extensive local reaction, injection of the vessels, and corrosion of the tissues.

On the other hand the injection of 1 cc. of "virulent" vaccine filtrate perfectly and regularly protects guineapigs after a week against the injection of five times the fatal dose of cholera spirilla. As a passing example of its value as a vaccine may be mentioned an experiment in which four large guineapigs were inoculated, two receiving $\frac{1}{15}$ of an oese "virulent" 24-hour agar culture, the other two 5 cc. "virulent" vaccine filtrate intraperitoneally. After six days all were inoculated with 2 oese "virulent." The two which received vaccine filtrate lived, the other two died. From all these experiments it is easy to see that we have a very efficacious form of vaccine and, apparently, one which gives rise to almost no local reaction. In fact, through the kindness of Professor Wassermann, I have recently received a subcutaneous injection of an amount of such filtrate corresponding to $\frac{1}{10}$ oese "avirulent" without the slightest local reaction appearing. As I am at this time about to start on my return journey to Manila the opportunity does not offer itself now for a second larger inoculation, nor for the study of blood-serum for agglutinating and bactericidal reactions. These, however, will be made at a later date.

Naturally in the course of this work the question often recurred to me upon what property the difference in virulence depended (viz., 15 to 1) between my two stems "virulent" and "avirulent." Without going into details here, it may be said that it was possible to show that in both the cholera immune serum of rabbits and guineapigs the virulent organism bound from 14 to 16 times as many cholera amboceptors as the avirulent, or in other words, that the "virulent" germ either possessed from 14 to 16 times as many receptors as the "avirulent" or was endowed with from 14 to 16 times as great an avidity for the cholera amboceptors in its haptophore group. Experiments already performed to determine the difference in the number of receptors which the killed organisms of each stem contained, and also the number of receptors in the filtrates obtained by autolysis from each, as well as the comparison of the immunity obtained in animals with the two stems *living*, with that obtained by the use of both in the *killed* state, will be referred to in a later paper.

The use of free receptors obtained by autolytic digestion and filtration of the bacteria for a vaccine in other diseases, for example, typhoid and dysentery after the same manner as I have described for cholera, naturally suggests itself. But, whether autolysis with these organisms will furnish as satisfactory a vaccine as in the case of cholera can only be determined by actual experiment. Conradi and Neisser and Shiga have recently suggested the use of such a method for the preparation of curative serums in typhoid fever and dysentery.

As autolytic digestion does not always give constant results with all bacteria one is not to be discouraged by a few trials of a given stem. The success of the method depends upon the fermentative power of the organism

[1] Cultures of 20-hour growth are always used because it has been found that the growth of cholera organisms, on artificial media, is obtained within this time. After this period a rapid death of the spirilla in the culture media takes place.

and upon the number of receptors it contains. It is my intention shortly to make use of my vaccine in the epidemic of cholera now existing in the Philippine Islands.

In conclusion, I wish to express my thanks to Professor A. Wassermann (in whose department of this Institute these experiments were performed) for many valuable suggestions during the course of my studies. Whatever merit may come from the use of the above vaccine will in greater part belong to him.

In regard to the preparation of vaccines against cholera I wish also to add that if one accepts spirilla, found in water or even in the intestine of those who have died of cholera, which, for example, possess more than a single terminal flagella, or those which kill pigeons, etc., as examples of the true *Spirillum choleræ asiaticæ*, without having very carefully tested these organisms with an undoubted cholera immune serum in high dilutions; and further, if one uses such organisms for the preparation of vaccines it does not seem probable that very satisfactory results will necessarily be obtained by their use against Asiatic cholera. The choice of correct spirilla for the preparation of the vaccine is obviously of the greatest importance, and should be made with particular care. Such precision of choice in the organisms used for human protective inoculation against cholera, apparently, has not always hitherto been observed. Perhaps several varieties of spirilla such as I have referred to above, and which give characteristic growths for the cholera spirillum, on artificial laboratory media, may be swallowed by human beings with impunity, but I am not at all convinced that the same may be generally performed with very virulent stems of true *Spirillum choleræ asiaticæ*. From our recent experience in Manila we should rather be inclined to think that the true cholera spirillum is not nearly so variable in its serum reactions, growth on artificial media, pathogenicity, etc., as one might sometimes be led to believe from some of the literature on this subject.

WHAT IS EPILEPSY?

BY

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Epilepsy, as I understand it, is a condition of autointoxication, producing a vasomotor spasm and resulting in autoasphyxia, from which the convulsion follows as a physiologic sequence, just as a convulsion always follows every condition of sudden and complete asphyxia from whatever cause the latter may arise. No method of asphyxia could be more sudden or more complete than that produced by a vasomotor spasm, and the extent of the former would be determined by the completeness of the latter.

Before proceeding, however, to establish, if possible, the position taken, a few words regarding the usual division of epilepsy into several forms may not be out of place. For my part, I am slow to believe that there is anything in epilepsy, either in its supposed cause, mode of development, or convulsive manifestations, that would indicate even the most distant relationship to Jacksonian, traumatic, or other socalled forms of epilepsy, and in this paper, as in others on kindred subjects, in using the term epilepsy I have ever had in mind that condition known as idiopathic epilepsy, which to me is the real and original epileptic condition, and the only one entitled to be designated as such.

Great care should be observed in attaching names to diseases, and a single symptom, however striking and impressive it may be, should not be allowed to blind our eyes to real conditions or suggest relationships which do not exist. The spectacle of a strong man struggling in the throes of a convulsion is well calculated to attract and hold the attention of the multitude, and even scientific minds, with an eye supposedly single to the reality of things, have ignored the disease, while wrapt in the contemplation of its muscular accompaniment, and forgotten the real condition in the awfulness of its manifestations. The convulsion itself has so completely filled the mental horizon that the condition which gives it birth has paled into comparative insignificance, and even its name has been used to designate other conditions with which epilepsy has nothing in common, save the convulsion.

If the convulsion, as no man doubts, is but a symptom of epilepsy, why give the name epilepsy to other conditions simply because they present the convulsive symptom, and that, too, only in a much modified form? Or, if the convulsion is so important as to be entrusted with the seal and signet ring of epilepsy, why limit its action? Why not allow it to stamp every condition epileptic with which it may become associated that we may have as many forms of epilepsy as we have varieties of convulsions? I can see no similarity whatever between the general convulsion of epilepsy and the local and limited manifestations of motor spasm seen in Jacksonian epilepsy or traumatic epilepsy; nor is there any similarity in the *modus operandi* by which they are produced nor in the cause which gives them birth. The convulsion of epilepsy is much more closely related to uremic and puerperal convulsions, for here the motor manifestations are much the same and the cause, if not the same, is at least similar; but these conditions, being unlike epilepsy in their transitory character, very properly bear the names they do.

Epilepsy is a well-defined condition, varying only in degree, as all diseases do, and not easily mistaken; and while there may be Jacksonian convulsions and traumatic convulsions and hysteric convulsions, I can see no good reason for believing them to be different forms of epilepsy any more than uremic convulsions or the convulsions following the excessive administration of strychnin. Mechanical irritation of portions of the motor area will cause a convulsion in the corresponding muscles, and local irritation, other than mechanical, may cause local convulsions, but local irritation is not epilepsy any more than a local rise of temperature is fever. There are reasons for the convulsions peculiar to the Jacksonian type and there are reasons for the convulsions of trauma, but they are by no means the same reasons that give rise to the convulsions of epilepsy, and to call them forms of epilepsy is not only confusing and misleading, but has done much to befog the atmosphere surrounding epilepsy itself, which is none too clear or luminous at best.

Epilepsy, then, is a condition of autoasphyxia, resulting from autointoxication. An epileptic poison finds its way into the blood, and whether it be a secretion from some ductless gland, or half-formed product of metabolism, we know not yet, but of this much we may feel quite sure; whatever its origin may be, it lays its hand on the vasomotor center and the heart and vessels are tightly clutched in a vasomotor spasm to prevent its further entrance into the blood, or its dissemination throughout the body. The vasomotor spasm is complete for the time, and the circulation is suddenly and entirely arrested. No oxygen is admitted to the brain, no carbon dioxid is eliminated; the deficiency of the oxygen is emphasized by the enormous increase of the carbon dioxid, and asphyxia is absolute and complete.

There is nothing mysterious or enigmatic about epilepsy. Given the cause and the various manifestations, viz., the vasomotor spasm, the asphyxia, and the convulsion, follow in natural and physiologic sequence; and, conversely, does not tracing these manifestations backward through the different stages of physiologic sequence give us some clue to the nature, at least, of the prime cause? That the autointoxication produces a vasomotor spasm is undoubtedly true; that complete vasomotor spasm will produce asphyxia is capable of

demonstration, and that the convulsion follows the asphyxia is susceptible of proof.

The fact that the epileptic poison produces a vasomotor spasm is, I will acknowledge, quite difficult to determine, and to do so requires exceptional opportunities, unlimited time, and a superabundance of patience. Out of innumerable attempts, however, I have succeeded in establishing the fact to my own satisfaction in three separate cases. For several months I almost lived in the epileptic ward and made every effort to carry out this line of investigation; with rather meager results, so far as numbers are concerned, compared with the difficulties encountered; but in these three instances the condition of spasm, as evidenced by the cessation of heart-beats, was so well marked that I can no longer doubt its existence. The greatest difficulty in determining that the heart ceases to beat lies in not being able to apply the stethoscope at the proper time, that is immediately preceding the convulsion. As the epileptic cry, or the fall of the patient, is usually the first warning of an attack, and as the investigation must be made preceding this, success can only come from the most untiring and unremitting vigilance. The best opportunity is offered during an attack of status epilepticus; but whether this spasm implicates all the bloodvessels having a muscular coat or involves the heart alone no one can say with a certainty, but abundant evidence of asphyxia is present, and that, too, before respiration has been suppressed by the resulting convulsion. Right here is an interesting field for investigation, for here lie concealed those elemental facts which, when discovered, will throw a flood of light upon the origin and the cause of epilepsy.

That a condition of general vasomotor spasm will produce asphyxia is a self-evident proposition. Asphyxia results from any cause which interferes with furnishing an adequate supply of oxygen to the brain, whether by suppression of respiration or of circulation, or of both, and the effect is the same whether the vasomotor spasm involves all the bloodvessels or the heart alone, if the obstruction to circulation is complete. There are, therefore, two forms of asphyxia, one the result of obstruction to respiration, the other the consequence of obstruction to circulation; the former much slower in its evolution than the latter. While suppression of respiration may prevent the admission of further oxygen into the body, there is still a quantity remaining in the blood, and so long as the latter continues to circulate and the supply of oxygen remains unconsumed asphyxia cannot become complete. On the other hand, a cessation of circulation deprives the brain of oxygen immediately, and no amount of respiration is of any avail. In the event of obstruction to both respiration and circulation the phenomenon occurs with greater rapidity and is more profound, but recovery from its injurious effects is characterized by greater celerity because of the unused oxygen in the motionless blood, which becomes available so soon as the vasomotor spasm is relaxed and circulation is once more established.

There is a startling resemblance between the conditions of drowning, hanging, suffocation, strangulation, and epilepsy, varying only in the degree of asphyxia, and differing only in the cause. They all represent a brain deprived of oxygen. Their methods of operation are dissimilar, but the results are remarkably alike, for the struggles of a stifled brain for oxygen are not fashioned by the manner of its deprivation. Whether the asphyxia result from obstruction to respiration, or to circulation, or to both, or otherwise, the manifestations are the same—unconsciousness, followed by a convulsion—and they are always similar because they are the manifestations of asphyxia, and not of suffocation, or strangulation, or epilepsy. The asphyxia of epilepsy differs in no way, except in its completeness, from the asphyxia of suffocation or strangulation.

I do not believe that the convulsion of epilepsy is a convulsion peculiar to that disease, that it is the result of special brain disease, or that it is an automatic motor cell explosion, any more than the convulsion, or "death struggle," of the victim who is hanged by the neck until he is dead; but I do believe that every instance of asphyxia, if not so slowly produced that death comes in a milder form and from other causes, is accompanied by convulsions. I know the statement is broad and comprehensive, but let us see.

The popular idea of hanging is that death is caused by a fracture of the vertebras of the neck, as a consequence of the drop, with resulting injury to the spinal cord; but Wharton and Stille, in their most excellent work on "Medical Jurisprudence," say that a broken neck, as a result of hanging, is an exceptionally rare occurrence, and that death in hanging "is caused by the pressure of the rope on the windpipe, by which the access of air to the lungs is cut off. The individual is therefore strangled; he dies more rapidly, but in the same manner, physiologically speaking, as do those who are suffocated by drowning, or are placed in any irrespirable medium." They further say: "The signs of hanging are, therefore, in general terms, the same as those of asphyxia from other causes, namely, face swollen and livid, the eyes prominent, and the tongue protruding between the contorted lips; but these vary in intensity according to the position of the body and the suddenness of death." In other words, the signs of death by hanging are practically those of an epileptic dying in the midst of a convulsion.

But do general convulsions actually occur as the result of asphyxia by hanging? The following is a case in point:

> The facts were observed at a public execution. The rope used was 10 lines in diameter; the knot was large, formed of three turns of the rope, and, on the noose being tightened by the executioner, corresponded to the occipital protuberance. The bolt being withdrawn, the man fell through a space of 7½ feet. The body fell with a tremendous jerk, and oscillated a few moments; then the arms and legs became rigid; the forearms flexed on the arms, the fingers on the palms, and the thighs adducted and drawn up toward the abdomen (a typical tonic convulsion); the sternomastoid muscles were affected with spasms, and the hands became livid. After a short time the limbs relaxed; the legs approached each other; the hands fell down by the side and the fingers became relaxed. The body, having been suspended for 45 minutes, was cut down and the cord removed from the neck. The lips were livid; the upper and lower teeth were half an inch apart, and the tongue was indented by them; the cap in which the head had been enveloped was stained by bloody mucus which had flowed from the mouth and nose.

Again: Dr. Dyer, while pursuing another line of investigation, procured three dogs which he hanged, the drop being three feet, with the following results: Dog No. 1, neck broken, no convulsion. No. 2, died with convulsions, which lasted a short time. No. 3, died with prolonged convulsions. In the case of dog No. 1, it is self-evident that the neck being broken the injury to the spinal cord would prevent any convulsion of voluntary muscles.

The fact that convulsions do attend conditions of asphyxia is not generally recognized by textbooks on medical jurisprudence, but it is true nevertheless, and its knowledge aids very materially in explaining many of the puzzling circumstances surrounding deaths due to this cause. A case related by Dr. Wossialo:

> A young woman about 20 died suddenly. The signs of death by suffocation were very distinct. The eyes protruded, the face was livid, the tongue projected between the teeth. She had just left the room in which were several persons. The mistress of the house went to seek her, and found her on the floor of the hayloft, and noticed that she trembled and breathed with difficulty. They got her down through a hole in the floor. Several women were present, *and they thought she was in a fit;* she fell down, was blue in the face, shook in the hands and feet, rolled her eyes and gasped for breath. In 15 minutes she died. An autopsy revealed a large ball of hay, the size of a goose's egg, in the throat, reaching down into the pharynx, back of the larynx.

Here was a case in which only the autopsy could determine whether this was the convulsion of suffocation or of epilepsy.

Dr. Taylor gives the following case in Guy's Hospital Reports:

The prisoner was found guilty, and before his execution made a confession, in which he stated that he met the deceased by appointment, that they talked and walked about, after which, at her suggestion, they sat down on a bank. She had come to urge him to marry her. He passed a rope which he had previously secreted, gently around her neck as they were sitting, and had got the end of it in a loop before she perceived it. She jumped up at once, and put up her hands to save her throat, but he pulled hard and she soon fell. She was found dead in the field the next morning. A postmortem examination was made on the following day. The eyes were much distended and diffused with blood, and the pupils dilated. There was a general lividity and swelling of the face; and the tongue, which protruded from the mouth, *had been bitten by the teeth, and was still clenched between them.* The fingers were contracted and drawn into the palms of the hands.

Dr. Harris divides the phenomena of asphyxia into several stages. During the first, he says, there is hyperpnea, then dyspnea, followed by the convulsive stage, when the whole muscular system becomes convulsed, succeeded by relaxation, exhaustion, and death. So very similar, indeed, are deaths from suffocation and from epileptic convulsions that Wharton and Stille, Vol. III, p. 358, are led to say, speaking of suffocation, "Death, thus criminally produced, has often been attributed to convulsions."

From the very nature of the case it is only in death by hanging that we are able to collect definite data relating to the convulsion of asphyxia. There is no doubt that it also occurs in cases of suffocation, or strangulation, or drowning, but circumstances attending these conditions render them unfavorable for purposes of observation. We can only rely upon the evidences of convulsion discovered after death, and in most instances these have disappeared, in a measure, before inspection is made. Disarranged clothing and other evidences of a struggle are not always proof of a homicidal element in the case, for these may result from the convulsion following self-strangulation; and the "clenched, unyielding grip" of the drowning man is more likely to be convulsive in its nature than an intelligent effort made to escape.

Dr. Taylor says: "Death from hanging appears to take place very rapidly and without causing any physical suffering to the person. It is observed that in those criminals who are executed, there are sometimes violent convulsions of the limbs and trunk. (Which, as I understand it, means whenever the neck is not broken by the fall.) There is no reason, however, to believe that the individual suffers pain, any more than in the convulsions of an epileptic fit. On recovery there is an entire loss of consciousness of pain in both cases." Again: "As a general rule, in violent hanging or in strangulation, the hands are clenched. This appearance may not always be found, as it may exist and be destroyed before the body undergoes medical examination. In cases in which the constriction is gradually produced, the clenched state of the hands may not be found. Convulsions generally attend violent (sudden) hanging or strangulation." Reicke found that in 30 cases of hanging the tongue was generally between the teeth, and in most cases wounded by them.

Epilepsy, then, is a state of autoasphyxia, or, in other words, a condition of physiologic strangulation or suffocation; except that the cause manifests itself through obstruction to circulation rather than to respiration, though the ultimate effect in both cases—depriving the brain of oxygen—is the same. Depriving the brain of oxygen, though it is the initial cause of asphyxia, is not the sole cause, nor is it the cause, except indirectly, of the convulsion which follows. There is a certain ratio established and maintained between the amount of oxygen admitted to, and the quantity of carbon dioxid generated in, the body in health, but in conditions of asphyxia the diminution in the amount of oxygen is met by an enormous increase of carbon dioxid, which seems to be nature's method of providing a supply of oxygen, by stimulation of the respiratory center, or, failing in this, a supreme effort to escape from overpowering forces by means of a general convulsion.

The convulsion, as a physiologic process, can usually contend successfully against a physiologic cause, as in epilepsy, and it contends with equal vigor, though with less success, against a mechanical one, but I believe that in each instance it arises in the same chemic way, from similar conditions, and that in both cases it is introduced for purposes of relief. The methods employed by nature in her struggles with disease and other internal conditions which endanger life, are wonderful to behold, but in none has she given such striking evidence of her ever-watchful care as in the convulsion of epilepsy. Terrible and awful as it may appear to the observer, it is truly a safeguard and a shield, for in no other way can she modify the epileptic attack, or rescue the patient from impending death.

This, then, is epilepsy, shorn of the demoniac qualities of antiquity. This is epilepsy, shorn of all mystery. This is epilepsy, shorn of terms that are vague and unmeaning, and presented as a condition of simple physiologic sequence, namely, a convulsion, arising from a condition of asphyxia, which has its birth in a vasomotor spasm. And if we could but lift the curtain which hangs behind the vasomotor spasm, I believe that the long sought cause of epilepsy would stand revealed.

TREATMENT OF TETANUS BY MEANS OF SUBCUTANEOUS INJECTIONS OF CARBOLIC ACID—BACCELLI'S METHOD—WITH A REVIEW OF SEVENTY-FIVE CASES FROM THE LITERATURE.

BY

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Professor Guido Baccelli,[1] of Rome, a celebrated Italian physician, treated about 600 patients with neuralgia by subcutaneous injections of carbolic acid. Among the number were various forms of this painful affection, in nature both acute and chronic. Many obstinate cases, however, were effectually controlled, and in the end yielded to the influence of the injections. This result and the observation that such patients were tolerant of carbolic acid, encouraged him to try it in the treatment of tetanus, when it became apparent that the remedy exerted a favorable influence upon the course of this malady. In addition to its known antiseptic, analgesic, and antipyretic properties and its power to diminish in measure the reflex activity of the spinal cord, Kitasato demonstrated the fact that the acid, when brought in contact with the specific poison elaborated by the tetanus bacillus, acquires antidotal properties. Babes, of Bucharest, having tested carbolic acid experimentally and having by this means cured tetanized dogs, rats, and pigeons, arrived at the conclusion that the treatment was equally as valuable as the serum treatment.

Since 1888, when Baccelli announced the details of his plan of treatment at a meeting of the Italian Congress of Internal Medicine, only a comparatively small number of cases has been reported. Many who have achieved success while using the acid are loud in its praises and predict much for the future. Others, having given it a fair trial and failed, denounce it in terms easy of interpretation. Still others oppose its use on theoretic grounds.[2]

Kellogg[3] makes a plea for the employment of the acid. He states that it is a substance, of whose physiologic properties much is known, and that there are definite and reliable methods of ascertaining its action and of determining the extent to which it may be used.

On the other hand, there are those who would discourage its use on the ground that if injected subcutaneously it at once coagulates the albumin of the part with which it comes in contact, and therefore is slowly absorbed; that it is rapidly eliminated or destroyed; that "in the dilute form in which it circulates in the blood," its ability "to exercise any influence on the specific bacillus" of tetanus is doubtful; that there is no justification for its use with the idea "that it exercises a definite sedative influence upon the reflex activity in the central nervous system . . . since there are other drugs which exercise a more definite and positive influence upon these portions of the body, and which are infinitely safer and more easily controlled." . . .

One authority [4] says of this drug, however, that "its particular value . . . lies in the fact that its potency is equally developed in both albuminous and nonalbuminous solutions," and it must be remembered, further, that the acid when given subcutaneously in tetanus is, or ought to be, employed in weak solution, so that it is probable that no coagulation of albumin occurs. If given in the pure state it coagulates the albumin with which it comes in contact, although even in this instance the area of coagulation is superficial rather than deep. This being the case it is difficult to conceive how absorption could possibly occur unless the acid, filtering through coagulated tissue under pressure, should become diluted by the body fluids beyond the area of coagulation and rendered in consequence incapable of affecting albumin, and thus capable of absorption. If it be held that dilute solutions are likewise capable of coagulating albumin it becomes necessary to account for the clinical fact that carbolic acid, introduced hypodermically even in strong solution, has been detected chemically [5] in the urine, having thus passed through the subcutaneous tissues and the blood stream without apparently coagulating the albuminous constituents of either. If, on the other hand, dilute solutions are incapable of coagulating albumin its method of absorption is readily understood and its action in tetanus becomes at once apparent, for the toxin of the tetanus bacillus is chemically unstable, and is, as Kitasato pointed out, antidoted by carbolic acid. Thus it is also possible to account for the very remarkable fact that victims of tetanus are tolerant of carbolic acid in most extraordinary doses, 4 or 5 grams (60 or 80 grains.) having been subcutaneously injected in the course of a day. From this, one is led to reason that a chemic union is effected between acid and toxin, and that the

	Author.	Publication.	Age.	Incubation.	Treatment.	Total. quantity of acid.	Average daily dose.	Duration of treatment.	Result.	Remarks.
1	Kellogg	*American Medicine*, Feb. 15, 1902, p. 259.	13	8 days.	.5% sol., K. Br.	15 grs. (estimated).	.35 gr.	42 days.	Cure.	Systemic poisoning on third day. Small "average daily dose" depends upon fact that at the close many injections were given at long intervals.
2	Nowlin	Med. Rec., April 5, 1902, p. 535.	Adult.	10 days.	1:80 sol., morphia, chloral, atropin.	22 grs.	1.5 grs.	15 days.	Cure.	
3	Mitelli	Lancet, Nov. 12, 1898, p. 1304.	21	10 days.	3–5 day, 4% sol.; 6–21 day, 5% sol.	87.2 grs.	4.1 grs.	21 days.	Cure,	
4	Salvioli	La Rif. Medica, 1901, p. 542.	49	30 days.	2% sol.	28.8 grs.	5.7 grs.	5 days.	Death.	Patient mental and physical wreck.
5	Lawson	Brit. Med. Jour., June 3, 1899, p. 1333.	20	8 days.	1:20 sol., K. Br., chloral, morphia, intracerebral inj., 2.5 cc. antitoxin and 65 cc. subcutaneously.	16.60 grs.	2.8 grs.	6 days.	Cure.	
6	Ziengo	Gazz. d. Orped., e. d. Clin., No. 121, 1898, p 1282.	52	8 days.	3% sol., morphia.	216 grs.	8 grs.	27 days.	Cure.	Albuminuria.
7	Woods	N. Y. Med. Jour., Sept. 9, 1899, p. 377.	12	10 days.	10% sol., cannabis indica.	398 grs. (estimated).	18 grs.	21 days.	Cure.	Urine smoky on second day of treatment.
8	Henry	Am Jour. Med. Sci, Dec. 1901, p. 776.	19	Either 11 or 15 days.	Dilute carbolic.	303 grs.	43.2 grs	7 days.	Death	Albuminuria, hyalin and granular casts. Highest dose in one day, 3.88 gm. (60 grs.).
9	Maragliano	La Méd. Moderne, Sept. 4, 1901, p. 281.	18	15 days.	Dil. solution.	225 grs.	9 grs.	25 days.	Cure.	
10	Eddowes	Lancet, Jan. 16, 1897, p.168.	41	20 days.	2% sol., K. Br., chloral.	10 grs.	2 grs.	5 days.	Cure.	
11	Smart	B.M.J.,May 25,1901, p. 1270; Liverpool Med.-Chir. Jour., Sept., 1901, p 399.	33	"Idiopathic."	1:50 sol., antitoxin, morphia, chloral, K. Br.	11 5 grs.	3.2 grs.	3½ days.	Cure.	
12	Parker	Lancet, Nov. 24, 1894, p. 1220.	14	30 days.	1:20 sol., antitoxin	12 grs.	.....	12 hrs.	Cure.	Carbolic discontinued and antitoxin substituted after first day.
13	Morris	Lancet, Jan. 27, 1894, p. 205.	22	15 days	Carbolic, chloral, morphia, physostigma.	27 grs.	6.7 grs.	4 days.	Cure.	Acid injected into rectum.
14	Hayes	B. M. J., Dec. 22, 1900, p. 1779.	Adult.	9 days.	1% sol , morphia, chloral, antitoxin.	.2 gr.	.....	12 hrs.	Death.	Carbolic discontinued and antitoxin substituted.
15	Schwartz	Centralblatt für Bakt. u. Parasit., 1891, Bd. x, No. 24.	15	14 days	Dilute sol., chloral, antitoxin, warm baths.	.....	.....	.....	Cure.	Antitoxin commenced on eleventh day of illness.
16	Enriquez	Mtg. Soc. Méd. des Hop. de Paris, Dec. 20, 1901.	.....	.....	2% sol., antitoxin.	3.9 grs.	1 3 grs.	3 days.	Cure.	150–200 grams of blood withdrawn and 200 grams artificial serum + 3 cc. of 2% sol. injected. Balance of acid hypodermically.
17	Domenichini	Gazz. Med. Lombardo, Sept. 21, 1902, p. 371.	47	5 days.	1-10 day, 2% sol.; 11-22 day, 3% sol.	119.7 grs.	5.4 grs.	22 days.	Cure.	
18	Laplace	Med. Bulletin, March, 1900, p. 93.	32	10 days.	50% sol., 20 cc. of serum injected into subdural space and 40 cc. subcutaneously.	240 grs.	40 grs.	6 days.	Cure.	
19	Musgrave	Medical Dial, April, 1902, p. 99.	Adult.	12 days.	Dil. sol., morphia.	100.8 grs.	7.2 grs.	14 days.	Cure.	
20	Livingston	Reg. Med. Visitor, St. Louis, March, 1901, p. 55.	21	About 20 days.	33% sol. in glycerin and water.	504 grs.	84 grs.	6 days.	Cure.	No ill effects.

21–40.—Henderson (Lancet, June 3, 1899, p. 1497), reports 20 cases treated by means of carbolic acid—2 minims of the acid in 20 minims of water injected t. i. d. Chloral and the bromids were used in conjunction. Of this number 7 patients recovered and 13 died. No ill effects were noted in any of the cases. Further than this no details are given.

41–42.—Livingston (vid. loc. cit.), states that he has successfully treated 2 patients in addition to the one noted above, using carbolic acid in the same strength. A personal communication addressed to Dr. Livingston was ignored, so that it is not possible for me to give any details.

resulting combination is innocuous. In order to antagonize those forces which tend to the rapid elimination or destruction of the acid large doses are required. In this manner that quantity which escapes as a result of nature's effort to rid itself of an obnoxious substance as well as that quantity rendered inert by chemic union with the toxin, is being constantly replaced. Whether dilute solutions have any influence upon the bacillus itself is of secondary importance, for the bacillus does not seek to enter the blood save in the rarest instances.

It is undoubtedly a mistake to depend alone upon carbolic acid to antagonize the ravages of the tetanus toxin as visited upon the delicately organized nervous tissues. While the acid does exert a mild sedative influence upon reflex activities there are, of course, other and more potent drugs which may be used for this purpose. In recognition of this fact Baccelli himself advocates the employment of such drugs, more particularly camphor and the coaltar products, the former occupying, with opium, a unique position in the drug list of today, in that it produces nervous sedation and cardiac stimulation, both of which are urgently indicated in the treatment of tetanus.

Although there is much to be said against Baccelli's method of treatment there still remains more to be said in its favor. Despite the fact that it antedates the serum treatment by a year or more it has not received nearly the same degree of encouragement. The promise held out by the antitoxin treatment of diphtheria was and is still sufficiently tempting to induce physicians to try similar methods in treating tetanus. It cannot be denied that the serum treatment of tetanus, like that of diphtheria, marks a distinct advance. This, however, is no reason why Baccelli's method, which is likewise an advance, should be ignored. It has many features which cannot fail to appeal to the thoughtful. Foremost among these it is an *available method*. Carbolic acid is within easy reach of every physician. The practitioner in the outlying districts is too far removed from the depots supplying antitoxin and cannot wait, for almost at the very moment that diagnosis is possible nature hoists its signal of approaching death—the tetanic spasm. This spasm is indicative of the fact that the toxin has already entered into combination with, and effected definite histologic changes in, the nerve cells of the motor area of cord and cortex.[6] Again, the employment of carbolic acid *does not* constitute a counterindication to the use of the serum nor to any of the nervous sedatives, such as chloral, the bromids, curare, physostigma, camphor, morphia, the coaltar products, etc. It is needless to point out, however, that no form of the soluble sulfates should be used in maintainiug catharsis nor should alcohol be employed as a stimulant.

Ascoli[7] publishes the results of 33 cases in which the patients were treated by subcutaneous injections of carbolic acid. Of this number one died, a mortality of 3.3%. In this case the equivalent of 3 cg. of a 1% solution, 8 cg. of a 2% solution, and 12 cg. of a 3% solution was given in three days' time—an exceedingly small dose. Moreover, the disease followed an incubation of eight days and the patient had been reduced by a purulent pleurisy. Of the 33 cases 12 were acute, that is, the period of incubation was 10 days or less. Of the 11 acute cases successfully treated 1 had an incubation of 2 days, 1 of 3 days, 2 of 5 days, 1 of 5 or 6 days, 3 of 6 days, 2 of 8 days, and 1 of 10 days. Of 9 cases which followed an incubation of over 10 days and which, therefore, were chronic in nature, and of 12 cases in which the period of incubation is not recorded, none was fatal.

In addition to Ascoli's 33 cases I have collected 42 cases from the literature, as shown in the foregoing table.

Of the 42 cases tabulated, in 16 death occurred, a mortality of 38.1%. Of that number in which the period of incubation is recorded—18 in all—it will be seen that 9 followed an incubation of 10 days or less and were, therefore, acute cases. Of this number death occurred in 1 instance. In this case the patient was under carbolic treatment for only 12 hours, during which time he received the equivalent of 13 cg. ($\frac{1}{5}$ grain). Of the 8 acute cases successfully treated 1 had an incubation of 5 days, 3 of 8 days, and 4 of 10 days. Of 9 with an incubation of more than 10 days, and of 25 in which the period of incubation is not reported, death took place in 15 cases.

Of the 75 cases collected by Ascoli and myself the incubation period is recorded in 39. The following table, therefore, explains itself:

	No.	Recovered.	Deaths.	Mortality.
Acute cases (incubation 1–10 days)	21	19	2	9.5
Chronic cases (incubation over 10 days)	18	16	2	11.11
Total number treated	75	58	17	22.66

Regarding the serum treatment it may be said that Moschowitz[8] collected 290 cases in which the patients were treated by subcutaneous and intravenous injections of antitetanic serum. Of this number 117 died, a mortality of 40.33. Of 147 acute cases 76 patients died, a mortality of 51.07. Of 88 chronic cases 16 patients died, a mortality of 18.18. Lambert[9] collected 52 cases of patients treated by intracerebral injections with a mortality of 87.50 for acute cases and 26.66 for chronic cases.

I have collected 31 unclassified cases treated by Jacob's[10] method of subarachnoid injection with a mortality of 32.35. Three fatal cases were in infants, in which class of patients tetanus is extremely dangerous. Three of the remaining patients succumbed to an intercurrent pneumonia, the tetanic symptoms having entirely subsided in two. One of the successful cases was reported by von Leyden at a meeting of the Verein für innere Medicin, in Berlin, in 1901. The period of incubation was not given. The patient was a male of 22. He received 5 cc. of Behring's serum in the subarachnoid space in addition to hypodermic injections of morphia and chloral by the mouth. His temperature reached 105.8° F. In spite of this dangerous element he recovered. Von Leyden stated that, in his experience, it was the only patient he had ever known to recover when the temperature reached 105° F.

This method of administering antitetanic serum is both simple and rational. There are no experiments, so far as I know, which show how far one might proceed in using subarachnoid injections of carbolic acid.

In the preventive treatment of tetanus the question arises whether it is advisable to apply cauterants to suspicious wounds. It has long been the custom to cauterize such wounds or to apply strong germicidal solutions, such as silver nitrate or mercuric chlorid. It rests beyond dispute, however, that the tetanus bacillus can not live in the presence of oxygen. Therefore, when a wound is inflicted in such a manner as to lead the attending surgeon to believe that tetanus might develop and neither excision nor amputation appears advisable, it devolves upon him to admit oxygen to its depths. A cauterant effectually destroys any spores or bacilli with which it remains in contact for any length of time. It leaves, however, an impenetrable barrier of coagulated albumin behind which the undestroyed bacilli, cut off from oxygen, are free to develop. To incise such a wound would be to open fresh avenues of infection and, perhaps, to inoculate healthy tissues.

Further and more important still, it devolves upon the surgeon to immunize such patients, whenever possible, by means of an injection of antitetanic serum. Hewlett[11] has studied the question of absorption of this serum. He states that absorption does not occur from the stomach and rectum, so that these methods of administration are futile. Whenever used as an immunizing agent resort must be had, therefore, to hypodermic medication. Experiment and practice have proved the

immunizing qualities of this substance. Dennis[12] states that "the use of antitetanic serum as a prophylactic measure is . . . limited to those cases in which the wound has been inflicted in such a manner as to allow garden earth, plaster from walls, or manured soil to come in contact with it, or in which the traumatism has been caused by a rusty nail . . . or in a locality where tetanus is prevalent, or when the wound is a lacerated one with entrance of foreign bodies into it." Thus does this surgeon pave the way for the reflection that many thousands of such wounds are treated yearly, that only in scattered cases are specific measures employed for protection against the development of tetanus, and that every year many lives could be saved by the universal adoption of antitetanic serum as an immunizing agent. Brazy,[13] a French surgeon, had four fatal cases of tetanus in a year's time. Subsequently he injected 20 cc. of antitetanic serum into all patients with lacerated wounds into which foreign substances had entered. Although practising in a country where tetanus is common, since adopting this practice he has not had a single case, even in those in whom there were reasons for believing that tetanus might develop. Nocard states that 3,100 animals in a part of France in which tetanus is endemic were injected with immunizing serum from the Pasteur Institute. Among this number only one case developed, and it was attended by the mildest symptoms. Among animals who were not thus protected 259 cases were observed.

In Great Britain, in the 13 years between 1879 and 1892, there were 3,537 deaths from tetanus, 2,969 of which were directly traceable to traumatism. In 1898 there were 73 deaths from tetanus in the city of New York. In 1898, during the two weeks following the "patriotic" demonstrations incident to the Fourth of July, 28 persons succumbed to tetanus in Chicago alone, while 57 deaths were reported in the immediate vicinity. In the 10 largest cities in the United States it is estimated that fully 2,500 deaths from tetanus have occurred in the past 10 years as a result of the Fourth of July celebrations, and that in the entire country during the same period of time 10,000 deaths may be attributed to the same cause. In the two weeks following last Christmas an epidemic of tetanus arose in the Southern States and about 30 deaths were reported.

Preventive medicine could make no worthier effort than to devote time and action to this question. That 10,000 persons should succumb in the course of 10 years to a lingering and agonizing disease—a disease which racks its conscious victim and visits no mercy upon him—is deplorable. In America there are at least two days in every year to which the youth and promise of the land look forward—Christmas and the Fourth of July. In that childish expectancy there is no shadow of death, and yet many of these innocents sacrifice life to its realization. Few mothers have the heart to deny their little ones the privilege of joining in the celebration of these days, although each, no doubt, must stifle the fear that perhaps some accident may scar her boy for life. Scarcely one dreams of the frightful death that may lie in the very instrument that she herself places in his eager hand. Surely the time will come when the law will forbid the use of small arms, blank cartridges, and crackers, even on the Fourth of July and Christmas. It is distinctly a question of exoteric value, but in the absence of legislation in this behalf the medical profession, at least, should direct more care and attention to the prevention of tetanus, for there is a means within grasp.

In dealing with a disease like tetanus, which claims so many victims, it is easy to erect ideals, but impossible always to sustain them. Each individual case imposes, of course, its own limitations and restrictions, but in the light of our present knowledge I believe that the following suggestions are worthy of emphasis:

1. That all suspicious wounds, and all wounds in which the tetanus bacillus is known to exist should be excised or the extremity amputated; that if this be impracticable, the wound should be cleansed of all foreign substances and saturated with oxygen by means of hydrogen dioxid or the injection of pure oxygen gas, following which it should be flushed with boric acid or saline solution, which in turn should be followed by potassium permanganate or a .5% solution of iodin trichlorid; that no matter what local treatment is adopted, if the wound affect an extremity, care should be exercised in applying permanent carbolic dressings or any other form of carbolic acid lest gangrene develop[14]; that in establishing drainage, moist iodoform gauze should be used whenever expedient; that impermeable dressings, dusting powders, and caustics should never be employed and that such wounds should never be incised.

2. That subcutaneous injections of antitetanic serum should be given in every case in which the development of tetanus is more than a remote possibility.

3. That the use of blank cartridges, firecrackers, and similar creations should be more stringently regulated.

4. That in addition to the general management of a case of tetanus, the patient should receive subcutaneous injections of carbolic acid along the tracks of the great nerve trunks, the injections being commenced so soon as the diagnosis is made; that the body should be further fortified by the administration of the acid by the mouth or rectum, or both, and finally that the drug in every case should be pushed to its utmost physiologic limit.

5. That antitetanic serum should be combined with carbolic acid, and that, if possible, it should be given according to the method of Jacob: 5 cc. or 10 cc. of cerebrospinal fluid is withdrawn by means of a hollow needle cautiously inserted into the subarachnoid space between the second and third lumbar vertebras, following which 5 cc. of antitetanic serum is allowed to flow slowly in under very gentle pressure; the foot of the bed is then elevated and allowed to remain so for at least half an hour; if this cannot be done, that the serum should be administered subcutaneously—frequently and in full doses—choosing, by preference, the track of the great nerve trunks, or inserting the needle near or even into the sheath of one or both of the sciatic nerves, in which event the patient should be kept under chloroform for a reasonable time in order that pressure against or stretching of the nerve sheath may not increase the number of convulsions or the degree of pain; that the intracerebral and subdural paths, opening upon dangerous ground and necessitating the performance of a major operation, are available only in certain cases and under certain circumstances, and that the ultimate object is attained with no more certainty than is assured by the subarachnoid method; that the intravenous injection is the least rational of all because the antitoxin, going directly into the right heart, becomes aerated as it passes through the lesser circulation, and is thus deprived of at least some of its potency, an objection which Laplace[15] tentatively directs against the subcutaneous employment of the serum, and which would apply with even greater force to the intravenous method; and lastly, that absolute quiet be maintained and the use of carbolic acid, antitetanic serum and the nervous sedatives be continued for several days after the complete subsidence of spasm.

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[11] Lancet, February 8, 1902, p. 375.
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[14] Vide Medical Record, April 5, 1902, p. 534, Ibid., November 16, 1901, p. 773; American Journal of the Medical Sciences, July, 1900, p. 1; Münchener medicinische Wochenschrift, August 6, 1901, p. 1293.
[15] Medical Bulletin, March, 1900, p. 93.

CONGENITAL CYSTIC KIDNEY.

BY

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Two specimens of congenital cystic kidney having come into my possession, I have made a careful microscopic study of this condition resulting in conclusions as to its causation differing from those ordinarily accepted. The history of one of these cases which occurred in my own practice is as follows:

The case was that of a seven or eight months' fetus, and as the mother was a multipara, the labor was uneventful. The child lived but a few minutes. On inspection nothing abormal was noticed excepting an enormously enlarged abdomen, and on palpation the kidneys could be felt as rounded masses distending the abdomen and diminishing the size of the thorax. The child was a female weighing 5½ pounds and measuring 17½ inches in length.

Autopsy revealed the following features: The great bulk of the intestines was crowded toward the middle and front part of the abdomen between the kidneys, which were invested with



Congenital cystic kidney.

peritoneum on their ventral surfaces. On the right kidney rested the cecum, appendix, and ascending colon; on the left, the descending colon attached by a well-defined mesocolon. The bladder appeared normal and the ureters though tightly stretched were not occluded. The thoracic viscera were compressed into the upper part of the thorax and both lungs were in a condition of atelectasis.

The right kidney weighed 3¾ ounces, and its length was 3¾ inches. The left measuring the same, had a weight of 4 ounces, was somewhat rounder and fuller, and presented quite plainly the lobulated appearance of early fetal formation. Both organs seemed firm on pressure, and were surmounted by symmetric suprarenal bodies of proportionate size.

On gross section the tissue bore little resemblance to normal kidney structure. The color was uniformly red, it was impossible to differentiate cortical from medullary substance, and all parts presented a finely meshed spongy appearance. The cysts were small and fairly uniform in size, while the amount of connective tissue was such as to account for the firmness already mentioned. The pelves and calyces were patulous, though all the parts at the sinuses were retracted into the bodies of the kidneys.

For microscopic study, I cut sections from all parts and in various planes, but nowhere was there any close approach to the normal appearance. There is a marked connective tissue hyperplasia (distinctly inflammatory in places) studded everywhere with cysts. The cysts are irregular and tortuous in outline, lined with glandular epithelium, usually in a single layer, and appear to have been formed entirely from the renal tubules. Along the sides of the lobules, the malpighian bodies are numerous, but their capsules are invariably closely surrounded by connective tissue and do not communicate with the cysts. The bloodvessels are congested and in some places show thickened walls. The more marked inflammatory areas are found in the central part and in the vicinity of the sinus.

I have had an opportunity to dissect and make sections from a similar specimen delivered at full term. The gross appearance conforms to the textbook descriptions, since it possesses a moderate-sized encephalocele. Microscopic study of these kidneys shows the same general characteristics as those described, the fibrous tissue being rather more abundant. The malpighian bodies are few in number and poorly defined, while their capsules, as in the first case, take no part in the cyst formation. One area shows a fibrous polypoid growth invaginating a distorted tubule after the manner of growth seen in an intracanalicula fibroma, and the resemblance of both these tissues to some of the nonmalignant breast tumors of inflammatory origin is certainly striking.

For comparative study, I have made sections from a five-pound cystic kidney removed from an adult at autopsy. The interstitial substance is poor in cells and the glandular elements are neither so profuse nor so well defined as in the congenital form, but the general arrangement is the same.

Congenital cystic kidney is commonly considered an error of development, although Ziegler mentions the possibility of an inflammatory origin. This I consider the correct explanation for its occurrence in both the congenital and adult forms, believing that it is the result of an interstitial nephritis with occlusion and subsequent distention of the tubules. When the extent of the involvement is considered, it seems highly improbable that the condition in the adult can have existed since intrauterine life, and the history of the case cited was that of an interstitial nephritis developing a few years before death.

The inflammatory process in these cases is evidently diffuse, since the hyperplasia and cyst formation are general and usually bilateral. The pathologic process is very different from that caused by partial or complete occlusion of the ureter. Complete occlusion would cause atrophy of the kidney, while partial occlusion if sufficiently long continued produces hydronephrosis. Such a kidney removed at the Maine General Hospital contained two quarts of approximately normal urine. The obstruction was caused by a valve-like bend of the ureter where it entered the kidney, the walls of which were thinned in places to a quarter inch. Microscopic sections from these thin places showed an increase of connective tissue enclosing practically normal tubules but no cysts.

Inspection of Emigrants.—Frank P. Sargent, commissioner-general of immigration, is considering the incorporation of a system for the examination of emigrants, which he believes will reduce to a minimum the perplexing prevalence of disease among aliens landing in this country. He proposes that at the ports of departure in Europe there be stationed surgeons of the United States Marine-Hospital Service, who shall examine each emigrant before being allowed to take passage, and that all those found defective in health shall be refused passage. This, he believes, will prove a double protection and afford a remedy for the shortcomings of the present system. It is probable that when Congress reconvenes it will be pressed by the department of commerce and labor to pass legislation covering the situation. In New York city last year 25,000 cases of trachoma, a disease of the eye, were discovered and reported. Nearly all of them were traceable to the association of the sufferers with persons affected on board immigrant ships or after they had landed.

THE WORLD'S LATEST LITERATURE

Journal of the American Medical Association.

August 8, 1903. [Vol. XLI, No. 6.]

1. The Essential Principles of Infant Feeding and the Modern Methods of Applying Them. THOMAS MORGAN ROTCH.
2. Albuminuria in Diabetes Mellitus: Its Importance as a Factor in the Causation of Diabetes Coma. ARTHUR R. ELLIOTT.
3. Fracture of the Upper Third of the Femur Successfully Treated with Plaster-of-Paris without Extension. L. SEXTON.
4. Subtropical Trachoma: With Special Relation to a New Remedy in Its Treatment. RUFFIN A. WRIGHT.
5. Control of Suppuration in the Anterior Segment of the Eye by the Insertion of Iodoform into the Anterior Chamber. E. C. ELLETT.
6. Condition of the Endometrium in Cases of Uterine Myomas. THOMAS S. CULLEN.
7. The Ill-health of Richard Wagner. GEORGE M GOULD. (Concluded.)

2.—See *American Medicine*, Vol. V, No. 23, p. 900.

3.—See *American Medicine*, Vol. V, No. 27, p. 1021.

4.—Subtropical Trachoma: A New Remedy.—R. A. Wright has seen cases equal in severity to the common European type only among the Polish Jews here. He has never seen a true case among negroes. The disease is becoming more prevalent. Health boards should take steps to control its further spread. After 7 months' trial of copper citrate, he recommends its use for the reason that it causes absorption of the granulations and hypertrophied papillas as rapidly as other applications, with less irritation of the lids and less pain; consequently patients will use it regularly in home treatment. He usually begins with a 5% ointment, but the majority will tolerate a 10% strength as soon as excessive secretion has been allayed by a silver salt. Bed-time is best for the application, though patients can go about their usual pursuits a few minutes after it is rubbed in. [H.M.]

5.—See *American Medicine*, Vol. V, No. 20, p. 783.

6.—See *American Medicine*, Vol. V, No. 20, p. 782.

7.—The Ill-health of Richard Wagner.—G. M. Gould presents a clinical picture of Wagner's condition by means of quotations from biographic sources and copies of several portraits showing an upward and outward turning of 1 eye. The absence of this from some photographs manifests the ability he had to overcome the defect by intense effort. This hyperexophoria with its underlying ametropia were doubtless the unsuspected cause of the headache, dyspepsia, melancholy, insomnia, and indescribable sufferings from which he sought relief in hydropathy, outdoor exercise, and nonuse of the eyes. [H.M.]

Boston Medical and Surgical Journal.

August 6, 1903. [Vol. CXLIX, No. 6.]

1. The Shattuck Lecture Before the Massachusetts Medical Society, June 9, 1903: The Sources, Favoring Conditions, and Prophylaxis of Malaria in Temperate Climates, with Special Reference to Massachusetts. THEOBALD SMITH. (Continued from No. 5, p. 118.)
2. The Element of Torsion in Lateral Curvature of the Spine: Its Place in the Cause and Treatment. (Third paper.) ROBERT W. LOVETT.
3. A Criticism of Klemperer's Work on the Condition of Uric Acid in the Urine. FRANCIS H. MCCRUDDEN.

1.—The Sources, Favoring Conditions, and Prophylaxis of Malaria in Temperate Climates, with Special Reference to Massachusetts.—T. Smith concludes the account of the investigations instituted in his State with the following summary: There is no evidence that any but the tertian form of malaria can be propagated in Massachusetts. The original source is the blood of those coming from permanently infected localities in our own country and southern Europe. There is no definite information as to the stage of disease or relative immunity in which mosquitos may become infected, but analogy indicates that gametes are not formed early and that relatively immune persons are the most dangerous, especially after fresh exposure, because in them gametes form promptly without causing clinical disturbance. Dissemination is promoted by crowding near breeding places without protection from mosquitos. Decline is due to relative isolation, protection by quinin and from mosquitos, and in part to absence of partially immunized persons. Sewage pollution favors the disease through increase of food for larvas and through injuring their enemies. The best preventive is destruction of the mosquito. The disease should be notifiable. Infants and children exposed should have their blood examined during any disturbance of health. During epidemics special regulations governing infected persons may become necessary. It is important that the relation of *A. punctipennis* to the parasite of tertian fever be accurately determined. It is also highly desirable to test the infecting power of fresh cases of tertian fever as compared with relapses and with individuals from malarial countries. [H.M.]

2.—The Element of Torsion in Lateral Curvature of the Spine.—R. W. Lovett gives the results of a study of the movements of the spine, from which he makes the following statements: Torsion in the normal spine causes a distinct and uniform lateral curve. Postural lateral curves may apparently originate in (*a*) the flexed position of the spine; (*b*) in the extended position of the spine; (*c*) in twisted positions of the spine in which the lateral curve is only symptomatic of the twist. In these cases torsion movements and passive torsions are of therapeutic value. In general, the normal intact human spine behaves as would any flexible rod of similar curve, shape, and structure. [A.G.E.]

3.—A Criticism of Klemperer's Work on Uric Acid in the Urine.—F. H. McCrudden states that his did not show as Klemperer says—that a part of the uric acid in the urine is in a colloidal state. His showed simply that when uric acid is set free from its salt by HCl, complete precipitation does not occur at once owing to a retention of some of the uric acid for a short time as a colloid. The relative quantities of uric acid and urate change as the temperature becomes lower. Klemperer's determinations, therefore, do not show the relative quantities at the body temperature. Klemperer has simply repeated the work of Pfeiffer, using a slightly different technic, and therefore does not show the relative quantities of free and combined uric acid even at the temperature at which he carried out his determinations. Klemperer concluded that more than half exists free in the colloidal state held in solution by urochrome. When urine cools to the room temperature the dissociation constants for the electrolytes change. These constants with the amounts of different electrolytes determine the concentrations of the various ions. If cooling causes concentration of H ions, these must combine with negative uric acid ions from the sodium acid urate to form undissociated uric acid, for his has shown that in a saturated solution of uric acid only 10% is dissociated. On account of the low solubility of uric acid any undissociated uric acid formed will crystallize out. In order to predict from its chemic composition whether on cooling the concentration of the H ions will increase, we must know the solubility and dissociation of uric acid at the body temperature and the dissociation of alkaline and acid sodium phosphate in solutions of different strengths at the body and at the room temperature. [H.M.]

Medical Record.

August 8, 1903. [Vol. 64, No. 6.]

1. Some Comparative Examinations of Breast Milk and Cow's Milk and the Effect of the Addition of Alkalies and Other Antacids to Cow's Milk. CHARLES GILMORE KERLEY, ALBERT H. GIESCHEN, and GEORGE T. MYERS.
2. The Influence of Heredity on the Eye. JOHN E. WEEKS.
3. Treatment of Trachoma. J. HERBERT CLAIBORNE.
4. Electricity in the Treatment of Diseases of the Stomach. E. G. MARSHALL.
5. A Contribution to the Study of the Intercostal Phonation Phenomenon and the Litten Diaphragm Phenomenon. ALBERT ABRAMS.
6. Some Dangers of the Hotwater Bottle as Applied to the New-born. DOUGLAS H. STEWART.
7. Artificial Fluorescence of Living Human Tissue. WILLIAM JAMES MORTON.

1.—Breast Milk and Cow's Milk.—C. G. Kerley, A. H. Gieschen, and G. T. Myers show the fallacy of testing the acidity of milk with litmus paper. As a result of their investigations they find that breast milk and cow's milk are both acid; (2) that litmus is unreliable owing to variation in quality and the litmus taking part in the reaction and not acting as an indicator; (3) the effect of adding lime water or bicarbonate of sodium to feeding is to retard or inhibit the formation of curds by rennet. The teaching that they should be added to fresh milk simply because they are antacids is erroneous. [H.M.]

2.—Influence of Heredity on the Eye.—J. E. Weeks calls attention to the fact that heredity influences the eye in respect to form and disease in no inconsiderable degree. Epicanthus

and ptosis are hereditary. Among the Mongols the former is a racial peculiarity. There have been recorded hereditary cases of coloboma of the iris, aniridia, polycoria, coloboma of the choroid, albinism microphthalmos, cataract, optic atrophy, hemeralopia, the amaurosis of the amaurotic family, idiocy, retinitis pigmentosa, retinitis punctata albescens, glaucoma, hydrophthalmos, affections due to inherited syphilis, faults in the shape of the eye causing ametropia, muscular anomalies, and color-blindness. [H.M.]

3.—Treatment of Trachoma.—J. H. Claiborne describes the noninflammatory form with discrete sago-like grains on both lids, and the inflammatory form beginning with lacrimation, photophobia, and much discharge followed by granulations, which later coalesce, followed by cicatrization and pannus. Among medicinal remedies copper sulfate stands preeminent. Much can be done to prevent pain in its application by delicacy of manipulation and by wiping away the excess. In the noninflammatory form surgical treatment gives the most brilliant results. Knapp's forceps are the best instrument for expression. The writer describes a modification of these. The cylinders, instead of being fluted, have parallel lines of roughened elevations. These rupture the surface of the granules and allow of easier expression, thus requiring less force and causing less bruising. It is valuable in the inflammatory form when the granules are definite. When the granular stage has passed copper sulfate with or without other remedies is indicated. [H.M.]

4.—Electricity in Diseases of the Stomach.—E. G. Marshall discusses the results obtained by others. His own success with intragastric electricity encourages further use. He describes an electrode of his own design easier of introduction than Einhorn's, the tubing being smaller. He has also modified Einhorn's method of applying the current. The pole used externally has 2 terminal sponges, the large one being placed over the gastric region and the small one over the course of the vagus. The latter causes increased contraction of the stomach. The patient should be given a glass of water on an empty stomach and the connections be made as soon as the electrode is introduced, as the inclination to retch is not so great when the current is on. The primary current may be used in chronic cases; the secondary is better when a sedative influence is desired. Electrization is of inestimable value when medicinal and dietetic treatment have failed, but the latter should always be tried first. [H.M.]

5.—The Intercostal Phonation Phenomenon and the Litten Diaphragm Phenomenon.—A. Abrams describes Stiller's phonation phenomenon in which bulging of the intercostal spaces is seen during phonation if there is a pleural effusion. This enables us to differentiate lung dulness and trace the line of demarcation of liver and spleen. The writer finds it is best elicited if the patient closes his nostrils and places his hand over the mouth to partially obstruct the expired air. He should be instructed to practise forced expiration before phonation is attempted. He describes Litten's method of eliciting the phrenic shadow. Its inconvenience accounts for the little use made of it. Abrams employs the sign constantly in diffuse daylight without special reference to the position of the patient if the latter is an ambulatory one. The patient stands with his back to a window, the observer viewing the axillary region at different angles. As the ribs rise in inspiration a short, narrow shadow moves along the axilla from about the seventh rib to the ninth or tenth rib. This can be exaggerated by coloring the skin yellow or by grasping a fold and making it taut. This shadow must not be confounded with expiratory sinking of the lower ribs or inspiratory retraction of the lower intercostal spaces. Absence of the shadow denotes some interference with the mobility of lung and diaphragm. [H.M.]

6.—Dangers of the Hotwater Bottle.—D. H. Stewart has observed that trivial burns on the buttocks, lower back, occiput, or near the navel may be the forerunner of fatal convulsions in the new-born. He has seen no attacks follow burns of shoulder, arm, leg, or thorax. The injury is commoner than supposed. It is the discovery that is rare. Intracranial hemorrhage may follow overheating and extensive burning. There should always be a thick folded blanket about every hot bag. A danger likely to happen when glass bottles are used is heating of the carotids. The evil effect of this seems to be overlooked by physicians. Now that intravenous injections at 120° are common one might forget that keeping blood in the carotids at 110° may be followed by death. In the injections the mitigators are sodium chlorid, the body's heat, regulating apparatus, and the transient duration of the temperature. Sodium chlorid raises the coagulating point of albumin solutions. The rubber bag does not readily fit the neck, but bottles will stay snugly over the vessels. Dyspnea has been caused by continuous poulticing of the neck. The danger of hyperthermy lies in the duration. [H.M.]

7.—Artificial Fluorescence of Living Human Tissue.—Based upon the fact that the x-ray produces coloration of many salts in solution, W. J. Morton has been testing the production of fluorescence in the tissues of patients by administering medically a drug capable of fluorescence. His theory was that the feeble fluorescence of an atom of such drug lying against a tissue atom should equal in therapeutic result a much more powerful radiation from a fluorescing source much further distant. During the past year he has administered 5 to 10 or more grains of quinin about an hour before x-ray treatments. While it is impossible to make positive statements, he believes that cases thus treated by a combination of fluorescing medicines and the x-ray have made more improvement and more certain recoveries than patients not so treated. Cases thus treated include cancer, chronic malaria, lupus, Hodgkin's disease, and tuberculosis. Morton terms the procedure, x-ray histofluorescence. [A.G.E.]

New York Medical Journal.

August 1, 1903. [Vol. LXXVIII, No. 5.]

1. Remarks upon Medical Instruction: A Plea for Greater Uniformity. N. R. COLEMAN.
2. The Psychic Relations of Tuberculosis in Fact and Fiction. G. A. DE SANTOS SAXE. (To be concluded.)
3. The Deathrate of Pneumonia. THOMAS J. MAYS.
4. Dhobie Itch. CHARLES F. MASON.
5. Complete Removal of the Left Vocal Cord for Malignant Disease: Presentation of the Patient. WALTER F. CHAPPELL.
6. Chronic Lymphatic Leukemia Complicated by Pneumonia. T. STUART HART.
7. An Improvised Method of Operating for Varicocele. LUCIEN LOFTON.

1.—Medical Instruction.—N. R. Coleman calls attention to the many defects in connection with medical education which should be remedied by medical colleges and State boards. The chief of these defects is the manner in which medicine is taught in the larger number of medical colleges in this country. He enters a plea for a uniform curriculum and method of teaching, for teachers who are paid fixed salaries commensurate with the labor demanded, for men with special training and qualifications for the positions for which they are selected, and for a high standard of preliminary educational requirements. Failing to accomplish the desired end by all other means, he says we should endeavor to have medical colleges placed under State control. [C.A.O.]

3.—See *American Medicine*, Vol. V, No. 26, p. 1021.

4.—Dhobie Itch.—Three distinct forms of this disease occurring in the tropics are described by C. F. Mason. Two of them are mycotic, those due to Microsporon minutissinum and to the trichophyton, and one bacterial, pemphigus contagiosus. The mycotic form is recognized by the festooned rings with raised margins. The treatment consists in keeping the parts clean and dry and the application of the following drugs, which Mason has found effective in the order named: Tincture of iodin; glacial acetic acid; 5% chrysophanic acid ointment; 10% salicylic acid ointment, and 1:500 alcoholic solution of corrosive sublimate. Pemphigus contagiosus is characterized by an eruption, most marked in the crotch and axillas, of vesicles about the size of a pea or larger; these vesicles spring from an uninflamed base and are unattended by fever or other constitutional disturbance. The fluid of the vesicles, at first clear, soon becomes turbid, and the vesicle is ruptured or dries up. The treatment consists of thorough cleanliness with the application of 1:1,000 bichlorid, which is allowed to dry, and is followed by dusting with a powder containing equal parts of zinc oxid, boric acid, and starch. [C.A.O.]

5.—Removal of Vocal Cord.—A complete removal of the left vocal cord for malignant disease is reported by W. F. Chap-

pell. The patient, a man of 56, had a red growth about the size of a pea on the left cord, which extended to its attachment and on its under surface into the anterior commissure. The growth, with the anterior half of the left vocal cord, was removed. A section frozen and examined showed squamous epithelioma extending into the cord and the thyroarytenoid muscle. The rest of the cord and the thyroarytenoid muscle and all the immediately surrounding tissues were removed, down to the internal surface of the left wing of the thyroid cartilage. Complete recovery followed and the patient gained rapidly in weight. Seventeen months have now elapsed with no recurrence. [C.A.O.]

6.—Leukemia and Pneumonia.—This case reported by T. S. Hart is of interest on account of its extreme chronicity, extending over 4 years the unusual number of lymphocytes present in the blood, and the effect on the blood, lymph-nodes, and spleen of an intercurrent pneumonia. The lymph-nodes of the axillas and inguinal region were markedly enlarged, mostly discreet; in the right axilla there was a mass the size of a goose egg. Liver dulness extended from the fourth space to 2 inches below the costal arch. The spleen occupied the whole of the left upper quadrant of the abdomen extending to an inch below the umbilicus, nearly to the median line and well into the lumbar region. The complicating pneumonia which caused the death of the patient was coincident with a marked reduction in the size of the lymph-nodes, spleen and liver, and in a few days the number of the leukocytes fell from 1,168,000 per cmm. to 450,000 per cmm. The polymorphonuclear cells were reduced in a greater ratio than the lymphocytes. [C.A.O.]

Medical News.

August 8, 1903. [Vol. 83, No. 6.]

1. Acute Nonsuppurative Encephalitis: With Report of a Case. HARLOW BROOKS.
2. The Form of the Ureter. BYRON ROBINSON.
3. A Simple and Rapid Chromatin Stain for the Malarial Parasite. FRANCIS CARTER WOOD.
4. The Choice of Technic in Operating upon Prostatic Obstruction. CHARLES H. CHETWOOD.
5. Socalled "Stomach-ache." PAUL COHNHEIM.
6. Resection of the Left Pelvis for Osteosarcoma. M. STAMM.
7. The Palliative Treatment of Fibroid Tumors of the Uterus. AUGUSTIN H. GOELET.

1.—Acute Nonsuppurative Encephalitis.—Harlow Brooks reports a case of this affection which he says is exceptionally recognized, largely due to the fact that our information concerning it is scanty. The symptomatology is similar to that of many other diseases and the gross lesions may be so slight that the postmortem throws no additional light on the case. Brooks believes that a serious error in the consideration of the disease lies in our very narrow conception of its etiology. He thinks it may be caused by every agent that is capable of causing inflammation in other parts of the body. The patient in Brooks' case was a female of 19, who for some time had been subject to headaches and "bilious attacks." Full clinical notes are given. No gross lesions were found at the postmortem made soon after death. Microscopic examination revealed a diffuse nonsuppurative inflammation of the brain, most marked in the subcortical motor areas. The lesions are supposed to be of toxic origin. [A.G.E.]

2.—Form of the Ureter.—Byron Robinson calls attention to the dilations and constrictions that mark the various portions of the ureter. Surgery should be performed at the dilated parts because of the larger lumen and easier manipulation. Illustrations of 5 pairs of ureters distended with paraffin accompany the article. [A.G.E.]

3.—A Simple and Rapid Chromatin Stain for the Malarial Parasite.—F. C. Wood has found in using the Leishman and Wright mixtures annoying artefacts and that it is difficult to obtain constant results. A simpler method, using the purified methylene-azure as obtained from Grübber, has proved more useful. The eosinmethylene-azure combination which he describes will stain slides 2 or 3 years old without leaving any diffuse bluish coloration, and he gives the method of preparing an equally good stain for fresh specimens. The parasite is of a pale blue with deep red chromatin granules. Beginners may mistake the blood-plates, which often lie in depressions in the red cells for malarial parasites, especially as they stain red with the chromatin dyes. The distinction must be made by differences in morphology. [H.M.]

4.—Choice of Technic in Prostatic Operations.—C. H. Chetwood speaks of the value of perineal galvanoprostatotomy as compared with other methods of relieving prostatic obstruction. He does not believe that it is necessary to remove the entire prostate to relieve bladder symptoms, which occur in only 15% of cases of prostatic enlargement. Today the choice of operation may be said to lie between prostatectomy by lobular enucleation and prostatotomy by means of galvanocautery incisions. The mortality of the former is from 6% to 16%. Of the cautery operations, Chetwood names several objections to the Bottini method and a number of points in favor of the perineal prostatotomy employed by him. He now reports 45 cases operated on by that method. Among them there was but one death directly associated with the operation. Three patients died from complications. Three recent cases promise well. Of the remainder, 30 cases are cured or materially improved, five partially improved, and three not improved. Two of the last are tuberculous. [A.G.E.]

5.—Socalled Stomach-ache.—W. G. Schauffler translates a paper by P. Cohnheim on the differentiation of the various affections giving rise to what patients call stomach-ache without the absolute necessity of a physical examination or the use of the stomach-tube. He considers angina pectoris, neuralgia, herpes zoster, spasm of cardiac orifice, ulcer with spasm of pylorus, stenosis of pylorus, gastric spasm, nervous gastralgia, ulcus duodenale, biliary colic, cholangitis, stones or hemorrhage of pancreas, colica mucosa or flatulenta, obstipatio spastica, lead-colic, ileus, hernial, intestinal stones, enteralgia (in hysteria and syphilis), acute enteritis and perityphlitis, embolus of the arteria mesenterica, tapeworms, foreign bodies, uterine colic, colic or stones in kidneys, ureter, and bladder, peritonitis, and tabes dorsalis. The means of differentiation are careful consideration of the history of each case, the time of occurrence of cardialgia, its duration, its relation to eating and defecation, its suppression by means of warmth, antacid remedies, etc., and the relation to it of secondary symptoms, such as icterus, hematemesis, melena, and pains in certain regions. [H.M.]

6.—Resection of the Left Pelvis for Osteosarcoma.—M. Stamm reports a case which he states preceded the recent case of Dr. Keen by nearly 2 years, the operation having been performed May 15, 1901. The patient was a male of 25. The tumor originated from the upper portion of sacroiliac synchondrosis. The pelvis was divided about an inch in front of the hip-joint by saw and chisel. The joint was healthy, but was resected because of the proximity of the tumor. The patient died from shock 5 hours after the operation. Stamm thinks that the chiseling materially increased the shock and that a saw should be used in such cases if possible. He also thinks that the result might have been different if resection of the hip-joint had been evaded. [A.G.E.]

7.—Palliative Treatment of Fibroid Tumors of the Uterus.—Palliative treatment of fibroid tumors of the uterus, in the opinion of A. H. Goelet, should be limited to those cases in which some constitutional or local condition forbids operation; in which the patient declines operation; in which the growth is small and is not producing inconvenience; and in case of young women when the possibility of removing the growth and leaving the uterus and ovaries cannot be definitely determined beforehand. Oophorectomy, as a palliative measure, should be limited to small sessile or interstitial growths in women approaching the menopause, and should be done as a matter of necessity rather than of choice when removal is not practicable. Cystic and subperitoneal growths are not benefited by this operation. Goelet considers oophorectomy unjustifiable in young women. Cutting off the blood-supply by the obliteration of the uterine arteries has been productive of good when the growth is interstitial, small, and below the fundus. The arteries on both sides must be obliterated. Dilation of the cervix and curetage of the endometrium serve a double purpose—arrest the hemorrhage and stimulate the muscular fibers of the uterine wall to contraction and extrusion of the growth. Electricity may be useful in some cases to relieve

symptoms, and sometimes reduces the size, but in subperitoneal and submucous growths it is powerless for good, and should not be used. Medication will sometimes prove a valuable auxiliary. [W.K.]

CLINICAL MEDICINE

DAVID RIESMAN A. O. J. KELLY

EDITORIAL COMMENT

A Symposium on Gout.—The *Practitioner* for July begins with an introductory essay in his characteristic vein by Dr. T. Clifford Allbutt. The only American representative is Dr. Futcher, of Baltimore, who speaks of "Gout in America," or, rather, in the Johns Hopkins Hospital. He holds that the disease is common in the United States, and that its apparent infrequency is due only to a failure to recognize it. During a period of 14 years, 41 cases of the disease have come under observation at the Johns Hopkins Hospital. The most potent factors in his series of cases were alcohol and lead. Tophi were present in 19 instances. With regard to cases of "Gout in the Tropics," it is as with snakes in Ireland—there is none. This is, however, true only of acute, typical gout. Irregular manifestations of the disease are not infrequent, according to Dr. Alexander Crombie, and present themselves in the form of eczema, dyspepsia, congestion of the liver, headache, high blood-tension, and inability to stand exposure to the sun. Dr. F. S. Toogood's article is one of the most entertaining of the series, and deals with "Gout among the Poor." He believes that the chief, if not the only cause of gout is malt liquor, and that food is not an important factor. The treatment that he employs consists in administering 5 gr. of calomel and an ounce of the following mixture every 4 hours until the symptoms show signs of abating: Colchicum wine, 15 minims; heavy magnesium carbonate, 10 gr.; magnesium sulfate, 40 gr.; tincture of hyoscyamus, 10 minims; sweet spirits of niter, 10 minims; and peppermint water sufficient to make an ounce. Piperazin and soda salicylate have not been found beneficial by Dr. Toogood. The only local applications that have proved of value are hot brine fomentations. He gave the local hot-air treatment a trial lasting for 12 months; but beyond consuming a fearful quantity of gas he achieved no result. Dr. Samuel West deals with the "Relation of Gout to Granular Kidney and to Lead-poisoning," but leaves the subject almost as obscure as he found it. He concludes that both gout and lead-poisoning may produce chronic changes in the kidney, but that neither causes granular kidney. The presence of granular kidney, however, greatly increases the liability of the patient to gout, on the one hand, and to lead-poisoning on the other, or to both together; and each affection alike increases the gravity and the risk in cases of granular kidney. If a layman was to read the series of articles, particularly the sections discussing the causes and the treatment, he would not obtain a high opinion of the science of medicine. It is really amusing to find the most radical differences in opinion concerning a subject upon which some unanimity should have been reached since the days of Sydenham, 200 years ago. Dr. Alexander Haig reiterates his eccentric views as to the "Causation of Gout." His opinion, to give it briefly, is that gout and a multitude of other affections are due to poisoning by meat, tea, and similar substances, which introduce uric acid into the system in considerable quantity. The preventive treatment employed by him consists in abstaining from such foods as, in his opinion, contain uric acid. In acute cases of actual gout with fever, the best treatment is to give a uric-acid solvent, either sodium salicylate or salicylic acid, or even better, aspirin in doses of not less than a dram a day. He does not approve of using colchicum. Dr. I. Walker Hall's article on "Metabolism in Gout" is very interesting, but does not do much to clarify the subject. This is not through any fault of Dr. Hall, but because so little is known about the body chemistry in the disease. What Sir Dyce Duckworth says concerning the "Dietary of Goutily-disposed Persons" must command respect. It is interesting to know how much he differs with "uric-acidophobic" Dr. Haig. He believes that animal food is not only harmless but beneficial to gouty persons, provided it is taken in moderation. He regards the alleged differences between the red and the white meats as nonsense. Pickled and salted meats are inadvisable, as a rule, but they need not be absolutely excluded from the diet. Fish, especially white and fresh fish, is one of the best articles of food for the gouty. Oysters, lobsters, and most shell fish are quite innocuous if eaten in good condition. No viscera need be excluded from the diet. Duckworth permits his patients to eat almost all the vegetables, and can see no reason why those that grow under ground should be considered harmful. Fruit, he believes, is condemned for very inadequate reasons. Tea, cocoa, and coffee, properly prepared, are quite harmless, and sugar, taken in moderation, he regards as not only harmless but beneficial. No universal rule can be made as to alcoholic liquors, but a moderate quantity of them is not injurious, though most varieties of malt liquors are deleterious. Dr. Arthur P. Luff's paper on the "Treatment of Gout" is excellent. To prevent the disease he recommends the oldfashioned guaiacum resin in doses of 5 gr. 3 times a day, increasing to 10 gr. or 12 gr. Quinic acid has also proved useful in his hands. He has not much faith in Haig's theory and permits meat, although, of course, in moderation. He sees no reason for the wholesale condemning of potatoes. If the patient can digest the sugars and the starches he may take them; if not, of course they must be excluded. The value of mineral water, so far as its use to remove gouty deposits is concerned, lies solely in its water content and does not in any way depend upon the mineral contained in it. When the removing of gouty deposits is the main object, springs not containing sodium salts are preferable. In cases of sluggish action of the liver, of intestinal catarrh and torpor, of gouty dyspepsia, and of other forms of irregular gout, waters containing sodium salts are beneficial. The best place for the gouty to spend the winter in is Egypt. Dr. G. A. Bannatyne discusses the "Balneologic Treatment of Gout" in an article containing valuable information in regard to various spas and the methods of applying the hydrotherapeutic measures.

REVIEW OF LITERATURE

Early Recurrence of Fibrinous Pneumonia.—A patient in W. Ebstein's[1] charge developed pneumonia of the right lower lobe with typical signs, crisis occurred on the eighth day. Seven days later, after a week of convalescence, a chill and another attack of typical pneumonia in the same lobe with crisis 4 days later. This time convalescence went on to cure. The general state, appetite, etc., between the 2 attacks was very good, the physical signs had disappeared to a considerable extent. At no time could pneumonia be isolated. Ebstein mentions the rarity of a recurrence during the convalescence, which really must be considered in the light of a new attack, and quotes from textbooks to prove this rarity. A recurrence after recovery is comparatively common. He suggests the name of "early relapse" (Frührecidiv) for the former, "late relapse" (Spätrecidiv) for the latter. [E.L.]

Notes on a Case of Pernicious Anemia.—F. Leclerc and A. Cade[2] give full clinical, hematologic, and autopsy notes on a case of pernicious anemia, the patient being a man of 49. The clinical picture of the disease was a typical one. The liver was not hypertrophied and there was entire absence of interstitial lesion. Considerable space is given to the consideration of the

[1] Münchener medicinische Wochenschrift, May 5, 1903.
[2] Lyon Médical, June 28, 1903.

blood changes which are considered to be somewhat atypical The red cells fell as low as 770,000. A noticeable feature was the entire absence of megaloblasts, and only 1 or 2 erythroblasts were found. This would put the case in Ehrlich's "aplastic" type, but it differed from those in having the marrow of the long bones red and active. The leukocytes fell to as low as 1,550, of which 56% were mononuclears and 44% polynuclears. The writers believe that leukopenia and relative lymphocytosis are the two principal signs in the diagnosis and prognosis of pernicious anemia. [A.G.E.]

Further Work on Amebic Dysentery in India.—Leonard Rogers,[1] after a somewhat lengthy dissertation upon amebic dysentery in India with reference to the mode of formation of secondary abscesses of the liver and with a note on the serum tests for dysenteries, concludes as follows: Amebic dysentery is most frequently found in patients dying from large tropical liver abscesses, in the walls of which the ameba can always be found, unless they have been opened for some time. The disease is chronic, often latent but not often fatal, except through complications. Amebic dysentery has naked-eye and microscopic characteristics which enable it to be easily distinguished from the more common bacillary type of the disease. Its most important complications are large abscess of the liver, acute or chronic peritonitis, and postperitoneal abscess. Amebic abscess of the liver, secondary to this form of dysentery, may be produced by infection across the peritoneum or by way of the portal vein producing a clotting in its branches with a resultant focal necrosis. If staphylococci reach the liver with the amebas, as in gangrenous sloughing of the bowel, then multiple small abscesses in the interlobular branches of the portal vein containing both amebas and staphylococci result. The bacillary form of dysentery is much commoner in Calcutta than the amebic one, and is due to Shiga's bacillus which is clumped by the blood of cases of ordinary dysentery, but not by that of the amebic form, thus furnishing a method of differentiation. [A.B.C.]

Cause and the Specific Cure of Hay-fever.—Dunbar[2] tested dissolved toxins of pollen on 9 individuals, sufferers from hay-fever, and 20 individuals not susceptible to the disease. The latter were not affected in the least by the poison, while all the others developed identical typical symptoms. Considering the unanimity of his results, he believes himself justified in stating that the pollen poison has the same specific irritating reaction on all sufferers from hay-fever, but is absolutely without reaction on persons not so inclined. Two other points were proved to his satisfaction by his experiments. The pollen poison of all the various grasses is identical, and this poison can be neutralized to a greater or less extent by adding to it a serum obtained from animals, which had been inoculated with the poison. He holds out to us the hope that in time we will be able to obtain a poison which is entirely curative. [E.L.]

The Action of Saline Purgatives and their Counter Action by Calcium.—J. B. McCallum[3] has made experiments upon rabbits to determine the mechanism of the action of saline purgatives. They show that barium chlorid, sodium citrate, fluorid, tartrate, oxalate, and phosphate act as purgatives not only when introduced into the intestine but also when injected subcutaneously or intravenously. There is an increase in intestinal peristalsis and an increased secretion of fluid into the intestine. Intravenous injection of these salts causes increased peristalsis in 1 minute; when introduced into the intestine it takes 10 to 15 minutes and 5 times the amount to produce an equal effect, indicating that they must be absorbed into the blood before they can produce their purgative effect. They probably affect the intestine through the central or peripheral nervous system. The injection of solutions of calcium chlorid entirely inhibit these peristaltic movements of the intestine. The administration of calcium in cases of diarrhea is therefore rational, especially in those cases in human beings which accompany hysteria or nervous excitability of any sort. [A.G.E.]

Bronchopneumonia of one Lung and Abscess in the other from Inhaling a Large Pin.—Paul Courmont and André[1] report such a case occurring in a man of 26, who inhaled a large pin, head first. Five days later during an effort to cough the pin lodged itself in one of the bronchial tubes. The next day there developed signs of general infection, muscular rheumatism, then pleural pneumonia of the left base, rise in temperature, bronchopneumonia, with the physical signs of a cavity. The patient died about a month later. The autopsy showed the presence of bronchopneumonia of the left base, caused by the obstruction of the bronchus by the head of the pin, and an abscess of the apex of the right lung, corresponding to a point which had been pricked frequently by the point of the pin during efforts at coughing. This case is interesting on account of (1) the size of the pin; (2) the bronchopneumonia the result of obstruction of a bronchus, the diseased area being limited exactly to that part of the lung supplied by the obstructed bronchus; (3) the role played by the ball-and-socket action of the head of the pin, which explained the presence of the physical signs of pseudocavity. The accumulation and retention of the pus behind the head of the pin increased day by day, and finally was sufficiently great to fix the pin firmly; (4) the presence of an abscess at the apex of the right lung, due to the constant irritation of the point of the pin, which perforated the tissue each time the patient coughed; (5) the multiple character of the pathogenic germs present. These latter were the pneumococci and other cocci. The abscess at the right apex seemed to be polymicrobic in origin. [J.H.W.R.]

Serum Treatment for Plague.—Polverini[2] deduces from his experiments the following conclusions: 1. Experiments to determine the curative power of plague serum are valueless if the method of infection used does not permit exact dosage of the infecting material, and if the cultures employed are other than those employed in the immunization of horses for the manufacture of the curative serum. 2. Inasmuch as the same serum reacts differently against different animals, it is wrong to assert no curative action in the case of man, just because the serum has been of slight value in some variety of animal. 3. The socalled alternative method is the most appropriate to determine the curative action of serum on man. This method has been used in more than 1,000 cases in Bombay with serum manufactured there. The results have been very satisfactory. [E.L.]

The Prevalence of Human Actinomycosis.—In a recent communication at the Paris Academy of Medicine, A. Poncet and L. Thevenot[3] enumerate the cases of actinomycosis reported since the publication of their treatise 5 years ago. In France there have been 86 cases; in Germany, 101 cases; America, 102; England, 35; Austria, 79; Spain, 1; Greece, 1; Holland, 3; Italy, 22; Roumania, 2; Russia, 189; Sweden, 2; Switzerland, 5; Turkey, 4. These figures show a very high percentage in France. As regards site, the cervicofacial type is the most frequent, this being the site of the lesion in 306 out of a series of 497 cases. [A.G.E.]

Appendicitis Obliterans.—The appendix is at times the seat of inflammatory processes that lead to partial or total obliteration of its lumen. Usually this obliteration is discovered at autopsy, but occasionally the inflammation is observed in a more recent state on the operating-table. K. Faber[4] reports several cases of this affection. At times the process is going on without symptoms referable to inflammation in the appendix. In a certain number of cases the symptoms point to a chronic appendicitis. With the obliteration there are often formed adhesions around the appendix, which may be of considerable clinical significance. An obliterating appendicitis in itself may give pronounced symptoms, and can exhibit in its course wellmarked attacks of acute appendicitis. In a few cases the condition may be larvated, without any symptoms localized in the right iliac fossa. Even in such cases widespread adhesions may form. [B.K.]

The Permanent Bath: Its Uses and Results.—Würth[5] has treated 102 patients suffering with a variety of diseases with

[1] British Medical Journal, June 6, 1903.
[2] Deutsche medicinische Wochenschrift, February 26, 1903.
[3] University of California Publications, Physiology, No. 2.

[1] Lyon Méd., June, 1903, p. 977.
[2] Münchener medicinische Wochenschrift, April 14, 1903.
[3] La Médecine Moderne, June 10, 1903.
[4] Mittheil. aus den Grenzgeb. d. Med. and Chirurg., Bd. xi, Heft 4, p. 506.
[5] Allgemeine Zeitschrift für Psychiatrie, 1902, Vol. lix.

the bath. He has never seen any ill effects from it, but has observed that occasionally due to the patients becoming accustomed to it, its benefits diminish considerably. The best results from its use are observed in the maniacal stages of that form of insanity made up of maniacal and melancholy periods, next in the stages of excitement of other psychic disturbances, least in the pure forms of catatonia. [E.L.]

Infectious Hepatic Congestion Simulating Abscess of the Liver.—M. Patel[1] reports 2 cases of this condition, to which attention has recently been called by M. Remlinger. The first patient was a child of 8, who had pain in the right side of the abdomen, high temperature, chills, etc., and after some time, increase in the size of the liver. Perihepatic abscess was diagnosed and the abdomen opened. No abscess was found, and 4 days later puncture of the liver showed bile mixed with pus. The diagnosis of ascending angiocolitis was then made. The second patient was a man of 40, who exhibited high temperature, with considerable increase in size of the liver. An opening was made through the lumbar region, and multiple punctures made in the liver. Cure was complete. The diagnosis in this case was based on the general hypertrophy of the liver, the very slight pain provoked by palpation, the thermic remissions, and the general appearance of septicemia instead of localized collection of pus. The mechanism of infection in these cases is discussed at length. [A.G.E.]

Splenic Tumor and Polycythemia.—J. Rosengart[2] reports a case characterized by enlarged spleen, enlargement of the liver, a peculiar cyanotic coloration of the skin, a deep red coloration of the mucous membranes, a considerable degree of emaciation, mild albuminuria, and certain secondary circulatory disturbances. Examination of the blood showed 10,000,000 red blood cells per ccm., the separate corpuscles, however, being normal in appearance. The circulatory disturbances consisted in the signs of cardiac dilation and insufficiency, due probably to the greatly increased consistency of the blood. The chief symptoms complained of by the patient were gastric in nature. Since the spleen has no direct hematopoietic function, according to more recent opinions, the polycythemia cannot be ascribed directly to the splenic tumor. It is most probably due to a secondary reaction of the bone marrow. [B.K.]

Heart-beat and Apex-beat in Insufficiency of the Aortic Valves.—G. Galli[3] has met 2 cases of aortic regurgitation in which the heart and apex-beat had not increased in force. The first patient, a man of 39, with very bad antecedents, had been complaining of precordial pain for some time; this was intensified by pressure, and relieved by bending forward or drinking black coffee. Suddenly while at work, he was seized with a violent cough and dyspnea which were followed by edema, inability to lie flat and other symptoms of insufficient compensation. All the signs of aortic regurgitation were present, but the apex-beat could neither be seen nor felt; the cardiac impulse was present. This absence was explained by a coexisting mitral insufficiency, and a relatively weak left ventricle. The second patient a man of 36, had locomotor ataxia, which confined him to bed most of the time. The cardiac symptoms appeared later; neither heart or apex impulse were visible or palpable; while in bed he had little discomfort, so soon as he exerted himself the least, however, he became cyanosed, gasped for breath, etc. There were no signs of mitral insufficiency. These cases prove that the heaving impulse may be absent in aortic insufficiency whether mitral insufficiency be present or not, and that this sign is therefore not absolutely necessary to make a diagnosis of the disease. [E.L.]

A Disease of Sponge Gatherers.—Under the name of "disease of divers or sponge gatherers," S. Zervos[4] describes an affection constituting a morbid entity hitherto unclassified. As the name indicates, the disease is observed only in divers, and is almost entirely confined to those who work in the nude state. It is caused by the secretion of a certain *actinium* which is found in the waters where the sponges are obtained. This viscid excretion causes at the point of contact upon the body a swelling and intense burning, followed by a papule. This is surrounded by a zone of redness, which later become bluish, bluish-black, and finally entirely black. The skin of this area becomes gangrenous, and there is formed a deep ulcer, with abundant suppuration, which is very resistant to treatment. Occasionally surrounding the affected region there appear multiple abscesses that secrete large quantities of pus, and are slow in healing. A febrile movement with a chill accompanies the first manifestation of the disease, and during the first few days there is headache and thirst. The affection has been produced experimentally on dogs by holding the parasite in contact with the shaven skin. As treatment the divers use compresses of hot water, but Zervos thinks it more rational to scarify the tissues of the involved region immediately after the symptoms begin, in order that all or a part of the venom may be expelled. [A.G.E.]

Pericardial Friction-sound Transmitted Throughout the Thoracic Region.—N. Chappet and G. Leclerc[1] report 2 cases of pericarditis in which the friction-sound was very intense, and was transmitted to almost the entire thoracic region. The first case occurred in a man of 47, who presented the symptoms of Bright's disease. There was a double friction-murmur, intense in character, heard all over the pericardial region and transmitted to the left posteriorly. On the right side it was heard over the entire anterior thoracic region, as far as the right axilla. The autopsy revealed the presence of a recent adhesive pericarditis, a pleural effusion on the left side with atelectasis of the inferior lobe of the lung, and a part of the superior lobe. The superior lobe was transformed into a dense mass, and was the seat of gray hepatization. On the recent side there was no pleural effusion, but the inferior lobe was the seat of gray hepatization. The kidneys were cirrhotic. The second case was that of a man of 31, who also presented the symptoms of Bright's disease. There was an intense pericardial friction-sound, which was heard all over the cardiac region, and transmitted almost throughout the entire chest. The autopsy revealed the presence of pericardial effusion, and of vegetations covering the surface of the pericardium. There was a double hydrothorax, but no hepatization. The kidneys were cirrhotic. These 2 cases are especially interesting from the standpoint of the transmission of the pericardial friction-murmur, which depends probably upon several factors, namely, the consistency of the pericardial exudate, the volume of the heart, and the energy of its contractions, and finally, the density of the tissues situated in the vicinity of the pericardium, which in the cases reported, were the consolidated and congested lungs. [J.H.W.R.]

The Treatment of External Anthrax in Man.—Federschmidt[2] reports 10 cases of malignant pustule in brushmakers, three of whom were treated by himself, the lesion being excised as soon as diagnosed. The other seven occurring in the practice of other physicians were treated expectantly. His 3 patients recovered promptly; two of the remaining seven died. In several other cases secondary plastic operations had to be performed to heal the ulcers remaining after the pustules came away. A very early excision is therefore considered by him to be the best form of treatment. In his cases the lymph-glands did not enlarge, but even where they are already hypertrophied he advises excision of the pustule, as this prevents new germs from entering the lymph paths and facilitates the work of the glands to destroy the organisms already present. [E.L.]

A Xiphosternal Crunching Sound.—M. Solis Cohen[3] reports 6 cases in which the above-named sound was heard. The location of this sound is a little to the left of the lower end of the sternum. It is superficial in character and may be compared to the sound made by a boot treading on soft snow. The 6 cases represent 1.2% of the series of cases examined by the writer at the medical dispensary of the hospital of the University of Pennsylvania during a period of 15 months. The sound was not influenced by exercise, respiration, or pressure of the stethoscope, except in one instance. In 5 cases the sound was intensified when the patient leaned forward. It was diminished in intensity when the patients lay down, in 2 cases completely

[1] Lyon Médical, June 28, 1903.
[2] Mitth. aus d. Grenzgeb. d. Med. and Chirurg., Bd. xi, Heft 4, p. 495.
[3] Münchener medicinische Wochenschrift, April 21, 1903.
[4] La Semaine Médicale, June 24, 1903.

[1] Lyon Médical, June, 1903, p. 1024.
[2] Münchener medicinische Wochenschrift, April 7, 1903.
[3] American Journal of the Medical Sciences, July, 1903.

disappearing. In every case the heart was enlarged, and the cardiac sounds were weak and of poor quality. Full clinical notes of all the cases are given. The author does not find this sound described in any of the textbooks of medicine, but thinks it is identical with the sounds described by Stokes, Brown, Money, Sansom, Colbeck, Hare, and Fussell. It is quite possible that the sound is produced in several ways, but Cohen inclines to the view that it is caused by the presence of white patches on the pericardium. Postmortem examination of series of cases which have exhibited this sound is the only method of determining its origin. [A.G.E.]

Traumatic Rupture of the Heart.—Revenstorf[1] reports 6 cases of rupture of the heart from various accidents, and reviews the literature. He has studied the mechanism of these ruptures, and divides them into three classes: 1. Compression ruptures. 2. Concussion ruptures. 3. Laceration ruptures. A direct compression occurs in every case of heart rupture; but it is only to be held responsible for the tear when there can be demonstrated lacerations of corresponding parts of the outer and inner heart walls, with crushing of the muscular tissue or bloodvessels. Rupture by compression can occur in any part of the heart. Rupture by concussion may occur in the roots of the great vessels, auricles, or ventricular walls. In the latter the characteristic tear by concussion is found, having a small inner and a larger outer opening. The rupture by laceration exhibits more or less smooth or stringy edges; the typical locations of these tears are at the base of the auricles, or near and parallel to the auriculoventricular septum, or in the ventricular septum, or in the large vessels. It is often difficult or impossible to diagnose at autopsy the mechanism of the rupture. [B.K.]

Poisoning with Potassium Bichromate.—F. Berka[2] reports the case of a girl of 22, with a previous history of 15 attempts at suicide, who took between 20 gms. and 35 gms. (5 dr. and 9 dr.) of potassium bichromate; she had filled figs with the poison. This prevented injury to visible mucous membranes. The symptoms, consisting of pain, expectoration of green mucus, and collapse, began to appear after 4 hours. Lavage was practised, but neither the gastric contents nor a watery stool showed anything characteristic. Vomiting set in later and the vomitus, as well as the stools, contained bloody mucus; the pain increased, she became weaker gradually, and died 12 hours after the ingestion of the poison. At no time were there any convulsions. The only pathologic evidence in addition to the chromin which was detected in the vomitus, stools, etc., was inflammation of the upper part of the small intestine. The poison being enclosed in the figs did not injure the upper digestive tract and exerted its destructive influence only after its liberation from them by digestion. [E.L.]

The Value of Bacteriologic Examinations of the Blood.—Ludvig Hektoen[3] says that these examinations have been of much scientific value and in certain cases are of immediate practical importance. To obtain the blood, he advises the use of venous puncture without exposing the vein by incision. The frequency of bacteria in the blood, even in mild cases of many diseases, shows the necessity for great caution in interpreting the results of antistreptococcus serum and other more or less rational forms of treatment of blood-poisoning. Observations seem to indicate that pneumococci are present in the blood of all, or nearly all, cases of lobar pneumonia. The clinical examination of doubtful cases of typhoid fever are not to be considered complete or exhaustive without cultures from the blood. It now appears that bacillemia is a dominant feature in the pathogenesis of that disease. Hektoen believes that the early occurrence of bacillemia, its persistence during the height of the attack, and its relation to relapse and recrudescence in typhoid fever indicate, that the bacillemia has far greater significance than merely that of transportation of bacilli between primary and secondary foci of localization. Further study is necessary before a final conclusion can be reached as to whether all typhoidal intestinal lesions are the result of primary invasion from the lumen of the bowel or in part or wholly of secondary localization from the blood. Perhaps invasion takes place along both these routes. The occasional occurrence of angina in the beginning of typhoid suggests that perhaps the tonsils may be points of entrance of typhoid bacilli into the blood. [A.G.E.]

[1] Mittheil. aus d. Grenzgeb. d. Med. and Chirurg., Bd. xi, Heft 4, p. 603.
[2] Münchener medicinische Wochenschrift, April 21, 1903.
[3] Illinois Medical Journal, July, 1903.

GENERAL SURGERY

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EDITORIAL COMMENT

Palmar abscess may arise from a trivial and even unnoticed injury, but may become so serious as to threaten loss of the hand and arm, and even life itself. It usually arises from infection by puncture wound of the connective tissue or of a flexor tendon sheath in the palm of the hand, or of a flexor tendon sheath in a finger. The anatomic arrangement whereby the flexor tendon sheaths of the thumb and little finger are continuous with those of the palm renders suppurative infection of either of these sheaths very liable to result in abscess of the palm. The danger of palmar abscess is not only the sloughing and tendon destruction which may result in the hand, but its marked liability to extend upward and involve in a suppurative inflammation all the tendons and tendon sheaths of the forearm, with the possibility of a general septicemia. The symptoms of palmar abscess, in addition to the probable history of a punctured wound, are pulsatile pain, swelling, and edema, especially on the dorsum of the hand and fingers, and marked constitutional disturbance. The prophylactic treatment of punctured wounds about the hand is, of course, indicated, but since the patient is seldom seen until a suppurative inflammation has already developed, more radical measures must be instituted. If palmar abscess actually exists, or is seriously threatened, no temporizing should be permitted, but treatment should be prompt and vigorous. Free incision should be made in the palm, sufficiently near the fingers to avoid the superficial palmar arch, and in a line parallel to and over the metacarpal bone. Generally it is the wiser course to make at least two incisions, and more if necessary. If suppuration actually exists, rubber drainage-tubes should be carried entirely through the hand, moist antiseptic dressings should be applied and the hand and forearm placed on a splint and suspended in a sling. Internal medication in the form of tonics and stimulants should be given. When convalescence is established, passive motion of the fingers should be instituted to prevent the tendons from being bound down by the resulting new-formed fibrous tissue. This is another of the septic and infective affections most serious in character, which is often neglected, or but tentatively treated, whereas the humane procedure is the socalled heroic procedure.

REVIEW OF LITERATURE

Bullet Extraction from the Brain in Penetrating Skull-wounds.—Wieting and Effendi[1] describe the case of a man of 35, who was shot in the left side of the head, was unconscious for 10 days, was paralyzed on the right side for 4 months, and upon recovery was found to have a very poor memory and complete sensory aphasia. He complained of a constant heaviness in the head, but no headache. Two Röntgen pictures were taken and the bullet located near the middle lacerated foramen. A Krause operation as for removal of the gasserian ganglion was performed and the dura opened. Much cystic fluid escaped, the cyst cavity occupying the central portion of the 3 temporal lobes; it was filled with granulation tissue. The bullet was found imbedded in the neighboring brain tissue and carefully removed. Complete recovery, both from the standpoint of the operation and the aphasia resulted. A discussion as to when the brain cavity should be opened in cases of bullet wounds closes the paper. [E.L.]

[1] Münchener medicinische Wochenschrift, April 28, 1903.

The Operative Treatment of purulent Meningitis.—Hans Haberer[1] reports a case of leptomeningitis involving the entire hemisphere of the brain, in a woman of 36. The condition developed from a phlegmonous process in the temporal region, and was probably localized in the beginning. The patient was trephined twice, and in spite of the extensive exposure of the brain it was impossible to see the healthy dura. Notwithstanding the fact that there was temporary improvement after each operation, the patient died three days after the last operative interference. The question arose whether a more extensive exposure in the beginning would not have resulted more favorably. Lumbar puncture the day after the first operation gave negative results. [J.H.W.R.]

Actinomycosis.—R. von Baracz[2] reports 60 cases seen during the last 14 years. He says the reason of its frequency in Galicia is the extensive farming in that country; 52 showed actinomycosis of the jaw and neck, 3 of the tongue, 3 of the thorax and lungs, and 2 of the abdomen. He states that the fungus enters the body through the mucous membrane of the mouth or air passages, and very rarely through the skin. The teeth are never the portal of entrance, though decayed teeth play an important etiologic role, since the soft, swollen gums permit the easy entrance of the fungus. Bones are never primarily attacked in actinomycosis of the jaws, either in man or animals. His method of treatment in the first 40 cases was operative, consisting of curetment and extraction of teeth. In the later cases he attempted to produce a hard, inflammatory wall around the diseased area by means of hypodermic injections of tincture of iodin and silver nitrate. In this manner he was able to cure the last nine cases without operation. Silver nitrate in 20% solution not only produces such boundary of connective tissue, but kills the fungus. He expresses the opinion that intravenous injections of collargol in actinomycosis of the lung and thorax would be of service. [A.B.C.]

Spontaneous Gangrene of the External Genitals.—M. Druelle and S. Nicolau[3] report the case of a man of 47 who presented a typical instance of spontaneous fulminating gangrene of the external genitals, infection from the urinary passages being excluded. Following this there developed a suppurative lymphangitis of the abdominal wall. Streptococci of nearly equal virulence for animals were obtained from each lesion. The successive development of these different affections in the same individual and as a result of the same organism is explained by assuming that the action of the infecting agent in the first instance was overwhelming before the tissues had time to react. When the abdominal wall was involved a certain degree of immunity had been caused and the manifestation was less marked than in the primary infection. The patient recovered, but only after a prolonged convalescence. [A.G.E.]

Symptomatology of Carcinoma of the Prostate.—H. Doerffler[4] reports the case of a man of 62, whose illness began with symptoms of nervous dyspepsia and frequent micturition. A typical attack of appendicitis was recovered from next; albuminuria beginning at the same time persisted. Examination by the rectum about this time revealed an enlarged prostate, and in its substance could be felt two stony, nodular, isolated tumors, absolutely painless to touch. Each time the patient left his bed thinking himself sufficiently well, he was taken with fever, feeling of slight fulness, and pain over right kidney and increased albuminuria; later also some tenderness of gallbladder. He recovered from these attacks by lying in bed. The patient not getting any better, an exploratory operation was performed. The kidneys and gallbladder were examined, but nothing was discovered. At autopsy, four days later, a carcinomatous prostate was found pressing against terminal part of right ureter and bladder, and obstructing flow of urine whenever patient was in an erect position, thus causing the attacks of fever and collapse noted. [E.L.]

Surgical Scarlatina.—It is a matter of frequent occurrence for adults and children to develop after an operation a typical scarlatinal rash. Children are especially prone to this complication, which is known as "surgical scarlatina." It it important that the practitioner make himself familiar with the clinical picture and course of this postoperative affection, which is often misnamed erythema, urticaria, and what not, while no precautions to prevent further spreading are taken. W. P. Gerassimovitch[1] has studied a series of cases in children and gives the following clinical sketch: Shortly after the trauma, chiefly operations, the child sickens. Fever and pain in the wound are present; no vomiting and no sore throat. However, the next day a pale-scarlet eruption appears, and henceforth the course resembles that of idiopathic scarlatina, with the exception of an almost entirely unaffected throat. Locally, the wound shows unfavorable symptoms, such as inflammation, infiltration, or even suppuration. The general character of the affection is mild, and the mortality correspondingly low. Concerning the time of infection, our author does not agree with those who believe in preoperative infection, but thinks that it coincides with the operation. The greater susceptibility of children may be accounted for by postulating a weak bactericidal power of their blood. Finally, many instances of socalled scarlatinal antitoxin rashes in diphtheria appear to be nothing other than genuine surgical scarlatina. In this rather startling view the author is upheld by Leiuer, who arrived independently at the same explanation. [L.J.]

Neurofibromatosis of the Nerves of the Tongue and of Certain Nerves of the Head and Neck.—F. C. Abbott and S. G. Shattuck[2] report the case. The patient was a female child, aged 4 years. Family history was negative. Enlargement of the tongue was first noticed when she was 2 months old, and it is believed there was some abnormality at birth. When the child cried the left side of the face and ear always became red. The tongue steadily increased in size and at 18 months it began to protrude from the mouth, which condition became constant from this time. The teeth were not disturbed and dentition was normal. Speech grew worse as the tongue enlarged. Fulness of the left side of the face and swelling in the neck increased as the tongue grew larger. The child was bright mentally. Examination before operation showed the tongue tough, firm, and cord-like in consistence. Its mucous membrane was dry, thick and opaque. The left ear was somewhat deformed, larger and thicker than its fellow. Operation was performed on the tongue and the redundant portion removed. Three weeks later a second operation was done for the enlargement of the neck. The tumor was found to consist of worm-like coils of semitransparent white cords of nerves inextricably twisted. Left facial paralysis followed the operation. The child was discharged two months after the first operation, being able to keep the tongue entirely within the mouth, but the facial paralysis remained to some extent. Her articulation became much improved. Microscopic examination of the removed tongue showed it to be a fibromatosis of the nerves, or a plexiform neurofibroma. The nerves involved appeared to be the hypoglossal, facial, and motor branch of the third division of the fifth nerve, the glossopharyngeal, the lingual and auriculotemporal branches of the third division of the fifth nerve, and the transverse cervical, suprasternal and supraclavicular descending branches of the cervical plexus. There was undoubtedly some disturbance in the function of the cervical sympathetic. [A.B.C.]

Indications for Operative Interference in Carcinoma of the Rectum.—Seventeen years ago O. Witzel[3] began to perform proctostomosis instead of rectal resection for carcinoma. At first he used it only as a makeshift, but during the last eight years he has used no other method for total extirpation, as his results with it were much the better; with it he has not had any abscesses, fistulas, hemorrhage, or sepsis; he has used the operation 17 times without a death. The principle upon which he chooses his operation is: Small cancers, large operations (radical operations); large cancers, small operations (palliative operations). Total operations are limited to cases in which the tumor has not gone beyond the fascia recti propria; therefore, when it has spread to the sacrum, the prostate, or bladder, the case is beyond operation; also where metastases have formed in other parts of the body. Another

[1] Weiner klin. Woch., No. 13, 1903, p. 374.
[2] Annals of Surgery, March, 1903.
[3] La Médecine Moderne, May 20, 1903.
[4] Münchener medicinische Wochenschrift, March 3, 1903.

[1] Russki Vratch, April 26 and May 10, 1903.
[2] Annals of Surgery, March, 1903.
[3] Münchener medicinische Wochenschrift, March 10, 1903.

reason why he prefers the amputation is, that should he suddenly discover during the operation that the carcinoma is an inoperable one the operation can be stopped at any stage without harm to the patient. He describes three cases where the operation had to be interrupted. Only 20% of cases were found to be operable, the other 80% are to be treated symptomatically until symptoms of stenosis appear, when a preternatural anus (best a subsartorial solostomosis) should be formed. [E.L.]

Thrombophlebitis of the Cavernous Sinus from Caries of the Teeth.—Nikolanus Damianos[1] calls attention to the fact that while caries of the teeth frequently leads to periostitis of the jaw-bone, in rare instances infection of the dura and thrombophlebitis may follow. He cites the case of a woman of 25 who, two days previous to her applying to the hospital, had had three lower carious teeth removed. Upon examination periostitis of the left lower jaw was found. She developed fever and in 10 days the cheek, jaw, and cervical region on the left side were swollen, the skin red, and fluctuation was present. After opening an abscess on the lingual aspect of the jaw the patient improved and in two days the temperature was normal. In three days the temperature again arose, the patient became stuporous, the right eye protruded, the lid was swollen, the conjunctiva cyanosed, and the right eyelid drooped. The right eye followed the movements of the left imperfectly. The pupils responded normally. The eyegrounds showed no abnormality. There was no pathologic condition in the left eye. The patient died in two days. A thrombophlebitis of both cavernous sinuses and a basilar meningitis were found. The origin of this condition Damianos believes was either in the abscess in the soft parts of the lower jaw, or in the abscess situated in the region of the palatal arch, extending by means of the veins on the side of the pharynx, namely, the pharyngeal and pterygoid plexuses. He cites a second case in a woman of 30 with similar symptoms, who presented postmortem thrombosis of the facial vein, which had extended to the left orbital vein. There was a retrobulbar abscess which had involved the cavernous, superficial, petrous and sigmoid sinuses and the right jugular vein. Pachymeningitis was also present. He quotes other cases illustrating the various ways by which this condition may develop. The local symptoms are the result of the closure of the sinus receiving the blood from the ophthalmic vein, and the pressure upon the nerves surrounding the cavernous sinus. Damianos advises draining the sinus, using the method employed by von Vosz to operate upon the gasserian ganglion. He calls especial attention to the fact that carious teeth are not only a possible source of slight disturbances of health, but also of grave diseases involving the blood channels and the brain. His cases are a warning against the possibilities of infection of the wounds after the extraction of teeth. [J.H.W.R.]

The Formalin Treatment of Inoperable Cancer.—A. F. M. Powell[2] calls attention to the antiseptic and deodorant power possessed by formalin. It also possesses the faculty of hardening tissues. Used in sufficient strength it is an escharotic. He, therefore, conceived the idea that it could be used beneficially in the treatment of inoperable cancer, holding that since the cancerous growth is of lower vitality than the normal tissues, the formalin would first act on the malignant tissue. He asserts that in clinical practice this proved true and that soon a line of demarcation is formed between the malignant and benign tissues. His method of application is as follows: Absorbent lint soaked in 2% formalin is laid on the tumor, this is covered with cotton wool and bandaged. The dressing should be changed every 6 hours. After the third or fourth dressing the discharge and fetor cease and the further process is an aseptic one. He states that in about 3 to 7 days the tumor loses its elasticity, becomes dark, friable, and insensitive, and the further use of formalin is painless. He asserts that the malignant tissue sloughs away and leaves the normal tissue to heal by granulation. [A.B.C.]

Mechanical Sterilization of Rubber Gloves.—To determine the easiest and quickest method of sterilizing rubber gloves, O. Wandel and O. Hoehne[3] performed a series of experiments. They infected gloves with cultures of various organisms, also with mixed cultures in blood, serum, and feces, and permitted these to dry into the gloves for periods varying from a few minutes to 24 hours. The gloves were then pulled on and sterilized by (1) washing only in water; (2) washing with soft soap and water; (3) scrubbing with soft soap and hot water, and washing off with water; (4) by adding to this method ablution in 1% bichlorid solution; cultures were taken after each sterilizing attempt. They found that scrubbing with a brush and using the bichlorid solution were not at all necessary; the gloves were always found sterile if washed with soft soap and hot water energetically for at least 2½ minutes. Shorter periods and simple washing in water did not suffice, excepting in cases where the infection was very recent. The smoothness of the gloves is a necessary requisite of producing sterility. They describe their method of taking care of rubber gloves when not in use. [E.L.]

Empyema in Children.—Stanley Blaker[1] in his interesting paper reports 81 cases of empyema in children. He announces his conviction that the empyema is such in almost all cases from the beginning, that it starts as such and very seldom if ever as a simple effusion which later becomes purulent. In every case except one of those reported, pus was found from the very beginning. For the sake of convenience he classifies empyema into acute or primary, and late or secondary. The latter variety would include about 80% of all cases. Nearly all of the cases reported were associated with an attack of pneumonia either croupous or catarrhal in form. Contrary to the general statement that the prognosis is good in children, the author states that this depends entirely on the age of the child. Acute cases under 2 years of age nearly all die. They may live for a few days, but eventually almost all succumb. Treatment by drainage was adopted in all cases, either by previously removing a portion of rib or else by making an incision into the pleural cavity through one of the intercostal spaces; 52 of the 81 cases had rib resections and 26 had merely a simple incision, the remaining three being moribund on entrance into the hospital and were not operated upon. He states that the one great mistake that is repeatedly made is that the drainage-tube is not dispensed with early enough. The longer the tube is retained the longer will the wound continue to discharge. In his earlier cases the tube was kept in for a much longer period than in the later cases, and latterly it was frequently dispensed altogether within the first week after the operation. He holds that the cavity of the empyema may be irrigated without special danger to the patient, provided it is done slowly and without much force, and frequently this is a valuable adjunct in the method of treatment. [A.B.C.]

Tumors of the Prostate in Children.—L. Levy[2] reports a case of myxosarcoma of the prostate in a boy of 4 years. The onset was sudden and the course rapid, death occurring about two months after the first symptoms. Abdominal pain with difficulty in micturition was followed a few days later by absolute necessity to catheterize; even this soon became impossible, the posterior urethra becoming impermeable to even the finest filiform. A mass bulging on the perineum could easily be seen. The bladder was opened at the fundus and neck to relieve symptoms. The tumor masses later ruptured the perineum, and also invaded the peritoneal cavity. At autopsy the main tumor was found to fill the entire pelvis, being the size of a fist. Many of the organs were found to have metastases. [E.L.]

Cancer of the Ascending Colon.—A. Gottignies[3] reports a case of cancer of the ascending colon occurring in a man of 45. Operation was performed after the method of von Mikulicz. In the first operation the tumor was freed from its adhesions, the mesentery separated from that part of the intestines that was to be resected, and excised. The tumor and the adjoining intestines were brought outside the abdomen, and the intestines in the healthy tissue were united along the mesenteric border for the extent of about 6 cm. (2½ in.) The mesentery was also sutured to prevent internal strangulation. The intraabdominal operation was then finished. The abdominal wall was closed up to the place where the intestines projected from the

[1] Wiener klin. Woch., 1903, No. 13, p. 377.
[2] British Medical Journal, May 30, 1903.
[3] Münchener medicinische Wochenschrift, March 3, 1903.

[1] British Medical Journal, May 23, 1903.
[2] Münchener medicinische Wochenschrift, March 10, 1903.
[3] Jour. Med. de Brux., June, 1903, p. 356

abdomen. Then the parietal and visceral peritoneum were sutured together, completely closing the abdominal cavity. The second operation consists of first covering the line of sutures in the skin with sterile zinc oxid ointment, then covering this with sterile compresses, and finally placing above this a sheet of impervious tissue (Mosetti) through a slit in which the intestines are allowed to pass. In this way it is possible to resect the tumor without infecting the peritoneum. This is done by means of the thermocautery. The artifical anus which results is transformed into a fistula after 2 or 3 weeks, and finally this fistula is closed by sutures. The advantage of the double operation is (1) that it diminishes the danger of collapse and (2) that it avoids primary and secondary peritoneal infection. [J.H.W.R.]

Symptoms and Treatment of Spastic Wryneck.—K. Hasebrock[1] reports 4 cases of this condition; he is not able to name the factors producing this state, but considers at least half of them as belonging to the functional reflex neuroses. In many of the cases probably all the nerves of the neck are involved, as proved by the fact that excision of some do not alleviate the state. Two of his cases were improved by antirheumatic drugs, massage, and gymnastics; the other two he treated by applying an apparatus made of adhesive strips and elastic bands, which forcibly straightened the head, keeping it in that position until the power of the spasm displaced the dressing. (The dressing is illustrated by means of photographs.) The condition of both patients was very much bettered; they were able to keep their heads straight afterward for days at a time without apparatus. Hasebrock believes that this is due to an increase in the strength of the antagonistic muscles inasmuch as the elastic dressing is constant gymnastic exercise for them. [E.L.]

Six Cases of Empyema.—O. F. Rowley[2] reports the cases, giving the history of each to some length. He states that these case histories showed that pus may be present in the pleural cavity with but few symptoms and a moderate degree of pyrexia. That suspected pleural effusions may unexpectedly be found purulent and that in cases following pneumonia, especially in children, the effusion may be purulent very early in the case. In one case a young man's pleural cavity had been half full of the effusion, yet a slight cough was his only symptom. In none of the cases was any rib excised. Four cases operated upon recovered in a normal manner. Two were cured by rupture internally with expectoration of the purulent material, and he holds that these 2 cases, from their favorable termination illustrate the fact that when the empyema ruptures into a bronchus, the prognosis is by no means necessarily unfavorable. [A.B.C.]

Cystadenoma of the Liver and its Treatment.—Beside the cysts of parasitic origin (echinococcus cysticercus) the liver may be the seat of retention cysts and cysts of a genuine neoplastic character. The last variety has been studied by W. N. Orloff,[3] who thus sums up his inferences: 1. Hepatic cysts covered with cylindric and cuboid epithelium of the biliary ducts are benign neoplasms. Their growth, if slow, takes place by means of cellular multiplication; if rapid, it is the result of fluid accumulation. 2. Pathologically and clinically 2 forms of hepatic cystadenoma are to be distinguished; the diffuse and the circumscribed. The former is characterized by enormous alterations in size and consistency of the liver without functional derangements. Jaundice, if present, is in both forms accidental. 3. The diagnosis requires an examination of gastric contents to exclude cancer. Other glandular organs, such as kidneys, ovaries, and mammas, should also be examined, as they are frequently affected together with the liver. 4. As to treatment, in the diffuse variety with ascites Talma's operation is indicated. In the circumscribed form either complete or partial extirpation may be performed. [L.J.]

Sterilization of Small Quantities of Dressings.—K. Holzapfel's[4] modification of Zweifel's apparatus consists of an alcohol lamp, a steam generator, a small, bent, conducting tube through which the steam passes into the sterilizing compartment (illustrated) which contains the dressings to be sterilized. The dressings are separated from the top and bottom of the compartment by wire stands. The advantage of his apparatus is that the steam passes from above downward. Experiments have demonstrated that an exposure to steam during a period of 15 minutes serves to perfectly sterilize the materials. [E.L.]

Treatment of Calculous Anuria.—The most frequent causes of anuria are renal concretions. M. L. Kreps[1] advises in all cases where a stone is suspected the immediate catheterization of the ureter, in order to dislodge the stone and clear the way for the retained urine. The procedure is greatly facilitated by injecting hot oil or glycerin into the ureter. If no stone is found in the suspected ureter the other one should be explored. The same should be done if a stone is found and dislodged but the anuria persists. If a stricture is incidentally discovered in the ureter, even if no stone be present, dilation should be performed with a prophylactic purpose, as such strictures are very apt to obstruct the passage of small concretions. [L.J.]

Mastoiditis, Followed by Thrombophlebitis of the Lateral Sinus and the Internal Jugular Vein.—M. E. Duroux[2] describes a case of this condition occurring in a man of 26, in whom the mastoid was trephined and a small quantity of pus removed. Notwithstanding, the temperature arose, the patient had chills, the pains in the carotid region were increased, and in 2 days a second operation was done, the lateral sinus was opened, and the jugular vein ligated. The patient made a satisfactory recovery. [J.H.W.R.]

GYNECOLOGY AND OBSTETRICS

WILMER KRUSEN FRANK C. HAMMOND

REVIEW OF LITERATURE

Ectopic Gestation.—J. W. Cousins[3] gives the following conditions as favorable to the advancement of ectopic gestation to full term: Early and continuous mobility of the ovum; slow subperitoneal expansion of the gestation sac; the absence of urgent symptoms indicating intraperitoneal or extraperitoneal rupture; early ascent of the fetus toward the abdominal cavity; the lateral position of the placenta in relation to the gestation sac and its upward expansion and elongation. He thinks that the causation of ectopic gestation is still surrounded with difficulties, but two conditions may be taken as bases of investigation: 1. The fertilization of the ovum sometimes occurs within a tube in which the lumen has been distorted by chronic changes within and around it. 2. That in addition to some form of mechanical obstruction the tubal mucosa may be transformed under genetic influence into decidual tissue, and that this structural change is essential for the vital attachment and development of the embryo. [W.K.]

Inversion of the Puerperal Uterus.—Dienst[4] reports a case of inversion of puerperal uterus restored to its normal position by Kustner's method, and calls special attention to 3 points of advantage in this method: 1. The operation can be done through the vagina, involving less danger of infection or of subsequent hernia and a better convalescence. 2 and 3.—The opening of the posterior Douglas sac, and the splitting of the posterior uterine wall. He advises the use of this method whenever the unbloody way cannot be utilized without great difficulty; and if reinversion cannot be obtained by a small incision in the posterior uterine wall, then employ the modification of Westermark and Borelius. In conclusion, he advises that in any later pregnancy the woman who has undergone the Kustner operation should be under as careful medical supervision as in case of cesarean section; and in those women in whom further increase of family is inopportune and unwished for, sterilization through double tubal excision at the same time is indicated. [W.K.]

Diagnostic Value of the Leukocyte Count in Inflammations of the Internal Female Genitalia.—L. Kirchmayr[5] reports his investigations concerning leukocytosis in cases of

[1] Münchener medicinische Wochenschrift, April 14, 1903.
[2] British Medical Journal, May 23, 1903.
[3] Chirurgia, April, 1903.
[4] Münchener medicinische Wochenschrift, April 21, 1903.

[1] Russki Vratch, May 3, 1903.
[2] Lyon Méd., June, 1903, p. 981.
[3] Lancet, July 25, 1903.
[4] Zentralblatt für Gynäkologie, July 11, 1903.
[5] Wiener klinische Rundschau, 1903, Vol. xvii, pp. 180 and 202.

uterine and tubal inflammation, of which he has studied 22 cases, and concludes that leukocytoses of 30,000 point with great probability to suppuration, but this should never be considered of such importance that a diagnosis should be made through it alone. Moderate increase in the number of leukocytes does not decide for or against a suppurative process, nor does it exclude intraabdominal hemorrhage. A normal, or almost normal leukocyte count does not exclude positively the presence of pus. [E.L.]

A Strumipriva Tetania of Pregnancy.—A. Dienst[1] gives the history of a woman, aged 45, in the ninth month of the fifteenth pregnancy, and suffering to such a degree from a parenchymatous struma that she came to the hospital for its removal. Ten days after the operation, spasms with all the characteristics of tetanus, began in the arms, fingers, face and larynx. The latter made it necessary for the patient to sit up in bed day and night, and it was feared tracheotomy would be required for her relief. Then it was decided to empty the uterus. The introduction of a colpeurynter soon led to uterine contractions and labor pains, upon which the spasms began to abate and they entirely ceased upon the delivery of the child. At the end of 10 days, however, they returned, though with less severity. The throat wound showed a suppurating secretion, which was probably the cause of the return of the spasms. The child developed well. The writer believes that the cessation of the thyroid secretion consequent upon the operation was the chief cause of the tetanus in this case, and that the pregnancy furnished the favoring occasion for the relief of the spasms. [W.K.]

Conservative Treatment of Lesion of Uterine Appendages.—G. G. Banlock[2] has reached these conclusions: 1. In the course of an ovariotomy it is true conservative surgery to remove the second ovary if it shows palpable disease. 2. In the case of ectopic gestation or of salpingitis, either acute or chronic, it is advisable in the great majority of cases, if not in all, to do the double operation. 3. The practise of ignipuncture or partial resection of a suspected ovary is not founded on specific data. 4. It is not true conservative surgery to leave an ovary in cases of complete hysterectomy. 5. The operation of salpingostomy does not appear to him to have any claim to be regarded as worthy of acceptance. [W.K.]

Rupture of Abdominal Scars after Laparotomy.—Such an occurrence is rare, and may take place immediately following the removal of the sutures or some time later. W. N. Orloff[3] reports 2 cases of this kind and estimates the total number of recorded instances as 26. In all, the operation was done for ovarian or uterine tumors, or, as in the author's cases, it was a cesarean section. The method of suturing does not seem to have any direct relation to the rupture, which occurs under the most varied kinds of wound-closure. The causes are mechanical, leading to constant or repeated tension of the abdominal wall, such as vomiting, cough, tympanites. To avoid the accident it is advisable to leave the sutures in place for 12 to 14 days, and relieve all tympanites by means of high enemas or rectal tubes. [L.J.]

The Question of Syphilis of the Placenta.—F. Hilschmann[4] considers the work of Frankel the best upon this subject. According to him, a cellular granulated growth appears in the placenta as an almost constant accompaniment of syphilis. The changes in the placenta are connected with known conditions of the parents, dependent upon the health of the mother at the time of conception or the result of direct inheritance of paternal syphilis. Of the 17 cases examined, in 14 the mother at the time of delivery was without signs of syphilis. Zilles claims that the mother can remain immune against infection in spite of syphilis of placenta and fetus. Further, when the mother is infected at the time of conception, the placenta is diseased in all its parts, in postconceptional infection only in the maternal part. Hilschmann, after reviewing many authors, concludes that there are changes in the placenta which are characteristic of syphilis, but that one can scarcely decide from their location in the maternal or fetal portion of the placenta whether the disease is of paternal or maternal origin. The hope of determining this question is extremely small, although in syphilis of the mother the decidua were found free of changes while the villi were diseased. [W.K.]

Use of Henkel's Method in Postpartum Hemorrhage.—Henkel recommends the drawing down of the uterine portio with the Muzeux forceps and the clamping of the right and left parametrium, allowing the forceps to remain 24 hours. A. Labhardt[1] reports a case in which, to save the life of the child, the Bossi dilator was used to hasten delivery, and then the attempt was made to control the subsequent hemorrhage by means of clamps. This was followed by the patient's death 6 hours later. He remarks that although the immediate effect of the Henkel procedure seemed favorable, the autopsy showed that though both clamps were of similar construction, only one compressed the vessels at the site of the tear, while at the other they remained penetrable. Hence he considers the method a most uncertain and haphazard one; also that it is attended with the grave danger of injuring arteries and ureters, and producing necrosis. Labhardt also thinks that the slower and more cautious the dilation of the cervix the less danger of injuries and subsequent hemorrhage; and he considers the brusque cervical dilation by the powerful screw-working instrument of Bossi a very dangerous procedure. Henkel's method of controlling hemorrhage must also be used with caution, and it is doubtful whether this method will ever take precedence of the primary suturing of the cervical tears. [W.K.]

Wolff's Method in the Treatment of Knock-knees and Bow-legs.—A. N. Semenoff[2] has used this method in numerous cases of genu valgum and genu varum. He is quite satisfied with his results, and considers them to be as good as those following osteotomies. Wolff's bandages are better adapted to knock-knees than to bow-legs, probably because the latter are almost always due to rickets. Success will depend on the degree of deformity and the patient's age; when the distance between the inner malleoli exceeds 25 centimeters, or when the bones have attained maturity, but little can be accomplished. Relapses take place, but can be prevented by wearing the hinge-apparatus longer. Beside, relapses also occur after osteotomies which have one great drawback in the possibility of postoperative infection, while Wolff's method is free from this complication. Temporary paralysis of the perineal nerve does occur sometimes, but as a rule ends in recovery. [L.J.]

Puerperal Eclampsia.—A case of puerperal eclampsia reported by R. McDowell[3] illustrates a type most difficult to deal with, in which the convulsions begin before the onset of labor, and in which in spite of treatment by purgatives, diaphoresis, morphin, chloroform, venesection, and saline transfusion, the patient grows worse. In this case, after 13 convulsions, the patient lying in a comatose condition with a pulse of 120, it was decided to induce labor, and the os was dilated in 20 minutes by means of Bossi's 4-bladed instrument, and a 7 months' child was delivered by the forceps, but it lived only a few minutes. There was no return of the convulsions, and the patient had a normal convalescence. [W.K.]

A Case of Repeated Fundal Incision in Cesarean Section.—S. Flatau[4] reports the case of a woman upon whom he performed a cesarean section, using the fundal incision, and unaware of the fact that she had previously undergone the same operation 2 years before. The chief points of interest were that the previous abdominal suture was firm with no tendency to hernia; there were no adhesions either to the peritoneum of the uterus or the abdomen; the uterine scar was scarcely perceptible, and there was no thinning at the site of the suture, as the uterine wall was 3 cm. in thickness. [W.K.]

Dilation of the Cervix According to Bossi.—R. Cristofoletti,[5] after observing the use of metallic dilators, among others the Bossi instrument, for several months in Schauta's clinic, says that when he summarizes his experiences of the Bossi method of dilation he must conclude that the results obtained were not very encouraging. [W.K.]

[1] Zentralblatt für Gynäkologie, April 18, 1903.
[2] Lancet, July 25, 1903.
[3] Russki Vratch, May 17, 1903.
[4] Wiener klinische Wochenschrift, July 9, 1903.

[1] Zentralblatt für Gynäkologie, July 11, 1903.
[2] Russki Vratch, May 17 and 24, 1903.
[3] Lancet, July 25, 1903.
[4] Zentralblatt für Gynäkologie, July 18, 1903.
[5] Wiener klinische Wochenschrift, July 9, 1903.

TREATMENT

SOLOMON SOLIS COHEN
H. C. WOOD, JR. L. F. APPLEMAN

EDITORIAL COMMENT

The Dangers of Heroin.—Among recent synthetic products none is more widely used than heroin—an artificial, or rather synthetic, morphin salt, which many physicians employ with the idea that it is a harmless succedaneum for morphin. On the contrary, it has all the dangers of morphin salts in general, and additional dangers of its own. The writer of this paragraph has seen suppression of urine and threatening coma from small doses of heroin ($\frac{1}{12}$ gr.) prescribed to check cough or relieve pain. Especially dangerous are the trade preparations containing heroin—the composition being sometimes expressed in their proprietary titles and sometimes not. These combinations are widely advertised as cough syrups, asthma cures, etc. Preparations of this character should never be used by physicians, who should be able to make their own combinations with or without morphin, and adapted to the needs of the individual case before them. Heroin is one of the most toxic agents of the morphin group. It has its legitimate uses, uncombined, in small, carefully-watched, infrequent doses; but not with the idea that it is anything else than a morphin salt. [S.S.C.]

REVIEW OF LITERATURE

Treatment of Fissure of the Anus.[1]—Constipation should be combated by the administration of a teaspoonful of castor-oil in the morning, or a teaspoonful of the following powder in a little water at bed-time:

Calcined magnesia Lactose	of each 20 grams (5 drams)
Potassium bitartrate Washed sulfur	of each 10 grams (2½ drams)

An enema of linseed water or hot marshmallow water may be given at 11 o'clock in the morning. When the pains are less severe, these may be replaced by an enema of a decoction of krameria, 20 parts to 1,000. Lotions with the same substance may be practised 3 or 4 times a day.

Anoint the anal region with one of the following ointments night and morning:

Extract of krameria	2 grams (30 grains)
Extract of opium	0.5 gram (7 grains)
Cocain hydrochlorate	0.8 gram (12 grains)
Populeum ointment	30 grams (1 ounce)

or

Extract of belladonna	1 gram (15 grains)
Neutral acetate of lead	3 grams (45 grains)
Lard	30 grams (1 ounce)

Suppositories may also be used as follows:

Iodoform	0.15 gram (2 grains)
Extract of opium	0.02 gram (⅓ grain)
Extract of belladonna	0.01 gram (⅙ grain)
Cacao butter	3 grams (45 grains)

For one suppository. One may be used at night; another in the morning if necessary.

Cauterization with a stick of silver nitrate may be practised every few days. Forced dilation should be practised. The patient being anesthetized, the operator should grease his thumbs with vaselin and introduce them one after the other into the rectum in such a way that the nails are in contact. This done he should support the other fingers on the tuberosities of the ischium and by gentle but constant effort produce dilation of the sphincter. No dressing need be used excepting a few boric acid compresses. The resulting pains last two or three hours. Internally, a pill containing 2 centigrams (⅓ grain) of extract of opium should be given to obtain constipation for 24 hours. The next day and the succeeding days an enema of linseed water may be given after going to stool. [L.F.A.]

The Dangers of Eddyism—and the Remedy.—F. X. Dercum (Cohen's System of Physiologic Therapeutics, Volume viii) cites the following statements as typical of the eddyist beliefs and practice. "You may call the disease by name when you mentally deny it; but by naming it audibly, you are liable to impress it upon the thought. . . . To prevent disease or to cure it mentally, let Spirit destroy this dream of sense. . . . Argue with the patient (mentally, not audibly) that he has no disease, and conform the argument to the evidence. Mentally insist that health is the everlasting fact, and sickness the temporal falsity. . . . If the case is that of a young child or an infant, it needs to be met mainly through the parent's thought, silently or audibly, on the basis of Christian science. Mortal man will be less mortal, when he learns that lungs never sustained existence, and can never destroy God, Who is our life. When this is understood, mankind will be more Godlike. What if the lungs are ulcerated? God is more to a man than his lungs; and the less we acknowledge matter or its laws, the more immortality we possess. A physical diagnosis of disease—since mortal mind must be its cause, if it exists—generally has a tendency to induce disease. The daily ablutions of an infant are no more natural or necessary than would be the process of taking a fish out of water every day and covering it with dirt, in order to make it thrive more vigorously thereafter in its native element. When there are fewer doctors and less thought is given to sanitary subjects, there will be better constitutions and less disease." Dercum then goes on to say that while the discussion of socalled Christian science as a religion is best left to theologians, as a therapeutic method it concerns not only medical practitioners, but every rational human being. Undeniably the treatment is one of suggestion, and, speaking more specifically, of suggestion by the induction of the negative hallucination. The rise and spread of the cult, while remarkable, is, however, far from being a phenomenon unparalleled in history. Leaders of such movements not infrequently present striking instances of the force and power of persons who, developing mystic ideas in early life, conceive, and finally firmly believe, that they are endowed with a special mission for the reformation of the world, and have thus been stimulated to exert themselves with remarkable persistence and energy. They are often undeniably great in the scope of their delusions and the force and persistence with which they promulgate them—and what shall we say of their followers? The latter are merely examples of the spread of a delusion, a true *folie communiqué*. The leaders present instances of the mystic form of paranoia. They are characterized by the existence of hallucinations in their early years, the gradual evolution and systematization of delusions, and the great mission which they regard as the object of their lives. In due course they undergo a veritable "transformation of the personality." It is this transformation which usually marks the beginning of the "mission." Eddyism is more than a passing fad; it is a great and actual danger. The denial of all disease, the neglect of all medical treatment, the defiance of all sanitary regulations, make the socalled Christian scientist dangerous not only to himself and his family, but also to his neighbors. His tenets bring him into crass conflict with the authorities and lead him to contemptuous defiance of the law. Moreover, what can we think of the sanity of the creature who allows his child to perish of diphtheria when the life-saving antitoxin is at hand, or who will suffer his child to become hopelessly blind rather than have its ophthalmia treated by a physician? Such insanity should be dealt with as crime; this is, indeed, the only remedy.

Purgatives in Cardiac Dropsy.— Liégeois[1] does not recommend the employment of digitalis from the onset in the treatment of cardiac dropsy; it may cause nausea and vomiting, and will not relieve the kidneys. The patient is first given 20 grams (5 drams) of sodium sulfate, and on the day following he may be given a preparation of digitalis. Digitalis acts much more promptly in cardiac dropsy if its administration is preceded by one or more purgatives. When the dropsy is excessive it is necessary to relieve the peripheral vessels and lymphatics, before giving digitalis, by small multiple punctures of the edematous cellular tissues and paracentesis of the cavities, then to relieve the venous system by a jalap purge, which may be repeated two days later if necessary. When the liver is tender on pressure, enlarged, the conjunctiva and the skin yellow, digitalis is employed only after the patient has been purged for two or three days in succession with calomel. In a

[1] Journal des Praticiens, Vol. xvii, No. 19, 1903, p. 296.

[1] Journal des Praticiens, Vol. xvii, No. 19, 1903, page 289.

number of these cases the diuretic action of digitalis is manifested only after the administration of calomel which seems to favor the diuretic action of this drug, Liégeois cautions against the use of calomel in the preparatory treatment of cardiac dropsy when this is accompanied with albuminuria due to venous stasis in the kidneys; poorly, incompletely, or slowly eliminated by these organs, it soon gives rise to mercurial stomatitis, and, perhaps, precipitates the fatty degeneration of the heart. The drastic purges act better, among them colocynth and especially gamboge; it is not rare that after two or three days of their use their purgative effect is replaced by a diuretic effect. Elaterium or its active principle, elaterin, may also be employed. [L.F.A.]

Rhamnus Frangula in the Treatment of Constipation.—H. Huchard[1] calls attention to the numerous medicinal shrubs and plants which grow in underbrush and hedges. Rhamnus frangula possesses purgative properties which may often be utilized. This drug was nearly forgotten, says Cazin, when Gumprecht, in 1846, proved its purgative property analogous to that of rhubarb, having not the violence of the drastics as had been believed. About the same time Dubois, of Tournai, confirmed this opinion, adding that the berry of rhamnus frangula was not purgative. The bark of the branches and of the root is usually employed; this is emetocathartic when fresh and purgative when dry. Cazin employed it in the dose of two grams (30 grains) triturated with marshmallow or linseed and made into pills. At times it seems to possess anthelmintic properties. In all cases, rhamnus frangula is more easily employed and more inoffensive than rhamnus catharticus, in which the purgative action is present in the berries. Huchard employs the extract of rhamnus frangula in the dose of 10 centigrams (1½ grains) for each pill, of which one or two are taken in the evening. This drug produces ordinarily neither nausea nor vomiting, and little or no colic. [L.F.A.]

Treatment of Tuberculosis of the Joints in Children.—Lostalot-Bachoue[2] states that as soon as the diagnosis of hip-joint disease is made, namely, if attentive examination of the movements of the joint show alteration, a diminution in flexion and abduction, the pelvis being immovable, when the examination under chloroform anesthesia reveals restriction in the articular movements, the treatment should be instituted at once. The child should be immobilized in a Bonnet splint and continuous extension practised. At this time, the patient should be removed to a seashore resort suitable to the constitution of the child. Four or five days will be sufficient to determine his tolerance. If he becomes feverish, sleepless, loses appetite and becomes thinner, he should be removed from the maritime climate at once, there is danger of meningitis. If he becomes acclimated, immobilization and extension will check the progress of the disease; but it is necessary to begin the sodium chlorid baths of Briscous which stimulate the nutrition of the patient. This treatment must be watched and directed with extreme care. Taken at the beginning and thus treated, the hip-joint disease will be cured without complete ankylosis, and without the complications usually present; defective positions, abscess, fistulas, muscular atrophy. If these complications already exist before removing the patient to the seaside, surgical intervention is indicated. In fistulous hip-joint disease, prolonged irrigations with sodium chlorid water cause a rapid cure. Painful at first, they should be repeated only every two days. [L.F.A.]

Pulmonary Emphysema.—Hirtz[3] states that pulmonary emphysema, properly speaking, is very rare. Emphysematous patients are often those who are suffering from obesity, arteriosclerosis, cardiac or Bright's disease. Sometimes they are the subjects of aneurysms. All these causes of emphysema being eliminated there remains another which predominates in a great majority of cases: all forms of pulmonary tuberculosis. The first duty of the physician is to determine the presence of fever, emaciation, and the character of the sputum. This sometimes seems to contain no bacilli, the tuberculous nature being demonstrated only by inoculating guineapigs. Hirtz reports several cases in which emphysema was present for many years, the patients finally developing tuberculosis. The treatment of emphysema consists of physical and medicinal means. The physical are: 1. Compressed air baths. The patient is placed in a pneumatic chamber, where he breathes air under a pressure of $+\frac{2}{3}$ of an atmosphere for about three-quarters of an hour. This treatment results in an increase in the inspiratory and expiratory movements, which constitute a sort of massage to the alveoli, rendering them elastic. 2. Differential pneumotherapy, which consists in allowing the patient to inspire compressed air and expire into rarefied air. 3. Thoracic and general massage favors expiration and acts as a general tonic. The drugs which are used are the iodids, arsenic preparations, and strychnin. The iodids should not be used in the presence of tuberculosis which is in process of evolution. Arsenic acts better in these cases in the form of sodium arsenate or Fowler's solution. Strychnin is given in doses of from 2 cgs. to 4 cgs. ($\frac{1}{3}$ to $\frac{2}{3}$ of a grain) associated with spartein sulfate if the heart is beginning to fail. Digitalis may also be employed under these circumstances. Milk diet should be prescribed for a time. [L.F.A.] [These observations are important. I have long taught that emphysema is in many instances an accompaniment of sluggish fibroid tuberculosis, and indeed, scattered areas of alternating consolidation and hyperresonance can often be demonstrated. The great value of pneumotherapy is not yet appreciated in the United States. S.S.C.]

[1] Journal des Praticiens, Vol. xvii, No 24, 1903, p. 381.
[2] Le Mois Thérapeutique, Vol. iv, No. 5, 1903, page 57.
[3] Journal des Practiciens, Vol. xvii, No. 19, 1903, p. 294.

THE PUBLIC SERVICE

Health Reports.—The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended August 8, 1903:

		Cases	Deaths
	SMALLPOX—UNITED STATES.		
Alabama:	Mobile, July 25–Aug. 1	3	
California:	Los Angeles, July 18–25	5	
Illinois:	Chicago, July 25–Aug. 1	4	
	Danville, July 25–Aug. 1	1	
Louisiana:	New Orleans, July 25–Aug. 1	3	
Maryland:	Cumberland, July 1–31	7	1
Massachusetts:	Fall River, July 25–Aug. 1	7	1
Michigan:	Grand Rapids, July 31–Aug. 1	1	
Missouri:	St. Louis, July 25–Aug. 1	2	
New Hampshire:	Manchester, July 31–Aug. 1	2	
New Jersey:	Camden, July 31–Aug. 1	1	
Ohio:	Cincinnati, July 24–31	1	
	Toledo, July 25–Aug. 1	1	
Pennsylvania:	Scranton, July 25–Aug. 1	3	
Utah:	Salt Lake City, July 31–Aug. 1	2	
Wisconsin:	Milwaukee, July 13–Aug. 1	14	
	SMALLPOX—FOREIGN.		
Austria:	Prague, July 11–18	2	
Belgium:	Brussels, July 11–18		4
Brazil:	Rio de Janeiro, June 29–July 12		14
Colombia:	Bocas del Toro, July 14–21	1	1
Ecuador:	Guayaquil, July 4–11		1
			Sporadic
Germany:	Bremen, Aug. 1	1	
			On S. S. Bremen.
Great Britain:	Dublin, July 11–18	6	1
	Manchester, July 11–18	2	1
	Newcastle-on-Tyne, July 11–18	4	1
India:	Bombay, June 23–July 7		28
	Calcutta, June 27–July 4		1
Mexico:	Tampico, July 18–25		1
Russia:	Moscow, July 4–11	4	3
	Riga, May 1–31		24
	St. Petersburg, July 4–18	37	3
Spain:	Barcelona, June 20–July 4		4
	YELLOW FEVER.		
Colombia:	Panama, July 13–27	7	2
Costa Rica:	Limon, July 16–23	9	4
Mexico:	Coatzacoalcos, July 18–25	2	
	San Luis Potosi, July 13	Present.	
	Tampico, July 18–25		40
	Vera Cruz, July 18–25	34	17
	Yucatan, July 15	Present.	
	CHOLERA.		
India:	Bombay, June 30–July 7		1
	Calcutta, June 27–July 4		27
	PLAGUE—UNITED STATES.		
California	San Francisco, June 19		1
	PLAGUE—FOREIGN.		
Africa:	Cape Colony, June 6–13	5	4
China:	Amoy, June 20		50
			Daily, estimated.
Egypt:	Alexandria, June 27–July 4	4	1
	Port Said, June 27–July 4	1	
	Tantah, June 27–July 4	2	2
French Indo-China:	Tonquin, June 10–23		5
India:	Bombay, June 23–July 7		178
	Calcutta, June 27–July 4		15
	Karachi, June 14–21	9	8
Japan:	Yokohama, June 20–27		2

Changes in the Medical Corps of the U. S. Army for the week ended August 8, 1903:

BROOKS, JOHN D., contract surgeon, is relieved from further duty at Fort Meade, and will proceed to Fort Snelling for duty.

GREGORY, First Lieutenant JUNIUS C., assistant surgeon, is granted leave for 1 month, to take effect when he is relieved from duty at the United States General Hospital, Washington barracks.

TRENHOLTZ, C. A., contract surgeon, leave granted is extended 14 days.

BROWN, W. E., contract surgeon, is granted leave for 2 months from about September 1.

WINTER, Captain FRANCIS A., assistant surgeon, extension of leave granted July 17 is further extended 21 days.

WINTER, Captain FRANCIS A., assistant surgeon, is relieved from duty as attending surgeon and examiner of recruits at St. Louis, Mo., to take effect upon the expiration of his present leave, and will then proceed to Fort Huachuca for duty.

The telegraphic instructions from these headquarters, dated May 29, 1903, directing Contract Surgeon Joseph W. Reddy to proceed to Camp Morrison, South Ilocos, is revoked. Contract Surgeon Joseph W. Reddy will proceed to Tanay, Rizal, for duty, relieving First Lieutenant L. LeRoy Krebs, assistant surgeon, who will proceed to Malahi Island, Laguna de Bay, P. I., for duty, relieving First Lieutenant Charles A. Ragan, assistant surgeon, who will proceed to Manila, P. I., and report to the commanding officer, post of Manila, for assignment to duty at Pasay barracks, relieving First Lieutenant Robert E. Noble, assistant surgeon, ordered to the United States.

OLIVER, ROBERT T., contract examining and supervising dental surgeon, is granted leave for 2 months on surgeon's certificate, with permission to visit Japan.

BANISTER, Major JOHN M., surgeon, is relieved from duty at Malate barracks, Manila, P. I., and is assigned to duty in command of the First Reserve Hospital, Manila, P. I., relieving Major George H. Torney, surgeon, who is under orders to return to the United States.

VAN KIRK, HARRY H., contract surgeon, is relieved from further temporary duty in the field at Morenci, Ariz., to enable him to comply with orders, H. Q. A., directing him to proceed to Fort Washakie for station. He is authorized to proceed via Whipple barracks to enable him to transfer public property for which he is accountable at that post.

BREWER, I. W., contract surgeon, will proceed from Fort Huachuca to Morenci, Ariz., and report to the commanding officer United States troops in the field at that place for duty. When his services are no longer required at that camp he will rejoin his proper station, Fort Huachuca.

KIEFFER, Captain CHARLES F., assistant surgeon, will report to Major William H. Arthur, surgeon, president of the examining board at the Army Medical Museum Building, Washington, D. C., for professional examination and physical reexamination for promotion.

TEN EYCK, Major BENJAMIN L., surgeon, having been found by an Army retiring board incapacitated for active service on account of disability incident thereto, his retirement from active service August 3, 1903, under the provisions of section 1,251, R. S., is announced. Major Ten Eyck will proceed to his home.

Changes in the Medical Corps of the U. S. Navy for the week ended August 8, 1903:

SPRATLING, L. W., surgeon, DELANCY, C. H., and BLACKWELL, E. M., assistant surgeons, detached from the Columbia and ordered to the Hancock—July 31.

REYNOLDS, C. E., pharmacist, detached from the Columbia and ordered to the Hancock—July 31.

BROWN, H. L., assistant surgeon, detached from the Naval Proving Ground, Indian Head, Md., and ordered to the Navy Yard, Washington, D. C.—August 3.

OHNESORG, K. and KENNEDY, J. T., assistant surgeons, ordered to the Naval Academy—August 3.

GRAYSON, C. T., acting assistant surgeon, ordered to the Naval Proving Ground, Indian Head, Md.—August 3.

COWAN, A., pharmacist, detached from the Navy Yard, Boston, Mass., and ordered to the Naval Magazine, Iona Island, N. Y.—August 3.

MORSE, E. T., pharmacist, detached from the Naval Magazine, Iona Island, N. Y., and ordered to the Navy Yard, Boston—August 3.

MAY, E., pharmacist, ordered to the Naval Hospital, Norfolk, Va.—August 5.

GUTHRIE, J. A., passed assistant surgeon, detached from the Vicksburg and ordered to the Solace—August 6.

MICHELS, R. H., assistant surgeon, detached from the Solace and ordered to the Wilmington—August 6.

MAYERS, G. M., assistant surgeon, detached from the Isla de Cuba and ordered to the Vicksburg.

Changes in the Public Health and Marine-Hospital Service for the fortnight ended August 6, 1903:

PETTUS, W. J., assistant surgeon-general, granted leave of absence for 20 days from August 10—August 5, 1903.

AUSTIN, H. W., surgeon, granted leave of absence for 1 month from August 6—July 30, 1903.

CARTER, H. R., surgeon, granted leave of absence for 1 month from August 6—August 1, 1903.

STONER, J. B., surgeon, granted extension of leave of absence for 1 month from August 1—July 28, 1903.

ANDERSON, J. F., passed assistant surgeon, to proceed to Marietta, Conewaga, and Swiftwater, Pa., and Baltimore, Md., for special temporary duty—August 5, 1903.

DECKER, C. E., assistant surgeon, granted extension of leave of absence on account of sickness for 15 days from July 15—July 20, 1903.

NYDEGGER, J. A., passed assistant surgeon, relieved from duty at Sault Ste. Marie, Mich., and directed to proceed to the Immigration Depot, New York, N. Y., and report to Surgeon G. W. Stoner for assignment to duty—August 3, 1903.

RICHARDSON, T. F., assistant surgeon, to proceed to Tampico, Mexico, for special temporary duty—July 31, 1903.

LORD, C. E. D., assistant surgeon, to proceed to Seattle, Tacoma, Port Townsend, and Sumas, Wash.; Victoria and Vancouver, B. C.; Portal, N. D., and Winnipeg, Manitoba, for special temporary duty—August 6, 1903.

WILLE, C. W., assistant surgeon, to proceed to Baltimore, Md, and assume temporary command of the service during the absence on leave of Surgeon H. R. Carter, August 3, 1903.

BAHRENBURG, R. P. H., assistant surgeon, upon the arrival of Acting Assistant Surgeon Norman Roberts at Chicago, Ill., to proceed to New Orleans, La., and report to medical officer in command for temporary duty—July 24, 1903.

STIMSON, A. M., assistant surgeon, granted leave of absence for 7 days from July 28, 1903, under paragraph 191 of the regulations.
Granted extension of leave of absence for 7 days from August 5—August 1, 1903.

WARD, W. K., assistant surgeon, granted leave of absence for 2 days from July 30, 1903, under paragraph 191 of the regulations.

FOSTER, A. D., assistant surgeon, to proceed to St. Louis, Mo., and assume temporary command of the service during the absence on leave of Surgeon J. M. Gassaway—August 4, 1903.

ROBERTS, NORMAN, assistant surgeon, to report to medical officer in command at Chicago, Ill., for duty and assignment to quarters—July 30, 1903.

COLLINS, GEORGE L., assistant surgeon, to proceed to the Immigration Depot, New York, N. Y., and report to Surgeon G. W. Stoner for duty—July 30, 1903.

EBERT, HARVEY G., assistant surgeon, to proceed to Port Stanton, N. M., and report to medical officer in command for duty and assignment to quarters—July 30, 1903.

WIGHTMAN, W. M., assistant surgeon, to report to medical officer in command at San Francisco quarantine for duty and assignment to quarters—July 30, 1903.

MANNING, H. M., assistant surgeon, to proceed to Stapleton, N. Y., and report to medical officer in command for duty and assignment to quarters—July 30, 1903.

SMITH, F. C., assistant surgeon, to proceed to the Immigration Depot, New York, N. Y., and report to Surgeon G. W. Stoner for duty—July 30, 1903.

BARNESBY, P. N., acting assistant surgeon, granted leave of absence for 1 month from August 6—August 5, 1903.

KIMMET, W. A., acting assistant surgeon, granted leave of absence for 2 days from July 25, 1903, under paragraph 210 of the regulations.

GAHN, HENRY, pharmacist, detailed to represent the service at fifty-third annual meeting of the Pharmaceutical Association to be held at Mackinac Island, Mich., August 3—July 24, 1903. Reassigned to duty at the Purveying Depot, effective July 17—August 4, 1903.

ROEHRIG, A. M., pharmacist, detailed to represent the service at fifty-third annual meeting of the Pharmaceutical Association, to be held at Mackinac Island, Mich., August 3—July 24, 1903.

STEARNS, W. L., pharmacist, reassigned to duty at the Purveying Depot, effective July 17—August 4, 1903.

GIBSON, R. H., pharmacist, granted leave of absence for 7 days from July 29, 1903, under paragraph 210 of the regulations.

RYDER, L. W., pharmacist, granted leave of absence for 15 days from August 1—July 25, 1903.

WATTERS, M. H., pharmacist, relieved from duty in the Hygienic Laboratory and assigned to duty in the Bureau—August 28, 1903. To report to chairman of board of examiners at Washington, D. C., August 10, 1903, for examination to determine his fitness for promotion to the grade of pharmacist of the second class—August 4, 1903.

HALL, L. P., pharmacist, granted leave of absence for 30 days from August 20—August 5, 1903.

Boards Convened.

Board convened to meet at Washington, D. C., July 27, 1903, for the consideration of the request of Assistant Surgeon C. E. Decker to be placed on waiting orders on account of physical disability. Detail for the board: Assistant Surgeon-General A. H. Glennan, chairman; Assistant Surgeon-General L. L. Williams, Assistant Surgeon-General H. D. Geddings, recorder.

Board convened to meet at Washington, D. C., July 27, 1903, for the physical reexamination of an officer of the Revenue Cutter Service. Detail for the board: Assistant Surgeon-General W. J. Pettus, chairman; Assistant Surgeon-General H. D. Geddings, recorder.

Board convened to meet at Washington, D. C., August 10, 1903, for the examination of Pharmacist M. H. Watters, to determine his fitness for promotion to the grade of pharmacist of the second class. Detail for the board: Assistant Surgeon-General L. L. Williams, chairman; Assistant Surgeon A. J. McLaughlin, recorder.

Appointments.

Norman Roberts, of Pennsylvania; George L. Collins, of Massachusetts; Harvey G. Ebert, of Washington; William M. Wightman, of California; Herbert M. Manning, of the District of Columbia, and Frederick C. Smith, of Minnesota, commissioned as assistant surgeons (recess) in the Public Health and Marine-Hospital Service—July 25, 1903.

Promotion.

ILTIS, G. W., pharmacist of the third class, promoted to be pharmacist of the second class, effective April 24, 1903.

Reinstatement.

PHILLIPS, WILLIAM C., reinstated as pharmacist of the third class—July 15, 1903.

DAVIS, H. E., pharmacist, suspended from duty and pay for a period of 30 days from July 27, 1903.

American Medicine

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PUBLISHED WEEKLY AT 1321 WALNUT STREET PHILADELPHIA BY THE AMERICAN-MEDICINE PUBLISHING COMPANY

VOL. VI, No. 8. AUGUST 22, 1903. $5.00 YEARLY.

Increased limit of visibility in microscopy seems to be assured by a new principle of dark field illumination discovered by Professors Siedentopf and Zsigmondy, of Jena. Helmholtz had estimated that the limit of microscopic visibility was 0.0001 millimeter, or 0.000003937 inch. By the new method of illumination the limit is extended to from 0.000004 to 0.000007 millimeter. The report and description is published in Vol. X, 1903, of the *Annalen der Physik*. The principle of the improvement consists in eliminating the light reflected from the surfaces of the condensing lens and the microscopic objective whereby the illuminating light enters the line of vision, so that the object becomes visible by its reflected light alone. This is effected by making the illuminating ray of light perpendicular to the axis of the microscopic objective, the focus of the condensing lens and that of the microscopic objective being so adjusted as to meet at a common point. The principle is the same as that whereby a beam of light traverses a darkened room, the eye of the observer being at right angles to it. The dust particles in a still room are seen to be astonishingly numerous. We once knew a painter who carefully excluded such direct rays of sunlight from his studio because, he said, the sunlight raised such a cloud of dust! Multiply the intensity of the illumination by a more brilliant light, focus it upon a point by a condensing lens, and multiply the size of the image by a microscopic objective and the plan of the new microscopy will be clear. It can hardly fail vastly to add to the resources of microscopists, and may lead to unexpected discoveries both in physics and biology, and especially in cytology and bacteriology.

Donations for Scientific Research.—After all it seems that it is almost easier to acquire millions than to disburse them judiciously. In fact, donations of great magnitude have of recent years proved a difficult problem to solve, and generally one party or interest was benefited to the unproportional detriment and loss of the other factor also concerned. In the light of recent public experiences, there are grave doubts whether donations of sufficient dimensions to exercise an appreciable influence on a large section of the population are really made in the best interests of the public, and whether the natural development should not be allowed to prevail, instead of resorting to artificial fructification. Will it come to be a case of *Timeo Danaos et dona ferentes?* It has been decreed that scientific research shall not be spared the gift of such a white elephant. The large sums of money which some of our multimillionaires have placed at the disposal of scientific investigation and research during the past two years may possibly be the means of opening entirely new channels. It is possible that by cooperative investigation and collective knowledge certain results may be attained in the near future which individual research might not have accomplished in a decade. There is a possibility that science may be the gainer by the arrangement, but not a certainty. If the chief of a laboratory works on some preconceived notion which has to be carried out by all his assistants and fellows, or which has to be adopted as the foundation and leading consideration of all, or the majority of investigations conducted at a particular period, the danger clearly exists that such preconceived notion may be wrong and all subsequent work based upon it be worthless. This danger is all the greater, if we remember that big institutions may cultivate fads. Cooperative cultivation of fads, by which much valuable time is lost and large sums of the money (intended for totally different purposes) are squandered, prevents obtaining the results originally hoped for. The private scientist is no less likely to have fads, but he has the advantage and satisfaction of working along his own lines of thought and not those of others; he is responsible to himself alone, and not to others, for the time lost, the material wasted, and the capital expended.

Brilliant Ideas May be Barred by Cooperation.—The most favorable outcome of collective investigation will always bear the brand of mediocre achievements. The compulsorily uniform, monotonous working along one groove—a groove dug by others, and making, by command, researches in the unmodified flight of thoughts outlined by others, is alien to the spirit of progress and runs the danger of producing stagnation instead of healthy investigation. If all the laboratories were to confine themselves to the subject of "Nucleic Acid," as they are practically doing at the present time, it would create in the minds of all disinterested persons the impression of a degenerative tendency, coursing in narrow circles and productive of results possible only through the very exercise of cooperation. What has the future in

store? Will there be the individual investigators as of old? When shall we have again a Berzelius, a Liebig, a Pasteur, a Behring? No doubt, the performances gathered collectively in the laboratories will be known by the "firm names" of the laboratory or its chief, but the munificent institutional donations take away the very soil on which alone individual research can thrive. Among the Fellows of the laboratories there will in all probability be exceptions; men who have risen above the average of the others; lumina of the second, third, and fourth degrees, but they are not made of the material of which mental giants are composed—they will not bring about revolutions in the field of science. Individuality is sacrificed to collective investigation, and the admiration and reverence which we now feel in the presence of the world-conquering discovery of the individual will be irretrievably lost in the misty clouds of cooperative laboratories. We pay the tribute of esteem and are grateful to the investigator of old, but is it true that we shall have but a shrug of the shoulder for the modern worker in the cooperative laboratory? If we exaggerate the danger it is one that the governors of laboratories should at least bear in mind. Is it not true that the more productive plan would be the endowment of the individual worker instead of the institution?

Antivivisectionist Infamy.—The Roundheads, it was said, were opposed to bear-baiting not because of sympathy with the bear, but because of the pleasure it gave the spectators. The medical profession has long been convinced that the zeal of the antivivisectionists was not due to pity for the animal but to hatred of physicians. In a recent leader, the *British Medical Journal* demonstrates this in a capital manner in showing the greedy pleasure of Miss Frances Power Cobbe in deliberately charging laboratory workers with a delight in cruelty. The history of the matter is briefly that the official organ of the British Union for the Abolition of Vivisection, called the *Abolitionist*, on February 15, 1901, published an article entitled "A Terrible Revelation: Vivisection and Sexual Psychopathy," the substance of which was that vivisectors "make use of the sight of dying animals or torture animals to stimulate their lust." In the *Contemporary Review* for May, 1902, Miss Cobbe, in an article entitled "Schadenfreude," as near as she might do so in such a magazine, bore testimony to the same charge in saying that "the joys of the laboratory"—Sir Michael Foster's expression for the pleasure of the search and discovery of truth—"were very real joys to the vivisector; that is, *schadenfreude*—pleasure in the pain he witnesses and creates." In charging laboratory workers and physicians with sadism, the most abominable of all crimes, the *Abolitionist* relies upon the authority of the American, Dr. Leffingwell, and of some unnamed Frenchman, whom he cites as saying: "*En France on prolonge les vivisections pour se procurer d' infâmes plaisirs.*" This is called "Dr. Leffingwell's terrible revelation." It suggests a depth of degradation to which not even an antivivisectionist, and least of all an American, could fall. And now in the name of decency we call up Leffingwell—until he cleans himself not even Mr., surely not *Dr.*—to do one of two things: categorically and absolutely to deny that he ever made such a charge, or prove, up to the hilt, that it is true. Silence, or any characteristic antivivisectionist prevarication and indefiniteness, will leave him branded as poltroon and liar.

The addresses before the British Medical Association at its recent seventy-first annual meeting at Swansea are of reflex rather than direct interest. All the orators are nearly entirely reminiscent, the laudationists of past times. One would get the impression that the English profession was pretty well satisfied with the progress already attained, and find much pleasure in retelling the stories of old victories.

> Anon they move
> In perfect phalanx, to the Dorian mood
> Of flutes and soft recorders.

But is it so evident that there is present war? Does one find the call to new conflicts and the marshaling of the forces with grim determination to win new victories? Do their fatal hands a second stroke intend? With great kindness the *British Medical Journal* suggests that "the note" was "somewhat of a recessional." The president's address, by Dr. Griffiths, was devoted to the thesis that bacteriology as developed by Pasteur and Lister had revolutionized surgery, given hygiene a rational basis, and had greatly influenced practical medicine and therapeutics. (Poor Lord Lister, one must say! What a fate to be compelled for some 20 years to sit patiently and hear his own praises sung *ad nauseam*.) The address in medicine by Dr. Roberts was on "the infective and infectious diseases." In needed explanation of the terms Dr. Roberts says that "an infectious disease must be infective, but an infective complaint is not necessarily infectious." Is the distinction clear to our readers? The address in surgery by Mr. Mayo Robson was entitled, "Observations on the Evolution of Abdominal Surgery from Personal Reminiscences Extending over a Third of a Century and the Performance of 2,000 Operations." (We are thankful that the 2,000 was not spelled out!) "Beware of a man," said an old raconteur, "when he gets into his anec-dotage."

"Lest we Forget."—The note of the three noteworthy addresses referred to was seemingly recessional in a double sense. The jubilation over the achieved victory was evident and the recess (before another victory?) was surely in process, but was there a single intoning of the refrain, *Lest we Forget?* The addresses were occupied almost exclusively with the past and with infection and its processes, and all were almost as completely devoted to surgery. No physician would nowadays in the least depreciate the profound importance of germ diseases and the great influence the knowledge of them has had in giving a rational basis to much of medical science and in the lessening of mortality. But it is just as plain that we are in danger of having but one song in our repertoire, and of singing it too constantly and with too injudicious *abandon*. Even the president had to observe in a kind of "aside" that diagnosis and treatment have been in no sense commensurate with the progress in theory, and with the best will in the world the discriminating editor of the *British Medical Journal*

feels compelled to add that some of the greatest discoveries in theoretic medicine "will do as much harm as good if they are allowed to pauperize our intellects by leading to neglect of the study of physical signs." Let us be still more frank and say that by no manner of means are all diseases infectious, that theory has helped very little in the actual treatment of disease, and that surgery is not the chief or best part of medicine. These truths were almost utterly ignored by the able official spokesmen of English medicine, and they are truths fully as important as those emphasized, rightly, but too exclusively, by them. And another truth still more important was utterly ignored. Not an allusion was made to the apparently forgotten fact that the soil and its preparation are fully as important factors in the production of disease and in its prevention as the disease-germ. We seem as a profession to have lost sight of this, and "lest we forget," should be constantly warned.

"Rampant Specialism."—The characteristic conservatism, much of it admittedly wise and good, of the three official addresses alluded to, may be, conservatively, admired until it passes over into reactionism, and then one must "draw the line." Dr. Roberts in opening his address went out of his way to hit "specialism" in saying that such an address "should not savor, so far as possibly could be avoided, of the absurd, irrational, and most mischievous 'specialism' which is so rampant at the present day." But there is not another word in explanation, or in excuse of this wild outbreak. What does it all mean? To what kinds of specialism, and to what kinds of specialists, does he refer? He himself, of course, is a specialist, in that he is not a surgeon, a bacteriologist, etc., and one gathers that, being a professor of clinical medicine, he would not undertake the treatment of or operations for many kinds of morbid conditions. From the address one would be almost justified in supposing that his specialty was infectious diseases, and that functional and nonmicrobic diseases, or the preparation of the "soil" for organic and infectious ones, was not a part of clinical medicine. All of which seems deplorable. The general physician is today as much of a specialist as the neurologist, gynecologist, or oculist. Is his detestation of other specialists, and that of Dr. Roberts, due to this fact? One may answer that if so it is fully as much his fault as that of the specialist. The truth, of course, is that it is no one's fault, and that far from being the curse, specialism is the glory of medicine, the very condition of the progress made and yet to be made. There are clearly some attendant evils, some ludicrous exaggerations, hobby-ridings, etc., of some specialists, but these are compensated for by the evils of the reactionary who, like Bacon—to whom and in whose time it was far enough from possible—would take all knowledge as his province. They are far from warranting Dr. Roberts' wholesale denunciation.

The Ethics of Professional Advertising.—We print the letter of our esteemed correspondent in another column, although this question has been threshed out a hundred times and for a hundred years. "Mere personal whim" does not by any means explain the disinclination of honorable physicians to advertise themselves. Why should they not do so, it is asked, if by so doing they can benefit others? The answers are very simple:

1. No man of honor advertises himself who only has his abilities, intellect, or skill to sell. Would an engineer come out in a newspaper and by long articles say directly or by implication that he has more knowledge and skill than his professional brethren? Would a lawyer, a preacher, even a newspaper editor? It would be rank egotism and ridiculous.

2. To do so would at once disclass and degrade him in the minds of his colleagues. One's reputation with one's own fellows, and especially with those best fitted to know, is the condition of honor, of self-respect, and even of business success. In the case in question an ophthalmologist was asked to contribute under his name articles on his specialty to a newspaper. If Dr. Sturgis will ask a dozen of the best oculists of Philadelphia or of any other city to contribute such articles, each will at once refuse. We all know that when surgeons have at times tried this plan they have fallen immediately in professional esteem. Many a professional failure due to this cause is known to all of us.

Of course the implication is that such articles could be written by high-minded men in such a way as to avoid the suspicion of advertising. But in this two things are forgotten:

1. The articles would not be convincing, direct, "personal," as the publisher wants; nor would they convey the knowledge desired either by the public or the writer.

2. They would at once give permission to the thousands of would-be advertisers to write such articles as these would like to write for selfish and purely business reasons. The gullible public would not and could not distinguish between the two classes of articles or of physicians, and the existence of newspapers of all degrees of venality would soon be selling their reading columns to the writers of all sorts of "scientific" articles. The reading-notice disgrace and the purchased-space shame are already sufficiently in evidence. Would the public be benefited by being attracted to the rank advertiser rather than to the trained and modest scientist? Is it now benefited thereby? The most ignorant quack can beat the best-trained physician in the art of attracting practice by means of the newspaper.

Earthquakes and Plagues.—The earthquake has been well in evidence in the opening years of the twentieth century. Like all the other mysterious manifestations of Nature's powers—especially the more startling and the more destructive ones—earthquakes were, during the ages of early barbarism and those of subsequent semienlightened superstition, universally regarded with a feeling of cowering awe. Indeed, their occurrence gave rise to various theoretic explanations of their origin which often in their own way were almost as wonderful as the phenomena themselves. The early Hindu believed that they were caused by the movements of the bull, on the tips of whose horns the earth was poised. Mohammedan tradition taught that the earth was supported on the back of a fish—a denizen of "the waters under the earth," which has been identified with the Hebrew "leviathan." The quivering movements transmitted by this creature to its superim-

posed burden were approximately annihilated by throwing the mountains on the previously flat crust of the earth; their presence provided an almost neutralizing degree of rigidity. The superstitious European of medieval times regarded the earthquake as a special manifestation of the indignation of an offended Providence. And—even in the eighteenth century—John Wesley taught that earthquakes were an undoubted product of the superabundance of sin in the region of their visitation. Modern science has, of course, reformed such views altogether. But it has left even to the present day a medical interest attaching to earthquakes—over and above that connected with the terrible destruction of life with which they are so frequently associated at the time of their occurrence. Epidemic pestilence has been known to follow their visitations. Such may be produced either by (1) the noxious vapors which escape into the atmosphere through the fissures made in the earth's crust; or (2) from the decomposition of the dead bodies of the victims. The emission of sulfurous fumes from earthquake fissures has very frequently been observed. Vapors of this kind, which were also found to be combustible, were belched from the subterranean cavities in vast quantities in the terrible Jamaica earthquake of 1692. The result was an epidemic sickness which proved fatal to about 3,000 persons, In the course of the terrible convulsions of that visitation Port Royal was completely wrecked. In some of the fissures many people were swallowed up. Many of the fissures opened and shut; and in many, human beings were trapped by the middle, some by the neck. These unhappy victims sometimes perished slowly. In all such cases their projecting parts furnished food for hungry dogs, so complete was the desolation. Needless to add that the atmosphere of that doomed locality long remained most unsalubrious.

Dr. John Richmond, 1716-1821.—The study of medical history is inevitably resolved into that of medical biography, especially if of times when the science of medicine hardly as yet existed. In the July number of *The Medical Library and Historical Journal* (which has become the official organ of the Association of Medical Librarians) Dr. William Browning has a charming article upon a no less charming subject—an old time American physician. One of the anthitheses in the characters of such practitioners is incidentally explained by Dr. Browning—that of the roughness, harshness—"dreadful rough" is still the tradition concerning Dr. Richmond, and yet their essential nobility. "They had to control by sheer prowess and personal force," not a disadvantage in the treatment of hysteric and functional diseases. Dr. Richmond was not a "resurrectionist," and yet to inspire awe, and to teach his students he was compelled to secure a skeleton (much to the scandal of his fellow-citizens was the boiling of the bones) by buying the body, when the owner should have no further need of it, of an old Indian, for a certain amount of fire-water doled out during the life of Lo. How Dr. Richmond lived, taught, took part in the rising professional spirit of his day, and of how at the age of 54 he died sadly, but gloriously, at his post of duty—all this is told and the lessons are not few or unimportant.

BOOK REVIEWS

Diseases of the Pancreas.—By A. W. MAYO ROBSON and B. G. A. MOYNIHAN. Published by W. B. Saunders & Co., Philadelphia and London.

This is a work of some 300 pages, with numerous illustrations. As stated in the preface, it is written with a twofold object in view: to record and review the work done in the past, and to indicate, so far as is possible, the scope and trend of future research. The surgical treatment of diseases of the pancreas is of such comparatively recent time, and yet undertaken with eminent success by such men as the authors, von Mikulicz and others, that an authoritative discussion of the subject will be eagerly sought by all surgeons who desire to keep abreast of modern abdominal surgery. The relation which diseases of the pancreas bears to diabetes and other disorders not considered surgical will render the able discussions on these subjects of interest to the internist and the surgeon as well. Aside from a purely surgical consideration of the subject, chapters are devoted to the anatomy of the pancreas, its abnormalities, development, structure, etc.; experimental work on the pancreas, pancreatitis, etc. A delicate tribute is paid to American surgeons by the authors, in the fact that the work is dedicated to them in recognition of their valuable contributions to pancreatic surgery. The work is an excellent one, and we commend it to the profession in the belief that it forms an authoritative and full discussion of the subject under consideration.

Tumors, Innocent and Malignant.—By J. BLAND-SUTTON. Published by W. T. Keenen & Co., Chicago.

In reviewing a book so well and favorably known and of such authority, one can do little more than announce that the third edition of this excellent work has appeared, fully revised. J. Bland-Sutton is authority on all subjects pertaining to tumors, and his unusually clear and concise descriptions of them have added much to both pathology and surgery. In the present edition deciduoma and its remarkable relationship with myxomatous disease of the chorion are discussed. Primary cancer of the fallopian tube is recognized as a clinical entity; differentiation between cancer and sarcoma of the kidney; and renal and adrenal tumors are discussed. The chapters on fibroids have been extended, and myelomas have been separated from sarcomas. In the present edition the term epithelioma has been supplanted by squamous-celled cancer, and the section on echinococcus colonies has been restored. The author has deemed it wise not to enter into discussion on the cause or causes of malignant tumors, and in this connection he says we should not forget that the causes of the socalled benign tumors are as mysterious as of those that are malign. We predict that the present revised edition will enhance the already wide popularity which former ones have enjoyed.

Surgery of the Head.—By BAYARD HOLMES. Published by D. Appleton & Co., New York.

This volume of between 500 and 600 pages is the first of a series of 5 volumes planned by the author. The one now under consideration is devoted to the surgery of the head, and fully covers the subject except that the surgery of the eye, ear, nose, and throat is intentionally omitted. At the beginning of each chapter the author has placed before the reader the motive for its study, and some concrete examples related thereto. As stated in the preface, three distinct kinds of subjects are considered; those conditions which are most frequently met are thoroughly discussed; those less frequently met, but which require instant relief, receive the next share of attention, and last those that are of great theoretic importance, though of less frequency, are also fully considered. The author wisely states that fully nine-tenths of the surgical work which the general practitioner is called upon to perform is confined to one-tenth of the subjects ordinarily discussed in textbooks on surgery. In the work before us discussions pertaining to malformations about the mouth; fractures of the skull, cerebral localization, concussion, compression, laceration, and abscess of the brain; otitis media; sigmoid sinus thrombosis; empyema of the accessory sinuses of the nose; tumors of the face and scalp;

carcinoma of the tongue, etc., are fully and ably presented. The work is well written, is replete with references, and is fully up to date. If the succeeding volumes shall equal the present one the whole will form a valuable series in any surgeon's library.

The Refraction and Motility of the Eye.—By WILLIAM NORWOOD SUTER, M.D., of Washington, D. C. Lea Brothers & Co., Philadelphia and New York, 1903.

In a handy volume of less than 400 pages the author has treated the allied subjects of the refraction and motility of the eye in a manner adapted for the beginner in ophthalmology, and at the same time with sufficient completeness to meet the requirements of the more advanced students and of practitioners. The same lucid style that characterizes his earlier "Handbook of Optics" is in evidence, particularly in the mathematical discussions. The work is well printed, and is amply illustrated with 101 engavings in the text and 4 plates in colors and monochromes. A satisfactory index is appended.

Genitourinary and Venereal Diseases.—By LOUIS E. SCHMIDT. Published by Lea Brothers & Co., Philadelphia and New York.

This little manual of some 250 pages contains in a very condensed form the essentials relative to the genitourinary and venereal diseases. The author has succeeded in covering the field in a masterly manner when the brief space is considered. Of course no effort has been made at an exhaustive treatise, the subject is treated in a terse and comprehensive manner. The work is especially designed for students, and for review work, each chapter being supplied with an appended list of questions covering its discussion.

Development of the Human Body.—By J. P. MCMURRICH. Published by P. Blakiston's Son & Co., Philadelphia. Price, $3.00.

It is well known that embryology is one of the most difficult subjects which confronts the medical student. Upon its proper appreciation depends his ability to know anatomy, except as so many unrelated and abstract facts. In the early development of the human subject our knowledge of the process is so defective, in many instances, that recourse must be had to the phenomena observed in comparative anatomy and comparative embryology. The present volume is a manual of some 500 pages on the development of the human body, beginning with the earliest facts known concerning the spermatozoon and the ovum, their maturation, union, and the subsequent development of the component parts of the product until the latter is normally expelled from the uterus. The last chapter, however, is devoted to postnatal development. The work abounds in illustrations, is well written, and it comprises a volume well suited for students and all others concerned in this highly interesting subject. It is sufficiently exhaustive for all practical purposes, and is relieved of infinite and wearisome details.

Surgical Diseases of the Kidney and Ureters.—By HENRY MORRIS. W. T. Keener & Co., of Chicago, American publishers.

The two volumes are an outgrowth of the author's manual of "Surgical Diseases of the Kidney," published in 1884. The preface states that it is an attempt to give a systematic account (1) of the regional anatomy, the malformations and misplacements, and the injuries and surgical diseases of the kidneys and the ureter; (2) of the affections of the perinephritic and perireteral tissue; and (3) of the surgical treatment of these several conditions as recommended and practised at the present time by those most occupied in this branch of surgery. Volume I and part 1 of Volume II are devoted to the various surgical affections of the kidney proper. At the beginning of each chapter is a brief but valuable review of the historic data in reference to the subject about to be discussed. The chapters devoted to clinical examination of the kidney, movable and floating kidney, injuries to the kidney, and renal calculus are especially explicit and instructive. In regard to the discovery of renal calculus, the author holds that the Röntgen-ray pictures are unreliable, even though the result in some cases is admirable. Shadows, however, may be cast when no calculus is present, and no shadow obtained when calculus is present. Part 2 of Volume II is devoted entirely to the anatomy and surgical affections of the ureters. The chapters on injuries to the ureters, and plastic operations on the ureters, are full and instructive. In reference to catheterization of the ureters the author rays the objections to it are: 1. The obnoxious nature of the operation in the female, and the extreme difficulty of it in the male. 2. The unreliableness of the information it affords. 3. The risk to which it exposes the patient. 4. The disadvantages of it as a mode of treatment. This splendid work is thoroughly scientific, conservative and exhaustive, and it will be epoch-making in the literature of renal and ureteral surgery.

Transactions of the American Surgical Association, 1902. Edited by RICHARD H. HARTE. For sale by Wm. J. J. Dornan, Philadelphia.

This is a neatly bound volume of over 500 pages, containing the papers read at the meeting held in May, 1902, together with the discussions on the same. It is Volume XX, and contains in the appendix an index of all papers which have been read at the various meetings of the association, citing the various volumes in which they severally appear. In the front of the book appear the names of all the fellows of the association, the honorary fellows, and all the presidents which have served since the association was founded. The work is well executed from the standpoint of printer, publisher, and editor.

A Manual of Dissection and Practical Anatomy.—By WM. T. ECKLEY and CORRINNE B. ECKLEY. Lea Brothers & Co., Philadelphia and New York.

This work of some 400 pages disclaims any pretense of being a descriptive anatomy, but rather it is a dissector and work on regional anatomy. As stated in the preface, the authors in the preparation had a twofold purpose in view, namely, to provide the student with a detailed guide for dissection, and to answer the requirements of the physicians and surgeons wishing to review the anatomy of any region. The work is founded on Gray and Garrish, and many of the excellent illustrations in both of these works are to be found in the present volume. It is divided into 33 chapters, each descriptive of a particular part of the body, and each giving the student specific directions as to how to proceed in his dissection of this part. A valuable feature of the work is a series of tables, in appropriate places, of muscles, bloodvessels, nerves, etc., giving origin, termination or insertion, etc. This is especially convenient for ready reference.

The Uteroovarian Artery, or the Genital Vascular Circle: Anatomy and Physiology, with their Application in Diagnosis and Surgical Intervention.—By BYRON ROBINSON. Publisher, E. H. Colegrove, 1903.

This work is a monograph of 182 pages, a large proportion of which is occupied by illustrations of the genital vascular circle as revealed by corrosion anatomy. Many of these are virtually repetitions, but represent an enormous amount of labor in their preparation. The author details the technic of his new method for performing hysterectomy, which he designates as endometrectomy and partial myometrectomy. The monograph contains many valuable anatomic points, which may escape recognition because of the unpleasing manner of general treatment.

Diet and Food.—By ALEXANDER HAIG, A.M., M.D., F.R.C.P. Published by P. Blakiston's Son & Co., Philadelphia.

This little volume of 125 pages is replete with scientific truths easily comprehended. The author is of opinion that a vast amount of the sickness seen in hospitals and elsewhere could be prevented by the proper selection of food. Essentially the object of the book is to call attention to the evil done by ingesting the meats and other forms of food which clog the circulation and impair normal metabolism by the uric acid which is retained, and to a simple method of preventing this by the use of bread-stuffs, milk, cereals, nuts, cheese, vegetables, and similar food material which are rich in albumens, but devoid of the uric acid-making factors. The present is the fourth edition of this interesting and instructive work. It should be read by every student of medicine, and the practitioner will find in it much of surprising interest.

A Treatise on Massage.—By DOUGLAS GRAHAM. Published by J. B. Lippincott Company.

That massage as a means of treating various diseases has been greatly neglected few will doubt. But for this neglect a certain species of quackery which has in some localities lately reached the dignity of a fad, could not exist. However, effectual and beneficial massage may be and doubtless is in many instances the reviewer cannot but believe that the author in the third edition of this work has permitted his enthusiasm to lead him into somewhat exaggerated statements and illogical conclusions. We fear that few conservative surgeons could agree with the author that movable kidney, intestinal obstruction in the form of intussusception, etc., can be effectually treated by massage. The book contains much that is good; but it also contains much which will not bear scientific investigation. We cannot but feel that the value of the work would be enhanced if the author had omitted reciting many cases so "wonderful" that they cast an element of doubt on all; and if he had been more scientific and less verbose.

Harelip and Cleft Palate.—By R. W. MURRAY. F.R.C.S. By P. Blakiston's Son & Co.

This little book of some 30 pages contains a number of illustrations and various suggestions as to the most favorable time to operate, technic of operation, after-treatment, instruments required, etc. It is clear, concise, and well written.

BOOKS RECEIVED.

[Prompt acknowledgment of books received will be made in this column, and from time to time critical reviews will be made of those of interest to our readers.]

Transactions of the West Virginia State Medical Association. Daily Intelligencer Steam Job Press, 1902.

A Nurse's Handbook for Obstetrics: For Use in Training Schools. —By JOSEPH BROWN COOKE, M.D., Fellow of the New York Obstetrical Society, Lecturer on Obstetrics to the New York City Training School for Nurses, Surgeon to the New York Maternity Hospital, etc. J. B. Lippincott Company, Philadelphia and London, 1903. Price, $2.00 net.

A Guide to the Cure of Disease by Natural Means.—By J. W. KING, M.D.

King's Manual of Obstetrics.—By A. F. A. KING, M.D , Professor of Obstetrics and Diseases of Women in the Medical Department of the Columbian University, Washington, D. C., and in the Medical Department of the University of Vermont. Ninth edition, revised and enlarged. In one 12mo volume of 628 pages, with 275 illustrations. Cloth, $2.50 net. Lea Brothers & Co., publishers, Philadelphia and New York, 1903.

Latin Grammar of Pharmacy and Medicine.—By D. H. ROBINSON, Ph.D., late Dean of School of Arts, and Professor of Latin Language and Literature, University of Kansas. With an introduction by L. E. SAYRE, Ph.M , Professor of Pharmacy in and Dean of Department of Pharmacy, University of Kansas. Fourth edition, with elaborate vocabularies, thoroughly revised by HANNAH OLIVER, A.M., Assistant Professor of Latin, School of Pharmacy, University of Kansas. P. Blakiston's Son & Co., Philadelphia, 1903. Price, $1.50 net.

A Thesaurus of Medical Words and Phrases.—By WILFRED M. BARTON, M.D., Assistant to Professor of Materia Medica and Therapeutics, and Lecturer on Pharmacy, Georgetown University, Washington, D. C.; and WALTER A. WELLS, M.D., Demonstrator of Laryngology and Rhinology, Georgetown University, Washington, D. C. Handsome octavo of 534 pages. Philadelphia, New York, London: W. B. Saunders & Co., 1903. Flexible leather, $2.50 net; with thumb index, $3.00 net.

Transactions of the Western Surgical and Gynecological Associations.

International Clinics: Vol. ii, Thirteenth Series. A Quarterly of Illustrated Clinical Lectures and especially prepared original articles on Treatment, Medicine, Surgery, Neurology, Pediatrics, Obstetrics, Gynecology, Orthopedics, Pathology, Dermatology, Ophthalmology, Otology, Rhinology, Laryngology, Hygiene, and other topics of interest to students and practitioners. By leading members of the medical profession throughout the world.—Edited by A. O. J. KELLY, M.D., of Philadelphia. J. B. Lippincott Company, Philadelphia, 1903.

Diseases of the Ear: A Textbook for Practitioners and Students of Medicine.—By EDWARD BRADFORD DENCH, Ph.B., M.D., Professor of Diseases of the Ear in the University and Bellevue Hospital Medical College; Aural Surgeon, New York Eye and Ear Infirmary; Consulting Otologist to St. Luke's Hospital, etc. With 15 plates and 158 illustrations in the text. Third edition, revised and enlarged. D. Appleton & Co., New York and London, 1903.

Medical Jurisprudence: A Manual for Students and Practitioners.—By EDWIN WELLES DWIGHT, M.D., Instructor in Legal Medicine, Harvard University. Edited by V. C. PEDERSEN, A.M., M.D., Instructor in Surgery and Assistant Anesthetist at the New York Polyclinic Medical School and Hospital; Deputy Genitourinary Surgeon at the Outpatient Department of the New York Hospital, etc. Lea Brothers & Co., Philadelphia and New York.

Microscopy and Bacteriology.—By P. E. ARCHINARD, A.M., M.D., Demonstrator of Microscopy and Bacteriology, Tulane University of Louisiana, Medical Department. Edited by V. C. PEDERSEN, A.M., M.D., Instructor in Surgery and Assistant Anesthetist at the New York Polyclinic Medical School and Hospital; Deputy Genitourinary Surgeon to the Outpatient Department of the New York Hospital, etc. Illustrated with 74 engravings. Lea Brothers & Co., Philadelphia and New York.

AMERICAN NEWS AND NOTES.

GENERAL.

Council of Northwest Territories.—At the recent election held in Calgary, N.W.T., for members of the Medical Council for the ensuing four years the following physicians were reelected: R. G. Brett, Banff; G. A. Kennedy, Macleod; M. M. Seymour, Qu'appelle; J. D. Lafferty, Calgary; A. B. Stewart, Rosthern.

Amalgamation of Toronto Medical Colleges.—It is reported that the faculties of medicine of Toronto and Trinity Universities have completed a scheme of amalgamation which has been under way for some 2 years. A preliminary move was that of Trinity Medical College becoming the medical department of Trinity University. Dr. W. B. Geikie, for over 30 years the dean and professor of medicine in Trinity Medical College, opposed the amalgamation from the beginning and finally resigned.

Charitable Bequests.—NEWARK: A bequest of $10,000 was made to the Newark Charitable Eye and Ear Infirmary by Eugene Vanderpool. NEW YORK: The New York Eye and Ear Infirmary announces that the gift of the late William C. Schermerhorn to the infirmary, of a building to be devoted solely to the treatment of diseases of the eye has been supplemented by a gift from the daughters of Mr. Schermerhorn of money for the equipment of the building with all the necessary surgical appliances and furnishings.

The American Association of Obstetricians and Gynecologists will hold its sixteenth annual meeting in the Northwestern University Medical School Building, Chicago, Ill., Tuesday, Wednesday, and Thursday, September 22, 23, and 24, 1903, under the presidency of Dr. L. H. Dunning, of Indianapolis. The Auditorium Hotel Annex has been selected for the headquarters of the association, the management of which should be addressed concerning rooms and rates. Dr. J. B. Murphy, Reliance Building, 100 State street, is chairman of the committee of arrangements, and will furnish any information to members and guests upon application.

Porto Rican Lepers.—The health officers of the various towns of Porto Rico have been summoned to meet at San Juan to confer with the superior Board of Health and Director of Charities Osterhoudt as to the taking of immediate steps to incarcerate the lepers remaining at large in Porto Rico and estimated at from 40 to 60 in number. The leper colony of Porto Rico is now on historic Cabras (or Goat) Island, opposite Morro Castle, at the entrance to San Juan harbor. It should be recorded to the credit of the American administration during the past five years that a humane and vitally essential work has been done for the lepers of Porto Rico and that public interests have been subserved to a marked degree. The leper colony is now well located and is maintained at a cost of 51 cents per day per inmate.

Bacteria for Farmers.—The Secretary of Agriculture will ask Congress next winter for a special appropriation for carrying on the work of soil inoculation. This is a new branch of work in the department, which has grown out of the discoveries made within the last few years in regard to the dependence of leguminous plants on bacteria which live on their roots. The discovery is described as one of the most important of those made as the results of modern agricultural experimentation. The department will take up the plan of supplying free to farmers in all parts of the United States the particular bacteria for inoculation which they may desire and apply for. The method will be to propagate the bacteria required in large quantities for each of the various leguminous plants, such as clover, alfalfa, soy beans, cow peas, tares, and velvet beans. The function of these bacteria is to fix the nitrogen of the air and supply it as food to the plant.—[*New York Times.*]

Effects of Tropical Service.—Another person who has been subjected to the severity of climate and service in the Philippines has been turned over to the authorities by his relatives with every expectation that he will be admitted to the government hospital for treatment instead of being severely punished for what under normal conditions would have been serious misconduct. Louis C. Hamilton was last February allowed to resign from the army, and since his return to the United States he has appeared in various cities and obtained money under misrepresentations which have startled people for their reckless disregard for personal propriety and sublime indifference to results. The situation was the more remarkable because young Hamilton before he went into the army possessed a record of unquestioned integrity, while his military career as a soldier and officer, up to a short time before his resignation, was exemplary and characterized by a punctilious regard for the conditions of the service. This second notable instance of an officer going wrong in a way likely to be adopted by no one in his right mind renews the interest in the suggestion brought out in a recent courtmartial case, that arduous service at our tropical stations is likely to have results which are most disastrous to individual character. The results of the McCue and Hamilton cases, aside from the pathetic circumstances, furnish interesting psychologic studies.—[*Army and Navy Register.*]

EASTERN STATES.

Boston Mortality Report.—The number of deaths reported to the Board of Health for the week August 15 is 207, as against 201 the corresponding week last year, showing an increase of 6 deaths, and making the deathrate for the week 17.88. The number of children who died under 1 year was 66; under 5 years, 69; persons over 60 years, 35; deaths in public institutions, 62.

Prevention of Contagion from Library.—An excellent method of preventing contagion through the circulation of books is maintained by the trustees of the Boston public library. Each morning the authorities receive a report from the Board of Health indicating the location of contagious diseases in all parts of Boston. If it is shown by the records that any family whose members are ill with infectious diseases is using a book, immediately upon return of the volume to the library it is either thoroughly fumigated or destroyed. This is one reason why it costs $1,000 every weekday in the year to maintain the library of which Bostonians are justly proud.

NEW YORK.

New Hospital Opened.—The "Lydenham Society," of New York city, has opened a hospital and dispensary at 347 E. 116th street. Patients receive treatment in the dispensary on the lower floor, and on the upper floors are 20 beds for those whose retention is considered necessary.

Father Operated Upon Son.—A young surgeon in Brooklyn has just recovered from an operation for appendicitis performed by his own father. This unusual occurrence took place, it is said, at the urgent solicitation of the sick son, whose confidence in the superior skill of his parent—a confidence shared by many others—was thus happily justified.—[*Medical Record.*]

Rules for Barbers.—Health Commissioner Lederle has issued the following 11 new rules for the governance of barbers in Greater New York: 1. Barbers must wash their hands thoroughly with soap and hot water before attending any person. 2. No alum or other astringent shall be used in stick form. If used at all to stop flow of blood, must be applied in powder form. 3. The use of powder puffs is prohibited. 4. No towel shall be used for more than one person without being washed. 5. The use of sponges is prohibited. 6. Mugs and shaving brushes shall be thoroughly washed after use on each person. 7. Combs, razors, clippers, and scissors shall be thoroughly cleansed by dipping in boiling water or other germicide after separate use thereof. 8. No barber, unless he be a licensed physician, shall prescribe for any skin disease. 9. Floors must be swept or mopped every day and all furniture and woodwork kept free from dust. 10. Hot and cold water must be provided. 11. A copy of these regulations is to be hung in a conspicuous place in each shop.

PHILADELPHIA, PENNSYLVANIA, ETC.

Dr. T. Perceval Gerson has removed from Lansdowne, Pa., to California.

Chickenpox a Reportable Disease.—Chickenpox has been placed on the list of diseases which physicians must report to the Board of Health of Philadelphia. This action has been taken to prevent physicians shielding smallpox patients under the diagnosis of chickenpox.

SOUTHERN STATES.

Medical and Chirurgical Faculty of Maryland.—The next semiannual meeting of the Faculty will be held at the Blue Mountain House, near Pen-Mar, September 24 and 25, 1903. Railroads and hotels will give special rates. Important business problems are to be considered at the meeting. The chairman of the program committee is H. O. Reik, 5 W. Preston street, Baltimore.

WESTERN STATES.

Health of Seattle.—The July report of the Department of Health of Seattle, Wash., shows 89 deaths. Based on the estimated population of 125,000, this gives an annual deathrate of .8256 per 1,000.

Mortality of Michigan During July, 1903.—There were 2,653 deaths reported to the Department of State for the month of July, or 334 more than during the preceding month. The deathrate for July was 12.6 per 1,000 population. The report of the department closes with this statement: "There were 27 deaths reported from lockjaw during July, nearly all of which were due to Fourth of July accidents, caused by the use of toy pistols. The use of toy pistols ought to be prohibited by law."

The health report of Indiana for July, 1903, states that there were 104 cases of smallpox with 4 deaths reported in 21 counties. In the corresponding month last year there were 502 cases reported with 15 deaths in 46 counties. The total number of deaths from all causes for the month was 2,765, an annual rate of 12.9. The rate in the corresponding month last year was 13.6. By certain ages the deaths were: Under 1, 541, or 20.7% of the total. The percentage for July, 1902, was 19.6% of the total deaths.

FOREIGN NEWS AND NOTES

GENERAL.

Baccelli Honored.—Professor Guido Baccelli, who at present holds the portfolio of Agriculture in the Italian government, has been elected a corresponding member of the Paris Académie des Sciences in the Section of Medicine and Surgery. Baccelli takes the place of the late Professor Ollier of Lyons.

Medical Women in Algeria.—The government of Algeria is to maintain a free service of female physicians for those Moslem women who decline the services of male physicians. Residence, drugs, surgical instruments, and remuneration will be given them. A dispensary for Moslem women has already been established in Algiers.

Revaccination of Tramps.—The Christchurch (Hampshire) Board of Guardians, as a precaution against smallpox, recently resolved to medically inspect all tramps who applied at the workhouse and revaccinate all who consented. During one month not a single tramp consented to vaccination and the experiment, which had cost $50, was abandoned.

Decline of Birthrate in Australia.—Immigration of every description is discouraged in the federated Australian states and at the same time the birthrate is rapidly decreasing. Between 1886 and 1901 the number of married women increased by 63,219, while the number of births was practically the same in 1901 as in 1887. The average marriage age of Australasian women is steadily advancing. In 1881 it was 22½ years; in 1901 it was 24 years. This is regarded as an indication of a tendency to accept with reluctance the responsibilities of the marriage state; that the Australasian declining birthrate is due less to physical incapacity than to individual unwillingness.

International Congress of Ophthalmology.—The Tenth International Congress of Ophthalmology is to be held in Lucerne, Switzerland, September 19–21, 1904. A circular issued by the organizing committee of the congress gives many points of information regarding the meeting. The mornings will be devoted to discussions and the afternoons to practical demonstrations. To this end the papers are to be sent before May 1, 1904, when they will be printed and sent to each subscriber to the congress at least 2 weeks before the meeting. Reading of the papers can thus be dispensed with and the discussion at once begun. Only one official subject will be presented, this being "To Settle the Question of Indemnity as Regards the Value of an Eye, Lost or Injured." Fuller information may be obtained from the following American correspondents: Dr. G. E. de Schweinitz, 1401 Locust street, Philadelphia, Pa.; Dr. Coote, Quebec, Canada.

International Congress on Tuberculosis.—An International Congress for the Study of Tuberculosis will be held in Paris from September 24 to October 1, 1904. The Congress will comprise a Medical, a Social, and a Technical Section. In the Medical Section the following are the questions proposed for discussion: 1. The treatment of lupus by the new methods. 2. The early diagnosis of tuberculosis by the new methods. 3. Comparative study of the different forms of tuberculosis. The Social Section will discuss the following questions: 1. The etiologic factors of tuberculosis. 2. The value of the various methods of treating tuberculosis. 3. Assurance and sickness societies in relation to the struggle against tuberculosis. The Technical Section consists of a museum in which will be exhibited collections of anatamopathologic, histologic, and bacteriologic specimens and preparations; tables of statistics, plans, and designs for the installation of hospitals, sanatoriums, and dispensaries; publications of all kinds relative to antituberculosis leagues and associations; and industrial products used in the treatment of tuberculosis. The president of the congress is Professor Brouardel.—[*Brit. Med. Jour.*]

Was the Commanding Officer Insane?—Considerable excitement has been created in civil and military circles, as might have been expected, by the disclosures of the experience of a Hungarian infantry regiment, which, on a practice march on July 20, lost 450 men by heat prostration. The details of the hardship imposed upon these soldiers are unaccountable on any other ground than that the commanding officer was crazy. This is assuming, of course, that the cable account furnished us is not a gross exaggeration of the situation. The troops are alleged to have been burdened with extra equipment, in addition to the usual heavy marching order, and were engaged for two hours in a sham fight. The colonel commanding the regiment refused to grant the request of some of the officers that the soldiers be allowed to rest, though he himself was obliged to finish the march in a carriage. Before reaching Bilek the men fell out of the ranks by scores. Nine died immediately, and 22 were carried off insensible, 6 of whom died soon after reaching the hospital. Seventy others are in a serious condition. The thermometer registered 125 degrees in the sun. The captain of one company ordered a halt and rested his men during the worst 2 hours of the day, and brought in his command without a single prostration.—[*Army and Navy Register.*]

GREAT BRITAIN.

Dublin Free from Smallpox.—The smallpox epidemic in Dublin has been completely suppressed. Since January there have been 260 cases and 34 deaths. The value of vaccination was clearly evident. Of the 260 patients, not one proved to have been revaccinated, and practically the entire death list was made up of unvaccinated persons.

The Birmingham Crematory.—The new crematory at Birmingham is to be opened in September. It occupies an acre of ground in the country some distance from any dwelling house. The chapel is 50 by 25 by 40 feet, and contains recesses for the ashes of the dead. If relatives prefer, they are allowed to erect cloisters in the grounds for holding the urns. The temperature of the incinerating chamber will be about 2,000 °F.

Butchers and Tuberculous Meat.—The cattle dealers and butchers of Cardiff, Swansea, and surrounding districts are endeavoring to formulate a plan whereby no cattle above a certain price shall be purchased at public or private sale, unless they are warranted by the sellers to be free from tuberculosis. One firm of cattle dealers has instituted an insurance system. In three years they have paid $1,500 for cattle sold by them and afterward found to be unfit for food.

Workmen and Medical Officers.—The Ballachulish (Scotland) Slate Quarries Company have won their suit against Dr. Lachlan Grant, who for some time was company physician at the quarries. When he was deposed, the quarrymen wished to still employ him, but the company sought to prevent his further practice in the district. This they have been successful in doing, and an execution is to be served at the end of 2 months which have been allowed Dr. Grant in which to seek a location elsewhere.

CONTINENTAL EUROPE.

Of 79,742 Parisian houses recently examined, only 23,252 were found to have modern sanitary arrangements in regard to the water supply.

German Congress of Scientists and Physicians.—The German Association of Scientists and Physicians will hold its seventy-fifth annual meeting this year at Cassel from September 20 to 26. Among the general addresses promised are the following: Professor Ziehen, of Utrecht, on the "Physiologic Psychology of the Feelings and Affections;" Dr. Griesbach, of Muhlhausen, on the "Present Condition of School Hygiene;" Professor von Behring, of Marburg, on the "Struggle Against Tuberculosis."

High Deathrate of Granada.—The sanitary commissioner of the *Lancet* describes the sanitary conditions of Granada, Spain, where the annual deathrate is 38 per 1,000. A boulevard has been cut through the center of the town, this being the only move toward modern sanitation. The water supply is in many ways contaminated from the sewers and from the surface. Travelers are afraid to go to the town, and those who do reach it visit the Alhambra as quickly as possible and then hurry away, deeming themselves lucky if they suffer only from a passing attack of diarrhea.

Decrease of Tuberculosis.—In his lectures before the Royal College of Surgeons, Bulstrode has given interesting statistics regarding tuberculosis on the continent. In Prussia the deathrate per 10,000 has fallen in 25 years from 31 to 19. In Saxony, where a modified form of compulsory notification is in force, the deathrate per 10,000 from pulmonary tuberculosis has fallen from 23.1 to 16.8 in a quarter of a century. In Hamburg a steady decline is to be noted. The Parisian deathrate from pulmonary tuberculosis has fallen from 43.7 to 39.4 in a decade. In Amsterdam the rate has fallen from 27 to 17.7 in 40 years; in Denmark from 25.2 to 13.1 in 30 years; in Budapest from 83.1 to 38.6 in 25 years, and in Switzerland from 23.4 to 18.7. The rate of mortality from all forms of tuberculosis in Vienna has decreased from 83.3 to 52.9 since 1867.

OBITUARIES.

J. Ivor Murray, late colonial surgeon of Hongkong, died recently at Addison Mansions, Scotland. He was admitted a licentiate of the Royal College of Surgeons in 1845, and became a Fellow in 1856, taking the M.D. degree in the same year. Twenty-five years afterward he was admitted a member of the Royal College of Physicians in Edinburgh. He served as an army staff surgeon in the Crimea during the Russian war, and received the Crimean and Turkish medals with clasps. He was subsequently appointed inspector of hospitals at Hongkong, and held this position from 1859 to 1870. He had been decorated by the kings of Italy and Sweden with the Order of Merit for assistance to scientific expeditions in the East. He made many contributions to literature, among which was the "Catalogue Raisonné of the Military Surgery Museum in Edinburgh University," "Meteorology and Climate of China," "Scarborough as a Health Resort in Phthisis," etc.

Francis T. Miles, of Baltimore, Maryland, July 30, aged 76. He was graduated from the Medical College of South Carolina in 1849. He served throughout the Civil war as a surgeon in the Confederate army. Later on he was appointed professor of anatomy in the Washington University Medical School and afterward professor of anatomy in clinical diseases of the nervous system at the University of Maryland. In 1880 he accepted the chair of physiology, which he resigned in 1903. He was a member of the Medical and Chirurgical Faculty of Maryland, and had been vice-president of the Neurologic Association from 1880 to 1882, and an honorary member of the American Association of physicians. He had been a consulting physician of the Johns Hopkins Hospital since its foundation in 1899.

Clarence John Garitee, of Philadelphia, August 10, aged 31. He was graduated from the medical department of the University of Pennsylvania, in 1894. Subsequently he became resident physician at the Episcopal Hospital, and in 1897 he was appointed instructor at the Polyclinic Hospital. He was a member of the medical alumni of the University of Pennsylvania, and was an active member in the Pathologic, Pediatric, and Philadelphia County Medical Societies.

Charles W. Piper, of Wurtsboro, N. Y., August 11. He was graduated from the medical department of the University of Michigan, Ann Arbor, in 1844. He was examining surgeon for the Board of Pensions, president of the Sullivan County Medical Society, and Fellow of the New York State Medical Association. He was also health officer of Wurtsboro.

John W. Devine, in Tazewell, Tenn., July 28, aged 66. He was a graduate of the University of Nashville, Tenn., and had served as a captain and assistant surgeon in the United States army during the Civil war. He was a member of the Claiborne County Medical Society.

Fife Fowler, in Kingston, Ont., August 2, aged 80. He was graduated from the University of Aberdeen, Scotland, in 1858. He was one of the founders and dean of the Royal College of Physicians and Surgeons, Kingston, Ont., and president of the Ontario Medical Council in 1892.

Reuben Barney, in Chillicothe, Mo., July 16, aged 59. He was graduated from the Albany (N. Y.) Medical College in 1865, and was a member of the American Medical Association, Medical Association of Missouri, and International Association of Railway Surgeons.

H. V. McNeer, in Bramwell, W. Va., July 17. He was graduated from the College of Physicians and Surgeons, Baltimore, in 1885, and from the Bellevue Hospital Medical College, New York, in 1886. He was a member of the American Medical Association.

Stephen W. Seaman, of Lenhartsville, Pa., August 10, aged 28. He was graduated from the Medico-Chirurgical College, Philadelphia, in 1899, and was a member of the Berks County Medical Society and the Pennsylvania State Medical Association.

John J. Taylor, in Streator, Ill., August 3. He served for 14 years as secretary of the LaSalle County Medical Society; was at one time president of the North Central Illinois Medical Association.

P. Carter Lodge, of Waterbury, Conn., August 14. He was graduated from the University of Vermont, Burlington, in 1899, and was a member of the Waterbury Medical Association.

James R. Gregory, of Long Point, Ill., died at Las Vegas, N. M., August 1, aged 40. He was graduated from the College of Physicians and Surgeons, Keokuk, Ia., in 1887.

Moses Bruckheimer, in Washington, D. C., August 7, aged 62. He was graduated from the medical department of the Columbian University, Washington, D. C., in 1868.

Michael D. McGrath, at Fishkill Landing, New York, August 11, aged 35. He was a graduate of the College of Physicians and Surgeons, New York City.

William B. Tolley, of Indianapolis, Ind., July 25, aged 67. He was graduated from the Central College of Physicians and Surgeons, Indianapolis, in 1881.

Edward Garrett Hank, in Tannerscreek, Va., July 26, aged 27. He was graduated from the University College of Medicine, Richmond, Va., in 1898.

John H. Helfrich, in Allentown, Pa., July 29, aged 83. He was graduated from the Pennsylvania Medical College, Philadelphia, in 1861.

Lawrence Stewart Evans, of Patchogue, L. I., July 25, aged 48. He was graduated from the Bellevue Hospital Medical College in 1876.

William Craig, in Mentone, Cal., July 25, aged 83. He was graduated from the University of Pennsylvania, Philadelphia, in 1871.

John E. Sutcliffe, in Louisville, Ky., July 24, aged 83. He was a graduate of the Bellevue Hospital Medical College, New York.

John Gleises, of New York City, August 14, aged 50. He was graduated from the Bellevue Hospital Medical College in 1877.

Joseph S. Carter, in Urbana, Ohio, July 27, aged 78. He was graduated from the Ohio Medical College, Cincinnati, in 1850.

William H. Coyle, in Columbia City, Ind., July 29, aged 68. He was graduated from the Cleveland Medical College in 1869.

W. D. Anderson, in Vallejo, Cal., July 31. He was graduated from the Harvard University Medical School, Boston, in 1864.

John C. Luke, at South Fork, Pa., August 2, aged 70. He was graduated from the Cleveland Medical College in 1871.

William M. Mercer, in Corunna, Ind., July 24, aged 75. He was graduated from the University of Buffalo in 1872.

William E. Forest, in New York City, July 28, aged 53. He was graduated from the New York University in 1876.

CLINICAL NOTES AND CORRESPONDENCE

[Communications are invited for this Department. The Editor is not responsible for the views advanced by any contributor.]

A MECHANICAL ROCKER FOR DEVELOPING RÖNTGEN-RAY NEGATIVES.

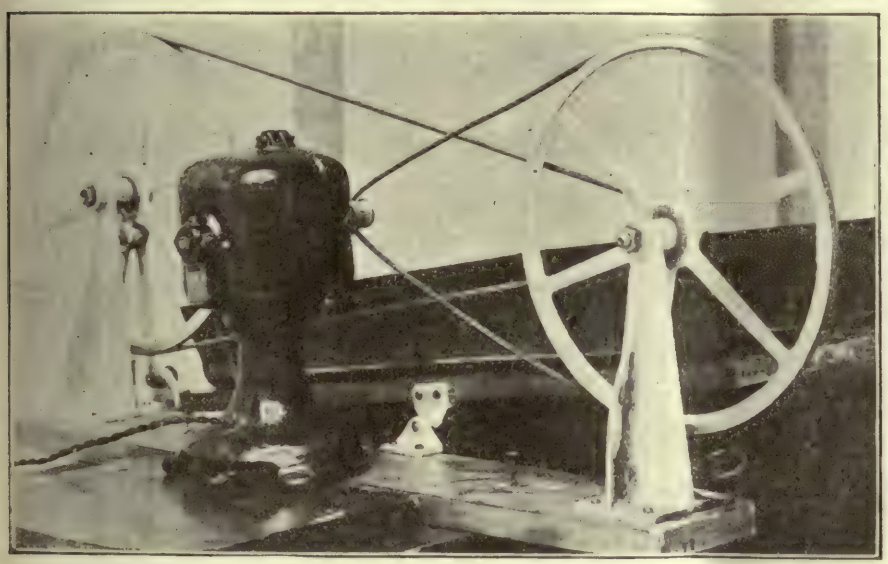
BY

G. E. PFAHLER, M.D.,

of Philadelphia.

In the development of Röntgen-ray negatives, much time is spent in the dark-room in the monotonous work of rocking a pan of developer. In the routine work of a hospital where accurate exposures are made, the developing can be done almost by time. In such instances, much time may be saved by the following device. Special cases will require the constant attention of the expert, but even here the mechanical labor will be saved and other little things that must be done in a dark-room may be accomplished while the developing is going on.

It consists of the motor of an electric fan, from which the fan has been detached. This is done by loosening a single screw, and in the place of the fan I have attached a pulley 1 inch in diameter. The belt then runs over a wheel 12 inches in diameter to which a pulley 1 inch in diameter is attached. This turns a wheel 12 inches in diameter, having an arm attached 1½ inches from the center, which gives the rocking base a sway of 3 inches. The pulley on the motor revolves 1,000 to 3,000 times per minute. This rocks the pan from 10 to 20 times a minute, according to the regulation of the amount of current, which I find is about the right rate.



The pulley on the motor can be replaced by the fan in less than half a minute, which can then be used to fan the plates dry. Further details will be shown by the illustration.

I have long felt the need of a device of this kind, and make this brief report with the hope that the idea may be of value to some other weary laborer.

MEDICAL ARTICLES IN NEWSPAPERS.

To the Editor of American Medicine:—In the issue of *American Medicine* of July 11, 1903, I read with interest one of the editorial articles headed "Medical Articles in Newspapers." It refers to a physician being asked to write a series of articles on his specialty for a "lay periodical of the highest character," which he apparently expressed willingness to do, inasmuch as it would be an excellent opportunity for bringing to a certain class of readers in great need of instruction such truths as would benefit them. But this acceptance was hampered by one condition. The medical man insisted that his name should not be published as the author of the articles.

Now, upon what grounds excepting as a personal whim could this medical man object to signing his articles? I confess to sharing the feeling of the editor in not understanding the reason for this "absurd" (?) objection. An unsigned article upon any given subject, no matter how well written it be or how much it may bear the intrinsic evidences of truth, does not carry the same weight that a signed article does. It is in the same category with unsigned communications to newspapers, the majority of which cause the reader of them to compliment the writer of the article upon the fact that he had shame enough to suppress his name and to wonder at the same time why the editor should print such rubbish. If the articles are really good and worth reading the writer certainly should not be ashamed to put his name to them. But apparently, if I may judge from your editorial, the objection to signing the articles was that it would have been a splendid gratuitous advertisement for the writer. That is apparently what the editor said, and I take it the editor was the lay one. Admitted that it was a splendid advertisement, why should the man, whose brains and ability have rendered him such a past master of his art that he is requested to instruct the public upon certain medical matters, not reap the benefit? Surely *American Medicine* does not mean to say that it would be unethical? If I remember rightly, what is now known as "the declaration of principles," distinctly enjoins upon medical men their obligation to enlighten the public with regard to matters connected with the public health, to the abuses which occur at the hands of charlatans, and to the injury which results to health, and to life even, by this class of medical practitioners. Now pray, what weight would an anonymous article have on the public mind? It would be regarded by the public as an instance of professional spleen which the writer was too mean to avow by signing his name. But, supposing a wellknown name was appended to the article; a name which everyone would recognize as the synonym of professional knowledge and professional honesty, do you not think, Mr. Editor, that the conditions would be decidedly changed? Would not the average layman say at once, "This writer is not in the habit of making reckless statements or of doing mean actions. There is probably much truth in what he says and we will examine and weigh his statements carefully." I myself think that the lay public would reason in that manner. The question is asked in the editorial, if this were a splendid gratuitous advertisement for the writer: "What would he" (the lay editor) "think of the medical specialist who should bring in such a frank advertisement for his advertisement columns?" *Est modus in rebus.* There is a great difference between a man bringing an advertisement to be paid for and to be put in the advertising columns with the distinct understanding that it is to attract persons for business purposes, and the writing of a series of articles for a lay journal, at the request of the editor and for the purpose of instructing the public. Of course, it might indirectly prove an advertisement, but as to whether it was an advertisement done simply for self-aggrandizement or for other and worthier motives would depend very much upon the man. I frankly admit that there are few men in the medical profession who would be free from any suspicion of self-seeking, but because they are as rare as Diogenes' honest man, is that any reason why we should ask, "Can there any good thing come out of Nazareth?" Perhaps it might open the door for some men who would use such an opportunity for getting free advertising, but the editor himself holds the key and can quietly decline to publish any communications from any person whatsoever whom he has not

himself solicited. I fail to see the pertinency of the sentence in your editorial: "Was the immorality of the advertisement not all the more heinous if to the fact were added the universally detested hypocrisy of the reading notice!" It seems to me that it is putting what was intended as a good act, and what if properly done would have been a good act, upon the sordid ground that in the first place it was nothing but an advertisement anyway, and in the next place it was adding thereto the hypocrisy of the "reading notice."

Perhaps it is to be regretted that the articles were not written. For if wellknown and honored physicians—by that I mean men whose names are synonymous with professional skill and knowledge and with straightforward honesty in word and deed—were permitted to instruct the public there would be less running after false gods and a greater discrimination on the part of the public between the man who honestly knows what he is talking about and the man who does not. I am, dear sir,

Yours very faithfully,

NEW YORK CITY, July 16, 1903. F. R. STURGIS.

EXCESSIVE INFANT MORTALITY AND ARTIFICIAL FEEDING.

BY

C. E. PEARL, M.D.,
of North Bangor, N. Y.

To the Editor of American Medicine:—It is hardly possible to take up a medical journal, especially at this time of the year, that we are not reminded of the excessive infant mortality, due to the fact that so many women do not nurse their children. The mother is directly charged with contributing to the death of her child, and no excuse is made for the large number of women who find it impossible to continue nursing their children on account of the deterioration of their own health, from the drain of lactation, manifested notably by nursing sore mouth and its allied disorders, and who only resort to artificial feeding upon the advice of the family physician. The object of this letter is to call attention to the fact that no physician should ever be obliged to sanction weaning on account of nursing sore mouth, for it and its associated ills are effectually and permanently cured more easily than any other disease with which I am acquainted.

When the death of the child, after such advice, can be attributed to artificial feeding, neither the mother nor a long-suffering Providence is to blame, but only the doctor who did not cure the mother and enable her to continue to furnish her child with the food, nature designed it to have. In proof of the above I have only to submit the fact that no woman in this locality has been obliged to wean her child on account of the sore mouth of lactation, or to suffer the least inconvenience from the sore mouth of pregnancy during the past 10 years.

There is nothing sadder, in my long experience as family physician, than the memory of a young mother dying from the sore mouth of pregnancy, and of infants sacrificed through my ignorance of the cause, prevention, and cure of this condition. Just why it took me 12 years, spent in active practice, to comprehend the self-evident fact that the mother could take enough cows' milk to compensate her for the nourishment she gave the child, has been a mystery to me ever since. To witness the prompt and wonderful effect of 1 or 2 quarts of fresh milk, taken daily, by one of these patients who persisted in nursing till her system was bankrupt, only deepens my humiliation at the thought that I, who profess to practise a rational system of medicine, should for so many years have tried to substitute medicine for milk. Occasionally it has been found that the milk of a single cow, especially a young one, has not proved effectual, but in every such instance the patient has been promptly cured when the milk of the herd was substituted. Careful inquiry among physicians who have used this treatment for several years did not show a single failure, all of the patients having been promptly cured by 2 quarts, or less, of good cows' milk taken daily, in addition to the regular diet. The worst cases are usually cured in 2 weeks, the essential condition being that they take milk in a sufficient quantity of a proper quality. While the foregoing only alludes to the use of fresh cows' milk, it is desirable to have some milk product in a more portable and permanent form for use where fresh cows' milk is not obtainable, and if such a product is not already on the market it is probable that a reasonable demand would bring one out. The use of fresh cows' milk, in sufficient quantity, with a view to replacing the nourishment furnished the child by a pregnant or nursing woman and thereby prevent and cure erosion and ulceration of the mucous membranes is original with me so far as I know now, but whether ancient or modern, it is a specific and worthy of wide publicity.

CASE OF PURPURA.

BY

JAMES A. GARDNER, M.D.,
of Buffalo, N. Y.

To the Editor of American Medicine:—Noticing the communication of Dr. A. E. Blackburn in your edition of July 11, on purpura, I wish to cite a somewhat similar case.

A girl of 20, whom I have been treating for tuberculosis for the past 3 months, though I have not been able to find any bacilli, suddenly developed an oozing from the gums on June 10. The following day she had a pronounced purpura over the posterior surface of both forearms, and the anterior surface of the legs—spots about an eighth-inch in diameter. Her pulse was 145. She passed bloody urine, and there was general collapse. I had her drink all the lime water possible, stimulated her with digitalis and strychnin, and gave 5 drops of adrenalin every 4 hours. Two days afterward the oozing stopped, the bloody urine ceased, and she made an uninterrupted recovery.

ACCIDENTAL AND SYMPATHETIC VACCINIA.

BY

A. L. BENEDICT, M.D.,
of Buffalo.

During my vacation I had the opportunity to vaccinate nearly 900 persons, using glycerinated lymph prepared in Holland and applied with steel pens held in automatic handles, one pen being used for each individual. This method is satisfactory and rapid and there was a surprising number of secondary "takes," and an almost entire absence of complications.

Accidental Vaccination.—A stewardess, aged 40, showed me a typical vaccine sore, of about the tenth day, contracted by contact, without known abrasion. She had been vaccinated several times previously, but the exact dates could not be learned. Owing to the motion of the ship I pricked my own fingers repeatedly but with negative result, indicating the persistence of protection from vaccination in early childhood and in 1884, not counting several unsuccessful attempts subsequently.

Sympathetic Vaccination.—C. R., male, aged 17, vaccinated in infancy and two or three times since, the last time on right arm. Two good scars on left arm and slight scar on right, probably not of a successful vaccination. Present vaccination on left arm with typical development of pustules. Also, development of about 20 pustules on right arm, in immediate vicinity of old scar. Denial of possibility of transferrence of vaccine and no evidence of recent abrasion. Pustules on right arm umbilicated, typical in appearance, except for minute size, being from 1 m. to 2 m. in diameter.

ANENT EXPECTORATING.

BY

C. W. FENN, A.M., M.D.

To the Editor of American Medicine:—The play upon this word which the *British Medical Journal* credits to a lady, is believed to have originated with former Professor Hartley, of Yale, who was a noted punster.

It was old in '58, when I first heard it, and excepting his inimitable drawl he told it as follows: "Young gen-tle-men who ex-pect-o-rate on the floor can not ex-pect-o-rate high in my es-ti-ma-tion." This is another: Finding a very good picture of a donkey in his hat, he exhibited it to the class with the remark: "The young gen-tle-man who dropped his card in my hat may ob-tain it af-ter re-ci-ta-tion."

ORIGINAL ARTICLES

ENTEROSTOMY, WITH REPORT OF CASES.[1]

BY

J. M. T. FINNEY, M.D.,

Associate Professor of Surgery in the Johns Hopkins University,

AND

OMAR PANCOAST, M.D.

The usual indications for the establishment of an intestinal fistula either temporary or permanent, namely, the relief of mechanical obstruction from whatever cause, or for the purpose of irrigation and drainage in various forms of ulceration of the mucosa are too well recognized to require more than passing mention at this time. We shall consider in this paper some hitherto unemphasized indications for the performance of this operation, and we wish to report several illustrative cases.

In reporting these cases we wish to call particular attention to two entirely different purposes, either or both of which may be accomplished by this operation.

(1) To drain temporarily a distended intestine and allow it to regain its normal tone in cases of functional paralysis of the bowel of septic or other origin, especially in those cases following appendicitis with peritonitis.

(2) To enable one to nourish a patient whose stomach and rectum are for any reason irritable and unable to retain or absorb a sufficient amount of nourishment.

Before reporting our cases it may be well to mention a few general considerations.

We are all but too familiar with those cases of appendicitis with extensive peritonitis which after operation develop symptoms of obstruction and die in a few days. Autopsy reveals the absence of mechanical obstruction, and shows that the inflammation of the peritoneum was subsiding. The distended bowel had been unable to reestablish its peristaltic action, and the patient had succumbed to the septic poisoning.

Clinically this condition is characterized by abdominal distension, gradually increasing until the respiratory movements become greatly impeded, coupled with constant vomiting of large quantities of fluid, at first light in color and later bile-stained, becoming darker and darker until of the type known as "projectile black vomit."

After any operation, no matter how trivial and not necessarily involving the abdominal cavity but more commonly observed associated with it, paralysis of the intestine of greater or less extent may be occasionally observed. In the graver cases the stomach may retain nothing, purgatives by the rectum be ineffectual, and the physician powerless to render aid by ordinary means.

There are other cases not necessarily postoperative, in which the stomach and rectum both fail as avenues for the introduction of nourishment and medicine, and enterostomy alone will enable us effectually to administer food and medicine, being comparable in its results to gastrostomy in stricture of the esophagus.

There are some cases in which the production of early and free catharsis is life saving. And in just this class of cases, for the reasons mentioned, one is often utterly unable to meet the indications by the usual methods. In our experience, the administration of cathartics through an intestinal fistula has proved uniformly effectual in exciting peristalsis.

General anesthetics, or prolonged operative procedures, are not well borne by patients suffering from acute obstruction of the bowels. The operation of enterostomy, when quickly done under local anesthesia, is a comparatively slight one and causes little disturbance to the patient. The relief afforded thereby often enables him to withstand later, more radical measures.

Enterostomy for the purpose of feeding is to be recommended especially for temporary use, and it should be resorted to under none but urgent indications; the disadvantages of an intestinal fistula being manifest.

The operation requires but a few minutes and is readily performed under local anesthesia.

The technique of the operation varies somewhat depending upon whether it is primary or secondary to another operation, or whether the fistula is to be used for feeding alone, or for drainage as well. If for the purpose of feeding only, the method introduced by Witzel for gastrostomy, is perhaps the one to be chosen.

Dr. R. Folis, Resident Surgeon of the Johns Hopkins Hospital reported at a recent meeting of the Johns Hopkins Medical Society, a method for the production of a temporary intestinal fistula, which we believe offers an advantage over any other with which we are familiar, in that the intestine may be opened immediately with less risk of soiling the peritoneum. These fistulæ generally close spontaneously.

We have generally proceeded as follows:

The selected loop of bowel is brought out and iodoform gauze is packed around it to wall it off from the general peritoneal cavity. This loop may be opened immediately, or if the patient's condition admits of delay, sufficient time may be allowed for the formation of protective adhesions.

After the opening has been made a rectal tube is inserted, first in one direction and then in the other, and may usually be passed several feet either way. This will allow the escape of gas and feces from the distended bowel and through it when necessary a considerable segment of the intestine may be irrigated. As soon as the intestine has been opened and the tube inserted we generally inject a quantity of salt solution in both directions, and by watching can usually determine which is the distal portion.

After the distal segment has been determined, one can begin at once the administration of stimulating or nutritive enemata through the fistula.

The amount of fluid that can be given in twenty-four hours and retained is surprisingly large. Water or coffee infusion, peptonized milk, eggs and prepared foods in any desirable quantity can, through the tube, be placed in the intestine several feet from the opening, and by gravity or hydraulic pressure be forced onward into a collapsed, atonic bowel. Purgatives, such as castor oil, salts, croton oil, calomel, or in fact, anything that the normal stomach will tolerate, seem to be well borne. Generally in favorable cases peristalsis becomes quickly reestablished, and the fistula closes spontaneously or can be closed by operation.

In some instances nature may relieve an obstructed bowel by establishing a fecal fistula through an existing wound, as has recently happened in one of our cases, or she may unaided make an outlet for herself.

In doubtful cases where the immediate necessity for the establishment of a fistula does not exist, and yet where the operator has reason to fear that the operation may later become indicated, it is well before closing the abdomen to determine the loop of intestine in which the opening can be most advantageously made. This loop should be fixed by the gauze packing in order that it may be readily accessible for subsequent manipulation. Guide sutures should be inserted into the bowel wall at the point to be opened. These may be taken out without harm at any time later and the gauze removed, if it is found unnecessary to incise the bowel.

The operation of enterostomy is not a new one. We are aware that it has occasionally been performed in similar cases with satisfactory results, but we are convinced that its wide field of usefulness has not been sufficiently recognized. We have confined ourselves simply to a report of some of the indications for and uses

[1] Read before the Presbyterian Hospital Medical Society, New York, February, 1903.

of the operation, as developed in our experience and in that of some of our associates. It is in this respect only that we lay any claim to originality.

We desire to call attention not only to the advantages of relieving the distended intestine of its poisonous contents, but to insist that the intestinal fistula once established should be looked upon more as a mouth than as an anus. It should be used for irrigation of the intestinal canal, for the nourishment of the patient, and for the introduction of cathartics. We have often noticed that food introduced into the intestinal canal through the fistula had of itself a stimulating effect upon peristalsis.

CASE I.—Mrs. E., aged 59, patient of Dr. W. T. Watson, was admitted to the Union Protestant Infirmary April 9, 1899, and was operated upon at once for a strangulated femoral hernia on the left side. The strangulated loop of bowel seemed so injured that it was left out and secured to the parietal peritoneum by a few fine silk stitches. The next morning on removal of the bandage several loops of intestine were found to have escaped and were lying on the abdomen under the abundant gauze dressings. The patient was at once taken to the operating-room and the healthy loops of bowel irrigated with salt solution and returned to the abdominal cavity. The strangulated loop was by this time evidently gangrenous and after being sutured to the parietal peritoneum and well packed off with iodoform gauze was at once opened, allowing the escape of a large quantity of fluid feces. For a few days the patient did fairly well and by the fifth day was taking full liquid nourishment. As she was still very weak the need of forced feeding was evident and she received nutritive enemata by means of a rectal tube inserted through the fistula for a considerable distance into the distal portion of the intestine.

On this same day owing to the high position of the fistula the discharge became very abundant, large quantities of pale yellow fluid being expelled every few minutes. The amount of fluid lost through the fistula was surprising and it was perfectly evident that the patient could not stand the drain. Several times the amount of fluid given by mouth would pour from the fistula and it became necessary either to stop all nourishment by mouth or to find some way of saving to the body the products of gastric digestion. We were able to accomplish this by the following procedure:

A nurse sitting constantly by the patient's side would catch in a funnel or pus-basin the escaping fluid, and then force it into the distal portion of gut through a rectal tube attached to the funnel and inserted a considerable distance into the bowel. Sometimes by simply raising the funnel the fluid would flow by gravity alone, at other times it would have to be milked through the tube. Regular feeding through the tube by means of nutritive enemata was also kept up, and rectal feeding discontinued.

A very large amount of nourishment was thus given; peptonized milk with eggs, panopetone, salt solution, purgatives, and in fact, anything that could be given by mouth was readily tolerated and passed on by the intestine. Purgatives, indeed, were much better administered by the fistula than by mouth, as they could neither be vomited nor cause nausea.

In four weeks the patient was in first class physical condition, and the continuity of the bowel was then reestablished by an end-to-end anastomosis, with resection of the part of bowel containing the fistula. The patient made an uninterrupted recovery, and has since remained well.

CASE II.—Mr. L., a patient of Dr. Julius Friedenwald, was admitted to the Church Home and Infirmary February 4, 1902, and operated upon at once for general peritonitis following appendicitis. The appendix was removed, the abdominal cavity thoroughly irrigated with salt solution, and large quantities of fibrin wiped off the intestines. The wound was partially closed with gauze drainage. The patient did not do well; he had no distension, but the bowels could not be moved, and he suffered greatly from constant nausea and vomiting. By the end of 24 hours he was vomiting almost continuously, large quantities of dark material being expelled every few minutes without effort. Lavage of the stomach afforded no relief.

The patient's face was drawn and pinched, and it was obvious that unless something was done he would not survive another 24 hours.

It was decided to perform an enterostomy. This was done without an anesthetic, by simply opening the original wound and bringing out the first coil of distended intestine that presented, securing it in place by a strip of gauze passed through the mesentery. This loop was well packed off and opened at once. A very large amount of dark, foul-smelling fluid escaped. A large segment of the intestine was irrigated through this opening, and feeding by way of the fistula was begun at once, and continued until the fistula was finally closed. After this the patient did very well, and in the course of a few days was able to take nourishment by mouth. Aside from the annoyance caused by the excoriating character of the secretions, he had no further trouble. The fistula was eventually closed by excision. He made a perfect recovery.

CASE III.—Edward Y., aged 22 years, single, a patient of Dr. Alleman, of Hanover, Pa., seen with him on February 14, 1902. He was suffering from a general peritonitis, following a ruptured appendix. He had been sick several days and was a good deal distended. He looked ill, although the temperature and pulse were not very high. Vigorous attempts at moving his bowels had been made during the past few days without avail, and the stomach and rectum had both become intolerant of further medication.

The patient was transported to the Johns Hopkins Hospital and there operated upon by Dr. Finney. On opening the peritoneal cavity it was found filled with purulent fluid. The intestines were much distended. The appendix was gangrenous and there was an area of necrosis, 2 cm. by 3 cm. in diameter, in the ileum, not far from the valve.

The abdominal cavity was cleansed as thoroughly as possible, and the necrotic loop of ileum brought out of the abdomen and opened. Much feces and gas escaped. The abdominal cavity was drained with gauze. The patient stood the operation fairly well. His distension was much relieved by the operation and he seemed to be for the first 24 hours in a fair way to recover. The bowel was irrigated by means of a rectal tube passed through the fistulous opening, both up and down. Castor oil and croton oil were introduced through the rectal tube, and a movement of the bowels was produced in the course of 12 to 18 hours. Liquid food was also introduced through the fistula and well retained.

The patient had, however, absorbed so much toxic matter that he died on the second day.

CASE IV.—Mrs. Mary L., married, aged 33 years. Patient of Dr. W. W. Russell; operated upon May 11, 1901, at the Union Protestant Infirmary for the removal of an intraligamentous myoma of right side and several smaller myomata from the body of uterus, and a suppurating left ovary. Abdominal wound was drained with iodoform gauze because of the presence of pus in left ovary. The operation was a severe one, but the patient recovered from the shock nicely. The next day symptoms of intestinal obstruction appeared which could not be relieved by enemata and cathartics.

On May 12, 48 hours after operation, under ether, the wound was reopened, the gauze packing removed, and a rectal tube passed. After some manipulation of the intestinal coils, this was followed by the escape of flatus and a small amount of liquid feces. The patient's condition at this time became so grave that further attempts to find the obstruction did not seem justified. Stimulants and salt solution intravenously were given, and the wound lightly repacked with gauze. Later the patient was seen by one of us, Dr. Russell having been called out of the city. Her condition was then extremely grave, and dissolution seemed imminent. The abdomen was immensely distended, and neither the stomach nor the bowel would retain anything. The pulse was rapid and thready. Any extensive operative procedure was out of the question. It was thought best to do an enterostomy, and this was immediately done by Dr. Dabney, the house surgeon. A distended loop of bowel was picked up in the wound, packed about with iodoform gauze and incised. A large quantity of gas and fecal matter escaped. Although the patient at this time seemed *in extremis*, she began from this moment to improve, and the improvement continued without interruption. Nourishment and cathartics were administered regularly through the fistula. The bowels moved naturally on the third day. Three weeks later an attempt to close the fecal fistula under local anesthesia was only partially successful.

She left the hospital in six weeks with a slight fecal fistula still persisting, but in other respects perfectly well. The fistula subsequently closed spontaneously.

CASE V.—Dr. R., a patient of Dr. Hugh H. Young, was admitted to the Union Protestant Infirmary May 28, 1902. On May 29 Dr. Young performed the operation of suprapubic cystostomy for tuberculosis of the bladder and established suprapubic drainage.

At first the patient did fairly well. Later he began to suffer from nausea and hiccough and gradually became weaker. From July 11 he could be fed by rectum only, and was apparently starving. Owing to the large amount of fluid lost by vomiting it was impossible, even by large infusions of salt solution, to replace the waste. The amount of nourishment absorbed by the patient was likewise insufficient, many enemata not being retained.

On July 20 one of us was called in consultation, and advised that the operation of enterostomy be performed. At this time the patient was practically comatose and took little notice of his attendants or family. The operation was performed by Dr. Young on July 21. Feeding through the fistula was entirely satisfactory. Nourishment, water, and cathartics were given as desirable, and with but little annoyance to the patient who had been much disturbed by the enemata and salt infusion.

The patient rallied considerably and recognized and conversed with his family and friends. This was but temporary, however, and he died on July 25. The autopsy showed that both kidneys were practically destroyed by tuberculosis.

CASE VI.—Clinton P., male, aged 21, entered the Union Protestant Infirmary August 19, 1902, with a history of typhoid fever of about two weeks' duration. The patient's condition was not good, face pale and anxious, temperature 102.7°, pulse 132, low tension; leukocytes 30,000, abdomen not markedly distended, abdominal muscles very rigid, marked tenderness over abdomen, particularly in the right lower quadrant; per-

foration had occurred about 24 hours before. A laparotomy was performed under cocain and morphia anesthesia. A large quantity of free fluid and fecal matter was found in the abdomen. Small perforation in ileum near valve. Perforation closed with Halsted's suture. Pelvis and abdominal cavity cleansed with hot salt sponges. Iodoform gauze drain inserted.

Patient stood the operation well. Salt infusion and strychnia were administered hypodermically. Patient's condition next day was very satisfactory; tenderness and muscle spasm over the abdomen much less. At 11 o'clock that night the patient complained of abdominal pain and vomited. Had slight movement of bowels following enema. Cramp-like abdominal pains complained of occasionally. Calomel given and vomited. Enemata not effectual. The next morning, his condition not having improved, the abdominal wound was opened, the gauze drain removed, and a distended loop of intestine brought up into the abdominal wound, packed off with gauze and opened. Bowel irrigated in both directions through a stomach tube and a large quantity of fecal matter irrigated out. Stomach also washed out. A large dose of castor oil was given through fistula. Following this, the patient's condition seemed to improve, and that night, after the stomach, intestine, and rectum had been irrigated, the patient seemed decidedly better.

This improvement continued for two days, during which time he was given nourishment through the intestinal fistula, and his bowels moved. On the twenty-fifth, six days after operation, he suddenly became worse, temperature and pulse went up, and his condition rapidly became grave. In spite of all efforts toward stimulation, he died on the ninth day following operation.

The autopsy showed a perforation in the ileum, about 15 cm. from the ileocecal valve. The stitches had not entirely held, and there had been slight leakage from the perforation. This, however, had been entirely walled off by adhesions, which had produced a sharp kinking of the ileum at this point.

The enterostomy wound was 30 cm. above the perforation and well walled off. There was no general peritonitis.

CASE VII.—Mrs. H., aged 50 years, admitted to the surgical side of the Johns Hopkins Hospital, May 21, 1902, and operated upon by Dr. Halsted for pyloric ulcer, a pylorectomy with partial gastrectomy being performed. The patient did fairly well until June 1, when she began to have considerable troublesome vomiting. This vomiting became more and more troublesome and the patient's condition finally became so bad that on June 16, as Dr. Halsted was absent from town, she was operated upon again by Dr. Finney. Under cocain anesthesia an incision was made to the left of the median line and a loop of jejunum brought out. It was hastily sutured to the peritoneum, a piece of gauze being inserted through its mesentery. The loop was packed around with iodoform gauze and secured by two traction sutures and an opening made into it. It was collapsed and apparently empty, a little bile-stained secretion escaping. A catheter was passed distally, and about 300 ccm. of coffee poured in.

She was fed regularly through this fistula. Her vomiting, however, persisted, and the patient died two days later.

ENTEROPTOSIS: ITS ETIOLOGY, SYMPTOMATOLOGY, TREATMENT AND PROGNOSIS.

BY

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[*Continued from page 272.*]

SYMPTOMS IN GENERAL.

The symptom-complex of enteroptosis is so protean that we will here simply say a few words about the general symptomatology of the disease, and reserve for a subsequent lecture, when we are taking up the ptoses of the various viscera separately, the symptoms referable, especially to the organ which has undergone displacement. There may be absolutely no symptoms associated with the condition on the one hand, and this is especially so in the acquired cases, while on the other hand we may have symptoms of the most aggravated type of neurasthenia, to which are added various abdominal symptoms due to displacement of the various viscera, such as indigestion, constipation, pain in various portions of the abdomen, a feeling of a lack of abdominal support, and many other symptoms which will be discussed at length subsequently.

Among the more important objective symptoms may be mentioned a flattened abdomen, or one flattened in the epigastric region and distended below the level of the umbilicus, sensitiveness to pressure near the tenth rib, a cord-like transverse colon, through which the pulsation of the aorta can be distinctly felt, while in all cases a careful examination of the abdomen reveals the displacement of several of the viscera. Some authors insist that pain and fatigue in the early afternoon and in the very early hours of the morning are important, because these hours correspond in general to periods of duodenal digestion, while in the severe cases many describe marked nervous crises, hysteria, insomnia, and despondency.

THE FREQUENCY OF ENTEROPTOSIS.

In discussing the frequency of enteroptosis we must remember that it is only within a comparatively recent time that careful examinations of the abdomen have been made, and thus the number of cases reported in the old tables is undoubtedly far too small. Nothing shows this better than the fact that in 1832 such a well-known surgeon as Lawson Tait stated that "there were no movable kidneys." In discussing the frequency of this condition we will naturally and necessarily quote from the tables of the frequency of floating kidney, displaced stomach, displaced liver, etc., as well as from those of enteroptosis proper, because in the vast majority of cases the descensus or ptosis of one organ is associated with the ptosis of other organs as well, although for one reason or another the one organ alone has been considered.

Kuttner, in Ewald's clinic in Berlin, during eight months collected 100 cases of movable kidney, and of the 89 cases in which the position of the stomach was investigated, in 79 the greater curvature reached 3 cm. to 4 cm., or even farther below the umbilicus. In 47 of these the right kidney was displaced, in 7 the left kidney, and in 25 both kidneys. In 15 of these cases a marked gastroptosis was present, while in 64 cases the stomach was distinctly though usually slightly enlarged. Ewald himself, in his private practice during 1889, met 29 cases of displaced kidney which were associated with dilation of the stomach, and sometimes also dilation of the colon. Among the 15 cases of marked gastroptosis in Kuttner's series only 2 patients had pendulous abdomens, in 4 the abdominal muscles were of normal tone, while in 9 they were soft and flabby.

Before giving any further tables it will perhaps be wise to describe the various grades of displacement of the kidney as recognized by Glénard and Ewald and Kuttner. According to Glénard four degrees of displacement should be recognized: (1) When the lower portion of the kidney can be felt only during deep inspiration; (2) when the greater portion of the kidney can be felt, but the upper border cannot be made out; (3) when the whole kidney can be palpated during deep expiration, and (4) when the entire kidney is able to be palpated and is capable of being moved about the abdominal cavity, this latter being the true floating kidney.

Ewald and Kuttner also describe four degrees of displacement which, however, do not vary very markedly from Glénard's. These are: (1) The kidney shows a demonstrable respiratory movement without being dislocated to any extent; (2) the kidney shows a dislocation of the first degree, that is, we are able to palpate $\frac{1}{4}$, $\frac{1}{2}$, or $\frac{3}{4}$ of the organ, which can be moved by means of the hands and is more or less dislocated forward; (3) the kidney shows a dislocation of the second degree, that is, is palpable over its entire extent, is easily moved by the hands and during respiration, and lies near the anterior abdominal wall or at least is easily brought there; and (4) the kidney is dislocated and fixed in an abnormal position. In Kuttner's and Ewald's series mentioned before, of the 79 cases which were associated either with dilation or displacement of the stomach in 18 the kidneys fell under the first grouping, in 64 under the second grouping, in 19 under the third grouping,

and in 3 under the fourth grouping. Of course, the reason that these numbers add up to more than 79 is because in 25 of the cases both kidneys were dislocated. In the 100 cases 94 were in women, 6 in men.

As has been stated before, Glénard met 148 cases of enteroptosis among 1,310 patients at Vichy, while Stiller meets 300 to 400 cases every year. In his private practice the cases are especially frequent.

Glénard, in his statistics published in 1893, found 481 cases of floating kidney among 3,788 patients, that is, 12.7%, and of these 2.7% were men and 22% women.

Wolkow and Delitzen found movable kidney in 221 women 66 times.

The only two authors who deny the very much greater frequency of floating kidney in women are McPhedran, who of his last 45 cases found 19 in males, and Stiller, who finds that the number of cases of enteroptosis in males is only 10% to 15% less than in females. The reason for the latter's view is easily accounted for, as he regards every case of nervous dyspepsia and other functional disturbance of the intestinal tract as due to enteroptosis, without any reference to whether or not he can demonstrate the descensus of the organs.

Einhorn[7] found 6.2% of enteroptosis in males, and 34.8% in females, while in another paper[8] he states that the frequency of movable kidney is 1.81% in males and 20.6% in females. Of course, it must be remembered that as Einhorn's practice is largely confined to patients suffering with digestive disorders, his figures are probably considerably higher than in the case of one who sees patients suffering from all varieties of disease. In a later communication[9] Einhorn gives the number of cases of descensus of the abdominal viscera met during the year 1900 in his private practice. There were in this series 1,080 males and 832 females, and among these there were encountered 347 patients with ptoses of the abdominal viscera, 70 among the men and 277 among the women, while there were 240 cases of enteroptosis proper, 20 in men and 220 in women. Of these 240 cases of enteroptosis, movable kidney was present in 212, and among the cases of enteroptosis with movable kidney 23 had also a descent of the liver, 4 of these patients being men and 20 women. Enteroptosis with floating liver but without movable kidney was noted in 12 patients, 1 man and 11 women. Enteroptosis alone, that is, the kidneys and liver being in their places, the only symptoms being a descent of the stomach and a strong pulsation of the abdominal aorta, was found in 15 patients, 1 male and 14 females. Movable kidney alone not accompanied by general enteroptosis was encountered 57 times, in 21 males and 36 females, while floating kidney alone was found in 39 cases, 25 males and 14 females. Thus, according to his tables, ptoses of the abdominal viscera are met in 6.5% of the male patients, and 33.25% of the female patients, while enteroptosis proper was met in 1.9% of the male patients, 26.5% of the female patients. As we have stated before, there is a possibility that in a number of Einhorn's cases without apparent displacement of the stomach and intestines a slight descensus of these viscera was present, so that these cases should in all probability be also considered among the cases of enteroptosis. As to the frequency of movable kidney in the two sexes, Einhorn's tables give the following: Of 1,912 patients examined there were 277 cases of movable kidney, and of these 43 were present in 1,080 males and 234 in 832 females. As to the relative frequency of the mobility of the right, left and both kidneys, in 77.3% of the cases the right kidney alone was movable, in 2.1% the left kidney alone was movable, while in 20.6% both kidneys were movable.

Arneill[10] found in 2,004 cases of which he had record since 1892 enteroptosis in 11 men and 69 women. In 24 patients both kidneys were dislocated—in 33 the right kidney alone, and in 4 the left kidney alone. The floating tenth rib was met in 8 of the 15 patients especially examined for this sign. In 69 patients the stomach was more or less enlarged, while the majority of cases occurred between 40 and 50 years.

Kuttner has given some very interesting figures regarding the prevalence of movable kidney, and has collected a large number of cases from the literature. The series given by Kuttner are from the published tables of Dietl, Rollet, Henoch, Thun, Rosenstein, Fritze, Stiller, Hertzka, Ebstein, Lanceraux, Hare, Drummond, and himself. In the tables of these authors there are found 667 cases of movable kidney, 584 in women, 83 in men.

The age of the patients is not of very great importance because the condition in a vast majority of these cases has been present for a long period of time before a diagnosis is made; nevertheless it is perhaps worth while to give figures in this connection. Of 326 cases 6 were met between 1 and 10 years, 32 between 10 and 20, 82 between 20 and 30, 123 between 30 and 40, 49 between 40 and 50, 26 between 50 and 60, 8 between 60 and 70. Thus, these figures definitely show that it is between 20 and 50 years that the great majority of these cases are seen for the first time, and the presumptive evidence is that in most of these cases attention has been called to the condition by the presence of symptoms relative to the abdomen.

As to the frequency with which right, left, and both kidneys are affected, of 727 cases, in 553 patients the right kidney alone was movable, in 81 the left kidney alone, and in 93 both kidneys were movable. As to the relation of pregnancy to floating kidney, in 94 cases of Kuttner's series so examined, 40 patients had never borne children, 10 had borne 1 child each, and 44 had borne 2 or more children each. In Landau's series, 31 had borne children, 3 had not borne children and in the cases of 11 of his series of 45 no notes in regard to this question are given. In Lindner's series of 75 patients 24 had never been pregnant, 12 had been pregnant once, 30 had been pregnant 2 or more times, while of the others no notes were to be found. Of Drummond's 27 women patients with movable kidney 16 had borne children.

As to the frequency of displaced or floating liver, Glénard has observed 51 cases of this condition, of which 32 were associated with movable kidney; of these 32, 30 were women, 2 men.

In Einhorn's series of 804 cases, 435 men, 369 women, there were 30 cases of floating liver, 21 women, 9 men—that is, the total number of those affected with floating liver is 3.7% of all persons suffering from digestive disorders, 5.6% in women, 2% in men. Of the 21 women with floating liver, a moderate degree of abdominal flaccidity was present in 16.

Graham[11] has collected 68 cases of displaced liver, 55 in women, 13 in men.

As to the frequency of displaced spleen, extremely little is to be found in the literature. Of Einhorn's 1,912 patients previously reported, in which there were 347 patients with displacement of the abdominal viscera, ptosis of the spleen was mentioned only once. There is, however, a great probability that a slight degree of downward displacement is met in a much larger number of patients, but due to the lack of symptoms in the first place and to the practical impossibility of palpating the spleen unless it be markedly displaced in the second place, the condition has not been recognized.

The same may be said of the pancreas, and the only point of interest in connection with this organ is the fact that Ewald believed that Glénard's "corde colique transverse," which that author regarded as a displaced contracted transverse colon was in the great majority of cases nothing else but the pancreas.

GASTROPTOSIS.

Gastroptosis or descent of the stomach is one of the less frequently recognized of the visceral ptoses. This is mainly due to the fact that so much more attention has been paid to the subject of floating kidney because of the

ease with which the latter can be diagnosed. Yet undoubtedly, many of the symptoms which have been ascribed to floating kidney are in reality due to an unrecognized displacement of the stomach. We will not speak here of antrum cardiacum, forestomach, congenital narrowing of the pylorus due to hypertrophy of the circular musculature of the pylorus, hour-glass stomach, either congenital or acquired, megalogastria or microgastria. Nor will we speak of the upward dislocation of the stomach which is occasionally met, as after abortion of a pleuritic exudate on the left side, contraction of the lung, meteorism, pregnancy, ascites, tumors of the abdomen, diaphragmatic hernia, lacing or wearing a belt around the waist; nor of simple lateral dislocation which is rare, and may be due to large tumors of the spleen or distended or highly placed splenic flexure of the colon. In fact, of all the different anomalies in position and size of the stomach the only one which we will consider will be the true gastroptosis or sinking downward of the stomach. We have spoken before of the vertical position of the stomach in embryonic life. According to Kussmaul and Riegel, every human being is born with a vertical stomach, and during the first weeks of extrauterine life the stomach assumes the normal position, which we have previously described, by the weight of food, which is introduced into the stomach and by the action of the diaphragm.

Meinert has never succeeded in finding the stomach in an abnormal position after infants have been taking their food for a short time, although Kussmaul explains the occasional occurrence of vertical stomach in adults on the basis of retarded development. Meinert's investigations showed that this anomaly in the stomach's position was found more frequently with increase in the age of children, and this was particularly so in girls. Of 50 girls about 12 years of age examined by him one-half showed some degree of dislocation of the stomach, while in adult female patients examined by him in his private gynecologic clinic 80% showed anomalies in position of the stomach; in males he estimates that anomalies in position are met in about 5% of the cases.

Strauss divides gastroptosis etiologically into two classes—the first class depending upon anomalies of body formation, and the second upon local mechanical causes. According to him the majority of cases belong to the first group, and in such individuals he believes that there is a characteristic abnormal formation of the thorax and pelvis; in other words, that in many of these cases there is a congenital delicacy or fragility of tissue, which under strain and in the absence of support, yields and is followed by displacement of the viscera. In his belief in a natural predisposing condition Strauss thus holds views very similar to those of Glénard and Stiller. According to Riegel, dislocation of the stomach is usually acquired and is due chiefly to the change in the normal arrangement of space in the lower half of the thorax and the upper portion of the abdominal cavity. The stomach and other abdominal viscera must adapt themselves to these changes and must consequently move in the direction of least resistance. Thus, lacing, corsets, and skirts that compress the waist are important factors in the production of gastroptosis, and the condition is met chiefly in paralytic thorax, chicken breast, funnel breast, enlarged liver or when the liver or diaphragm is displaced downward. Other factors of importance in the etiology of this condition are pregnancy, pleuritic exudates, persistent abnormal distention of the stomach, inflammatory processes and adhesions, carcinoma and peritonitis, while as we have said before, the condition is rarely met alone, but is almost always associated with displacements of some of the other abdominal viscera.

In the downward dislocation of the stomach we have two main forms: (1) The whole stomach may be dislocated downward; (2) the stomach may occupy a more vertical position. Of course, strictly speaking, dislocation of the whole stomach downward is rare, for the organ is firmly fixed at the cardiac end in the region of the twelfth thoracic vertebra, although even this point may be pulled down if the stomach is heavy and dislocated downward. The most frequent form is the subvertical, the next is the vertical, while the loop, crescent or garland form is less common. In the two first-mentioned conditions the pylorus, the lesser curvature, and the epigastric portion of the stomach will be forced downward and the degree of this downward displacement will depend upon the amount of pressure exerted upon the stomach on the one hand and the tone of the abdominal muscles on the other. As will be shown later, the vertical or subvertical position of the stomach easily leads to dilation, this condition also being brought about by the help of general weakness, frequent overloading of the stomach, relaxation of the abdominal wall, and insufficient exercise. In determining the degree of the descensus of the stomach the most important points to determine are the position of the pylorus and of the lesser curvature. As we have said before, the pylorus is normally hidden under the right costal arch, approximately on the same horizontal level as the xiphoid, while in advanced cases of gastroptosis the upper boundary of the stomach may reach to the umbilicus, or even below, and the lesser curvature may appear either as a concave line running diagonally from left to right or as a vertical line or as a loop.

Riegel mentions as causes of this condition beside improper clothing and abnormal lack of tone of the abdominal walls, pregnancy especially in the case of women who do not take proper care of themselves during the puerperium, the removal of an ascitic fluid, especially if the patient sits up immediately afterward, advanced cases of kyphosis and kyphoscoliosis, large tumors of the liver, and leukemic enlargements of the spleen. Of course, in all these conditions the position of the stomach will vary according to the direction of the greatest pressure and the distribution of the abdominal space. According to Thompson the condition is more common in women than in men in the proportion of 6 to 1; he mentions as additional causes laparotomy, muscular weakness of the abdominal walls so common in neurasthenia, and various injuries.

Undoubtedly gastroptosis is much more common than is usually supposed, the reason for this being twofold: (1) The condition is frequently met when there are no symptoms whatsoever, in fact this must be so when we consider that Meinert found displacement of the stomach in 80% of the women in his private gynecologic clinic, and (2) because in the past and to a great extent in the present a number of symptoms which undoubtedly are due to displacement of the stomach has been regarded as due to displaced or floating kidneys. In fact, the ease with which displaced kidneys can be diagnosed and the great amount of work which has been done in the study of nephroptosis before the condition was recognized as but a part of enteroptosis and not a clinical entity in itself, has, it seems to us, had a most unfortunate effect upon the study of the ptoses of the other abdominal viscera, and has made our knowledge of them much less than it would otherwise have been. Steele and Francine[12] have collected 70 cases of gastroptosis, in all of which the position assumed by the stomach was either vertical or subvertical, while some dilation of the pyloric extremity was always present. According to them when this dilation affects the pyloric end alone it is probable that the dilation is secondary to the descent of the pylorus. On the other hand they think that in general dilation and gastroptosis it is probable that the displacement is secondary to the dilation. They found that in women showing symptoms of gastric atony, gastroptosis is almost constantly met, but is much less frequent in men; its occurrence is not confined to any particular age or class of individuals. They, as practically all other observers, call attention to the fact that the transverse colon invariably shares in the displace-

ment, assuming the M or V shape, and when inflated by air is in close contact with the greater curvature of the stomach. They did not find much displacement of the hepatic flexure in all their patients, the right kidney was movable in 42 of the 70 patients, the spleen in one patient, while the fact that the liver was unduly movable in 3 of 6 patients operated on, suggests that ptosis of this organ may be much more frequent than is generally supposed, the diagnosis of the condition eluding our methods of physical examination. This view is in direct harmony with many of the theories which we have discussed in which the rotation and descent of the liver was considered one of, if not the most important factor, in the production of enteroptosis.

The symptoms present in cases of gastroptosis may be practically nil or may be very marked. According to McPhedran, gastroptosis may exist without symptoms so long as the functions of the stomach are performed efficiently, as the symptoms arise from the detention and decomposition of food, and a constitutional poisoning resulting therefrom. While this is true in a certain number of cases, there is, however, we think, a large number in which, although no symptoms directly referable to the stomach are met, the protean symptom-complex of enteroptosis, fatigue, weakness, constipation, insomnia, etc., are found. Simple anemia or chlorosis is sometimes met; Meinert, indeed, has insisted that gastroptosis is one of the commonest causes of chlorosis.

In the vast majority of cases, however, the symptoms are in the main due to the lesser or greater extent of dilation of the stomach which is undoubtedly present in nearly all cases of gastroptosis, where the descensus is marked.

Kussmaul was the first to emphasize the fact that gastroptosis is frequently complicated by a perversion of the motor powers of the stomach; in other words, was associated with some degree of atony, while, as we have said before, Glénard believes that gastroptosis is the anatomic basis for many cases of nervous dyspepsia.

Riegel opposes these views, and does not believe that the nervous and neurasthenic symptoms which may be met in gastroptosis can be considered the direct results of the abnormal position of the stomach. To quote from this author:

> Nervous symptoms of this kind are frequently seen in patients in which the stomach is in its normal place, and inversely, we find pronounced gastroptosis without any nervous disorders. I have seen gastroptosis in patients in which nervous symptoms, and, in fact, any symptoms whatever, even stomach symptoms, were absent. Gastroptosis was discovered by chance in these patients when the attempt was made to determine the exact position of the stomach. When we consider how frequently gastroptosis is seen in the female sex (Meinert found the stomach in an abnormal position in more than 90% of his gynecologic patients), we need not be surprised that nervous dyspepsia and gastroptosis are found together, for both conditions are very common, particularly in women.
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> From this point of view the investigations of Bial in men seem particularly interesting. It was to be expected *a priori* that nervous symptoms would be seen together with malposition of the stomach in men as well as in women, provided that the two disease pictures were really related. Bial's investigations, however, showed that subjective symptoms of all kinds were absent in one-half of the men who suffered from gastroptosis. My own experience teaches me that the same applies to women.
>
> Malposition of the stomach and certain nervous and hysteric symptoms are frequently found together, but gastroptosis does not produce the nervous symptoms; there must be some other central condition, some particular nervous predisposition, that leads to the development of these symptoms. If this were not the case, the nervous system would never react to symptoms of this kind. This is the only explanation for the fact that nervous symptoms are occasionally seen in gastroptosis, but are absent in many other cases.

Yet Riegel does not deny that gastroptosis *per se* may and frequently does lead to definite disturbance, and a variety of dyspeptic symptoms, consisting either of perversions of motility, of secretion or of the sensibility of the mucosa of the stomach. Thus in each individual case in which dyspeptic symptoms and gastroptosis are present we should attempt to determine whether these symptoms are due to some perversion of motility or of secretion, or whether they are purely sensory in character.

It is difficult to see, however, how it is possible to prevent difficulty in the propulsion of food, leading to increased fermentation in the stomach and subsequent distention and atony of that organ, especially when we remember how likely it is that overloading of the stomach will frequently occur. Of course, so long as these patients live rationally and do not overtax the powers of their stomachs they suffer, as a rule, no distress, for if the ptosis is not great the stomach is easily able to perform the additional amount of labor. If, on the other hand, excessive work is thrown on the stomach, which is especially marked obviously when the individual is in the sitting or upright position, the stomach in its abnormal position is unable to do its work satisfactorily, the time of digestion is prolonged, we have feelings of pressure, fullness, and tension, with eructation of gas, and the condition leads to a dilation of the organ, especially if the indiscretions in diet are frequent. Kussmaul reports a case in which such obstruction existed to the exit of food from the stomach, due to dislocation and to the bending of the superior duodenic flexure, that spasmodic pain and vomiting resulted, and we have met a case similar to this. The rumbling in the intestine, especially in the left side in women, so common in gastroptosis, especially when taking deep breaths, walking fast or speaking rapidly, according to Fleiner, is due to pressure and disappears at night or when the corsets are removed.

As to the effect of gastroptosis on the gastric secretions, various investigators differ markedly.

Riegel believes that perversions in secretion are not due to the gastroptosis alone, although, of course, frequently met when dilation is present; he differs from many authors, who believe that the dyspeptic symptoms in gastroptosis are nervous in origin and he believes that in many cases careful examination will show the cause of these disturbances.

Fleiner is undoubtedly correct, however, when he states that changes in the form and position of the stomach may lead to the same variety of nervous disturbances as changes in the position of the uterus. We are not justified in assuming that malposition of the stomach causes neurasthenic or hysteric symptoms in any subject unless there be some central predisposition for the development of these states, yet, on the other hand, malposition of the stomach does produce such symptoms in a small number of cases, and may also lead to certain disturbances in the motor sphere of the stomach, even secondary to gastrectasy and perversions of gastric secretion; under certain conditions it may also lead to sensory disturbances, and very occasionally may even lead to the formation of an ulcer, but as we have said before, in the vast majority of cases Riegel does not believe that the protean symptom-complex can be laid at the door of the gastroptosis.

The relation between gastroptosis, gastrectasy, and displaced kidney will be considered carefully under the section on nephroptosis.

According to Steele and Francine, there is no condition of the gastric contents peculiar to gastroptosis, although absence or diminution of the free HCl is the rule; in a few cases the amount was normal, but hyperacidity was rare and usually occurred in cases in which general dilation existed and in which there was a strong neurotic taint. These results are from their analysis of 70 cases, and from their further study of these cases they found that there were no characteristic changes of the blood or urine. Pain was present in the upper abdominal region in about one-half, and in the lumbar region in a quarter of the cases, while it seemed to them that although the same causes that produce neurasthenia appear to favor the development of ptosis of the abdom-

inal viscera, and although the two conditions probably react on each other deleteriously, clinical evidence tends to contradict the theory that they have a direct causative relation.

During the past few months we have examined the gastric contents in 17 cases of gastroptosis—3 men and 14 women—in 9 of which there was no appreciable increase of size of the stomach, in 4 a slight increase, in 2 a considerable increase, and in 2 an enormous increase. The average amount of HCl was 16 in those patients with no increase, 17 in those with slight increase, while there was complete absence of free hydrochloric acid in those patients in which the stomach was considerably or enormously increased in size. All these 17 patients had symptoms of dyspepsia and full feeling usually similar to the symptoms of nervous dyspepsia; most of them had constipation and all had various neurasthenic symptoms, one had paroxysmal attacks of severe pain, one had constant dull pain in the umbilical region, while the four patients with marked dilation of the stomach had frequent attacks of nausea and vomiting.

Lockwood believes that although gastroptosis of itself does not produce symptoms yet it is a predisposing cause of a variety of gastric neuroses of sensation, motion and secretion, which, however, are usually induced by some definite mental or physical strain. He believes that the displacement of the stomach is a strong exciting cause for muscular atony, and that this atony is the most common cause for the symptoms presented. He believes that a direct relationship exists between the atonic stomach and the neurasthenic symptoms.

Steele finds that ptosis is more common in motor insufficiency than changes in size and shape, the most frequent condition being gastroptosis and pyloric dilation, general dilation being next in frequency, gastroptosis alone next, while the least common of all is general dilation and gastroptosis. Gastroptosis is much more common in females, general dilation in males. He thinks it probable that in pyloric dilation the primary condition is gastroptosis while in general dilation the condition is primary in a large percentage of cases. As to the gastric secretion subacidity or the absence of free HCl seemed to be the condition usually met.

Of Kuttner's series of 100 cases of floating kidney, that is, enteroptosis, in 89 the stomach was distended by means of a stomach tube and the pumping in of air. Of these 79 showed the greater curvature 3 cm. or 4 cm., or even more below the umbilicus. In the 15 cases of gastroptosis without dilation 2 had pendulous abdomens, in 9 the abdominal muscles were weak and flabby, and in 4 normal.

Of these 79 cases of gastroptosis 10 showed gastrectasy with marked symptoms; of these 2 had pendulous abdomens, 4 flabby abdominal walls, and 4 normal abdominal walls.

In Kuttner's 79 cases of gastroptosis 70 showed dyspeptic symptoms usually slight, consisting of loss of appetite, furred tongue, slight cardialgia, and constipation, while in the 10 cases in which marked dilation was present symptoms were more severe, and anorexia, vomiting, cardialgia, and loss of weight were met. The absence of the typical symptoms of gastrectasy which is noted in so many cases of gastroptosis with dilation is due, according to Kuttner, to the fact that the stomach in these cases does not show a true gastrectasy but rather a condition of megalogastria with mild catarrh, due to taking large amounts of heavy and fermenting food and the consequent increase of work thrown upon the stomach. Drummond in 31 patients had dyspeptic symptoms in 10 and mucous colitis in 10.

The diagnosis of gastroptosis may be made in several ways. In some cases simple percussion, percussion with auscultation, or auscultation after the patient has been given fluids to drink, may suggest to us the position of the stomach. In other cases the absence of fulness in the epigastrium and an increased fulness in the hypogastrium is suggestive, while epigastric pulsation is marked. In still other cases, especially when the abdominal wall is thin and flabby, the stomach may be distinctly seen and its peristaltic movements noted. But any or all of these methods are inexact and incorrect and often lead to most erroneous conclusions. Einhorn's method of gastric diaphany by means of the introduction of an electric light is also unsatisfactory, as it marks in a very inexact manner the borders of the organ. Some have advised examination of the stomach by means of the Röntgen ray immediately after the patient has been given an emulsion of bismuth subnitrate. But the only really satisfactory and exact method to map out the stomach, and especially to map out the position of the lesser curvature and the pyloric extremity, which is so essential in making a diagnosis of gastroptosis, is by means of inflation. Some authors have used water to inflate the stomach, but this is neither so satisfactory to the operator nor so pleasant to the patient, so that now some form of gas is practically universally used in distending the stomach. Ewald inserts the stomach tube and inflates the stomach with air, preferring this to the more frequent method of administering tartaric acid and sodium bicarbonate, the stomach being distended by the carbonic acid gas which is formed. Either of these two latter methods is most satisfactory and will bring out distinctly the position of the stomach if displaced, greater curvature, lesser curvature, and pyloric extremity.

When the greater curvature is at or below the umbilicus and at the same time pylorus and lesser curvature are displaced downward the diagnosis of gastroptosis can be made.

NEPHROPTOSIS.

Of all the divisions of enteroptosis by far the greatest amount of attention and study has been devoted to nephroptosis or displaced kidney, and in many respects this has been unfortunate for many of the symptoms which are undoubtedly due to enteroptosis as a whole or to gastroptosis have been erroneously ascribed to displaced kidney. It is true that the displaced kidney may be the most striking part of the picture, but in the great majority of cases it is but a part of a condition of enteroptosis and should be considered accordingly, although, of course, we must remember that certain symptoms are distinctly referable to the displaced kidney and the displaced kidney alone.

Cuilleret has said "enteroptosis can be present without nephroptosis, but never nephroptosis without enteroptosis." This is, perhaps, a too extreme view to take because undoubtedly traumatic displacements of the kidney alone may occur, but these are extremely rare.

We have already spoken of the relative frequency of movable kidney, but it is essential to know just what a movable kidney is. Israel, Litten, Morris, Kuttner, and others, insist that a certain degree of movability is normal. It may be due to the movements of respiration, the change of the patient's position and other factors. Israel, in fact, has definitely seen the kidneys move with the respiratory movements through an opening in the back. Harris states that this normal movement varies from 2 cm. to 4 cm., and Wehrmann also insists that during respiration there is a longitudinal descensus. Stiller denied this normal movability.

According to Morris, a kidney should be considered abnormally movable when the whole kidney or the greater part of its lower half descends so that it can be felt readily by bimanual examination, while Kuttner believes that every kidney that shows a significant respiratory movement should be considered pathologic.

We have spoken of the four degrees of displacement as given by Glénard and by Ewald and Kuttner, while as regards the frequency of the condition we have already called attention to the fact that Glénard found this condition in one out of every four women he examined

and Lindner in one of every five or six women he examined.

Israel believes that the first degree of displacement should not be considered pathologic, but should be considered within physiologic limits. As to the causes of the condition we have already given the main views held in our discussion of the etiology of enteroptosis. It will, however, perhaps be of interest to mention a few of the factors, which have been regarded as being of especial importance in the production of displaced kidney.

Kuttner believes that one of the most important factors is a rapid disappearance of the fat from the renal capsule as in tuberculosis, cancer, typhoid fever and malaria. The effect of the corset and belt has already been considered at sufficient length.

Hertzka, Landau, and Senator, lay great stress upon pregnancies especially if the labor is rapid, the puerperium not treated with great care and the pregnancies close together.

Müller-Warneck, Lindner and Kuttner disagree with this view, calling attention to the frequency of floating kidney in young unmarried girls.

Becquet lays great stress upon the relationship between menstruation and movable kidney due to the close association of fibers in the renal and ovarian flexus, but this view is highly improbable. In a certain number of cases severe work is a factor, in others trauma, but none of the causes given is sufficient to explain the condition, and we must assume a certain predisposition toward this condition. Retroflexion of the uterus and consequent traction upon the ureters as claimed by some can certainly play little or no part in the production of nephroptosis.

Drummond says that in the great majority of cases of movable kidney a more or less relaxed condition of peritoneal attachment has been inherited or is congenital, and Harris believes that the essential cause lies in a particular body form, the chief characteristic of which is a marked contraction of the lower end of the middle zone of the body with lessened capacity. This depresses the kidney so that the constricted outlet comes above the center of the organ, and all acts such as coughing, lifting, etc., which adduct the lower ribs, press on the upper pole and crowd it still further downward; repetition of these internal traumas gradually produces movable kidney, and according to Harris, it is never the immediate result of external trauma, except in very rare instances, such as severe falls upon the buttocks, or the compression of the renal region between two strong opposing forces.

Harris found a movable tenth rib in 61 of 110 cases of displaced kidney. Harris' conclusions are as follow:

1. The essential cause of movable kidney lies in a particular body form.

2. The chief characteristics of this body form are a marked contraction of the lower end of the middle zone of the body with a diminution of the capacity of this portion of the body cavity.

3. This diminution of the capacity of the middle zone depresses the kidney so that the constricted outlet of the zone comes above the center of the organ and all acts, such as coughing, straining, lifting, flexions of the body, etc., which tend to adduct the lower ribs, press on the upper pole of the kidney and crowd it still further downward.

4. It is the long-continued repetition, in a suitable body form, of those influences, which collectively may be called internal traumas, that gradually produces a movable kidney.

5. A distinctly movable kidney is never the immediate result of a single injury or external trauma.

Becker and Lenhoff believed that they could predict from the general appearance of the patient's body whether the kidneys could or could not be palpated. They divided the distance from the suprasternal notch to the upper edge of the symphysis pubis by the least circumference of the abdomen, for the sake of convenience multiplying this by 100. The average index was 77, and they found that if it was above 77 the kidneys could usually be felt, while if below 75 the kidneys, as a rule, could not be felt.

Some of the clinical facts in connection with the congenital theory of nephroptosis may be of interest in this connection. Albarran believes that the condition is frequently hereditary, in fact, is the sign of degeneration, and has noted several cases in members of the same family many times. Sheldon reports five cases in one family—a woman, her sister, mother, aunt and daughter, four of whom complained of abdominal symptoms. Cases of movable kidney in children have been reported by Hirschprung, Drummond, Gilford, Kepler, Steiner, Wilks, Howard, Still, Fisher, and others. Fisher's case was an infant of 18 months, the diagnosis being made postmortem; Still's two cases were very young infants; Sheldon reports two cases, one in a girl of 7 with no symptoms, one in a boy of 8 with pain in the right side, nausea, headache; these attacks occurring at certain intervals while a right nephropexy brought complete relief of symptoms. Abt reports five cases occurring in children, three in girls and two in boys. We have recently seen a case with distinct symptoms in a child of 6 in whom a cure was brought about by rest, overfeeding and the wearing of a bandage. It is probable that the condition is much more frequent in children than is usually supposed, and the absence of many reports of nephroptosis in children may be partially explained in two ways—first, the condition is overlooked because it is not suspected as the cause of the symptoms; and second, because children congenitally predisposed and suffering from a moderate degree of renal displacement may not have lived long enough to have been subjected to a sufficient number of exciting causes to render the condition sufficiently prominent to be readily recognized.

As to the symptoms of floating kidney, undoubtedly in many cases no symptoms are present, and when they are present many are undoubtedly symptoms of general enteroptosis, and there is no justification in referring them entirely to the displaced kidney.

Rose believes that many of the symptoms which have been referred to floating kidney are in reality due to a displaced stomach, and there is undoubtedly good reason to believe that this is so in a number of cases when we remember that Kuttner found 70 cases of greater or less displacement of the stomach among 89 cases of displaced kidney, while Einhorn found that a marked gastroptosis was present in about one-third of his cases of floating kidney. In fact, there is some reason for crying out against "floating kidney idolatry" and the habit of laying the blame of every symptom present upon a displaced or floating kidney.

Einhorn gives the following symptoms of nephroptosis:

1. A feeling of traction and weight in the abdomen.
2. Quite violent palpitation in the epigastrium.
3. An increase of symptoms when walking or standing, and a disappearance of symptoms on lying down.
4. Frequent urination, occasionally attended with slight burning.
5. Pains in the sacral region after slight exertion.
6. In women an increase of discomfort during menstruation, and considerable improvement during pregnancy.

When we consider these symptoms closely we realize at once that most are but the symptoms of enteroptosis. The gastric symptoms in floating kidney will be considered again when we discuss the relationship between nephroptosis and dilated stomach.

Of course, floating kidney may be associated with a large number of gastric affections, but in the large majority of cases the gastric symptoms are probably not referable to the kidney itself.

Kuttner has called attention to the number of cases which are encountered with vague nervous or dyspeptic symptoms in which a careful examination demonstrates a slightly movable kidney, and in his series of cases loss of appetite, slight cardialgia and constipation were almost constantly met, but severe gastric symptoms—anorexia, severe cardialgia, vomiting, extreme constipation, and loss of weight were only present in those cases in which the gastroptosis associated with nephroptosis was great or the dilation considerable. Kuttner believes that in a large number of the cases of floating kidney no symptoms are present, while on the other hand, in some cases there is dysmenorrhea, dizziness, forgetfulness, and high grades of nervousness, hysteria and neurasthenia. To quote further from this author, "the most frequent symptoms of displaced kidney are digestive complaints, but whether the kidneys are the cause of this is still an open question; the usual symptoms are those of chronic dyspepsia, dizziness, poor appetite, fulness of the stomach, sensitiveness to abdominal pressure, constipation, thirst, a bad taste in the mouth, headache, numbness in the head, insomnia aud other general symptoms."

The fact that so many of Kuttner's cases were associated with displacement of the stomach, and the fact that of 89 of his cases 8 showed a pendulous abdomen and 49 weak and flabby abdominal muscles, suggests very markedly that the digestive symptoms should not be referred to the displaced kidneys entirely if at all. There are, however, certain symptoms which are definitely referable to the displaced or movable kidney itself. The most interesting of these are the socalled Dietl's crises, which consist in paroxysmal attacks of severe and intense pain, nausea and vomiting, the pain usually being situated in the lumbar or hypochondriac region, and the nausea and vomiting being almost uncontrollable.

Landau believes that these attacks are due to a torsion of the renal vessels, while Lindner believes they are due to intermittent hydronephrosis.

Some patients complain of feeling a moving body in the abdomen, sometimes associated with dull pain, while others complain of attacks of sharp, boring, knife-like pains. In 11 of Kuttner's 100 cases symptoms of sciatica, and crural and intercostal neuralgia were met, while Drummond, Israel, ourselves and others, have met cases of intermittent hematuria in displaced kidney.

Among Drummond's 36 cases he has met 3 cases of albuminuria and one of nephritis, while we have seen two cases of postoperative pyelitis in which ureteral catheterization showed that the kidney affected was in each case the floating kidney; this would suggest that the resistance of a floating kidney to infection is less than that of a normal kidney.

By a catheterization of the ureters in displaced kidneys Kelly has shown that a moderate degree of hydronephrosis is frequently met. Normally the patient complains of pain after the injection of from 4 cc. to 6 cc. of fluid through the ureteral catheter, but in cases of displaced kidney even when no attacks of Dietl's crises have taken place, 15 cc., 20 cc. or even more fluid could be injected into the renal pelvis before the patient complained of pain or discomfort.

A number of cases have been reported in which a floating kidney has produced symptoms of hepatic colic and jaundice.

Lawrie reports a case of a woman who suffered from repeated attacks of typical hepatic colic, which were relieved absolutely by the fixation of a very movable kidney, while McLagan and Treves report three cases producing all the symptoms of gallstones, that is, attacks of hepatic colic followed by jaundice, in which the operation demonstrated a complete absence of gallstones, but the presence of floating kidney in each case.

Hale, White and Cordier report similar cases. As to the cause of the condition McLagan and Treves thought it was due to pressure on the bile duct by the displaced kidney; Weisker that it was due to the constriction of hepatorenal bands of peritoneum; Hutchinson that it was due either to downward displacement of the duodenum with stretching of the common bile duct, to displacement of the gallbladder and sharp kinking of the cystic duct or to torsion of the vertical part of the duodenum and perhaps even of the bile duct.

Stiller and Landau believe that when jaundice is present it is not due to a direct pressure of the kidney upon the gall duct.

Among other conditions for which floating kidney has been mistaken may be mentioned appendicitis and ovarian tumor, cases of each of which have been reported by Miller.

Watson states that movable kidney sometimes results in such serious consequences as hydronephrosis and pyonephrosis, fixation in an abnormal position and gangrene of the organ, the last condition being produced by the occlusion of the renal bloodvessels from rotation on the horizontal axis of the organ. He believes that the structures most important in the maintenance of the kidneys in their normal position are those that form the attachments between the posterior and upper aspect of the tunica propria and the fascia covering the lumbar muscles and the peritoneum covering the diaphragm.

The most interesting question in connection with nephroptosis is its relation to the dilation of the stomach with which condition it is frequently associated.

Bramwell reports a case of movable kidney producing pyloric stenosis and constriction of the duodenum by peritoneal bands. The patient was a woman of 49, who had suffered from indigestion for 19 years. She died from syncope owing to a sudden increase in the size of the stomach from gas-distention. The autopsy showed an enormously dilated stomach with walls as thin as paper, while three cords of thickened peritoneal tissue extended from the pylorus to the surface of the kidney which was movable to the extent of 3 inches. The peritoneum was firmly attached to the kidney and, according to Bramwell, the pyloric stenosis was the direct result of intermittent traction of this movable kidney. Bramwell concludes that an acquired movable kidney does not move under the peritoneum, but that it carries its peritoneal covering with it, forming distinct bands which directly drag upon the pylorus.

Müller-Warneck believes that the right kidney when movable falls inward and forward, and the constricting bands caused thereby exert a pressure upon the descending portion of the duodenum, which in turn produces dilation of the stomach, and Wehrmann in an autopsy performed upon a patient who had died in an upright position showed that the upper pole had rotated forward to such an extent that the kidney formed an angle of 90° with the long axis of the body.

Landau, from his observations on displaced kidney, stated in 1881 that he believed that the dilation of the stomach sometimes accompanying floating kidney was due to a kinking of the abdomen.

Bartels believed that it was the kidney itself that compressed the descending portion of the duodenum, bringing about a stagnation of the gastric contents and a consequent dilation and atony of the stomach, and Malbranc, Schütz, and von Fischer-Benzon favor this view. Opposed to this view, however, are Oser, Leube, Ewald, Nothnagel, Lindner, and Drummond, the last named of whom found no cases of dilated stomach in his 31 cases of movable kidney.

Kuttner, who also disagrees, has found gastrectasy associated with a movable left kidney which, of course, is hard to explain on Müller-Warneck's theory, and he also disagrees with him in regard to the improvement in stomach symptoms following fixation of the kidney which the latter describes.

Litten believes that gastric dilation is probably the cause of floating kidney, for in 40 cases of dilated

stomach he met 22 cases of right nephroptosis, in many of which the dilation seemed primary.

Lehnhartz found no cases of movable kidney in 16 cases of dilation of the stomach, while the other investigators mentioned above, hold as their opinion that in the majority of cases of gastrectasy and movable kidney there is no causal relation, but it is only a simple coincidence.

The only satisfactory way to diagnose a displaced or floating kidney is by means of bimanual examination. Hare in 1858 described this method at length, and it will be interesting to quote a few paragraphs from his article.

> Suppose the right side is to be examined, the patient being laid on the back with a slight inclination toward the right side, the head and shoulders being raised and the legs somewhat elevated, the observer should stand or sit to the right of the couch somewhat facing the patient, and should then place the fingers of the left hand on the posterolumbar region immediately under the last rib, at the same time gently pressing or pushing forward that part. The ends of the fingers of the right hand should then be placed in front just below the costal cartilages, and there also a slight pressure should be exerted. The patient should next be told to take a deep inspiration and then to expire slowly.

We have found that it is important to have had the patient walking around without there being any constriction of the body by tight clothing or corsets for several minutes before the examination is made, while in a number of cases we have examined the patient in the sitting or standing position. One should also remember that just because the kidney is not felt in the lumbar or umbilical regions is not a proof that it is not displaced, for we have frequently met cases in which the kidney was so much displaced that it was situated in the pelvic region.

Israel calls especial attention to the importance of palpating kidneys in diagnosing renal conditions, and by this means he has often made out fluid in the pelvis of the kidneys, tenderness, etc. The only conditions which may be mistaken for floating kidney are the hepatic flexure of the colon or a loop of small intestine filled with fecal material, a distended gallbladder, a myoma of the uterus with a long thin pedicle or a small ovarian cyst or tumor, but none of these should give us any trouble if we percuss and palpate carefully, and also make use of rectal and vaginal examination.

HEPATOPTOSIS.

Floating liver is one of the abdominal ptoses which is frequently not diagnosed, due partly to the difficulty of making out a moderate degree of displacement, partly to the fact that it has frequently been considered an enlarged liver, and partly to the fact that after the floating kidneys have been made out, as we have said before, but little attention is usually given to the position of the other abdominal organs. That the condition is not extremely rare has been shown by Graham, Einhorn, Landau, and others, whose tables we have already given in regard to the frequency of this condition.

First noted on the dissecting-table by Sauvage and Portal, it was not until 1866 that the first case was described in a living patient by Cantani. We have already spoken of the important factors in maintaining the liver in its normal position, the coronary ligament, the suspensory ligament, triangular ligaments, and the inferior vena cava, but as we have said before, these play but a small part in comparison with the elasticity and tone of the abdominal walls, the cushion-like support of the stomach and intestines, the elastic traction of the lungs that maintains the vault of the diaphragm, and the cohesion of the convexity of the liver with the diaphragm. Of course, in any cases of marked displacement of the liver the various suspensory ligaments mentioned above become elongated, and when this occurs the liver may descend below the costal margin even as low as Poupart's ligament, while the space previously occupied by the liver will be filled by coils of intestine, especially the transverse colon, or by fluids, tumors, etc., if they should happen to be present. Owing to the attachment of the ligamentum teres to the umbilicus we usually have a rotation of the liver associated with the descensus so that the right lobe is usually the lowest portion of the organ. In the great majority of cases when the liver is displaced it is very movable and can by a proper manipulation be replaced, or at least partly so, in its normal position. As to the etiology of the condition in the vast majority of cases it is probably simply a part of a general enteroptosis. Among causes which have been regarded as especially important in the production of this condition may be mentioned relaxation and flaccidity of the abdominal walls and pendulous abdomen, especially if due to repeated pregnancies and poor after-care. Among other factors which have been described may be mentioned large hernias, in which many coils of intestine are inclosed in the hernial sac, violent exertion, persistent vomiting, coughing or sneezing, falls, sudden violent exertions or other traumas.

Leube describes a case in which distention of the inferior vena cava, following tricuspid insufficiency, seemed to have been the cause, while stretching of the ligaments of the liver from a swelling of the organ that later recedes, and also rapid emaciation are mentioned as occasional causes.

Meisner and Leopold believe that occasionally the ligamentum hepatis is lengthened into a mesohepar, which is the predisposing condition, and if this is present other factors, such as lifting heavy weights, various traumas, pendulous abdomen, etc., may bring about displacement of the liver. Landau opposes this theory and believes that the most important factors in the displacement of the liver are lacerations of the ligamentous structures of the liver and enlargements of the capacity of the abdominal cavity, followed by a general displacement of the abdominal viscera.

Landau reports a case in which the condition definitely followed the lifting of a very heavy weight, while Carnet describes a case developing after violent exertion and completely cured by five days' rest in the prone position. Of course, as we have said before, Glénard believes floating liver to be simply one of the phenomena of general enteroptosis.

According to Einhorn, movable liver is quite frequently associated with movable kidney in women, but much less frequently in men.

According to Quincke and Hoppe-Seyler, most probbly a congenital tendency to relaxation and stretching of the ligaments of the liver must exist, of the same kind as that which makes the formation of a true mesohepar possible, although it has not been demonstrated as yet whether the latter is congenital or preformed. The symptoms and signs of the condition vary somewhat; we practically always find a tumor in the right side of the abdomen with its convex surface directed forward, the outline of which can be usually made out by palpation. Of course, the descensus is much more marked if the patient is in the upright position, while in the prone position the liver can easily be replaced, the previously sunken epigastrium becomes filled out, and the normal area of liver dulness restored. To percussion, when the liver is displaced the pulmonary resonance merges directly into the intestinal tympany. Pressure is usually not painful, although it may produce sensations of various kinds in various portions of the body, as the arms or the shoulders. There may be spontaneous pain which is sometimes brought on by jumping, walking, raising the right arm, sneezing, coughing, and yawning, while sometimes there are paroxysms of pain without any apparent cause. The symptoms, especially the pain, are frequently relieved by lying in the prone position or on the right side, or by manually replacing the organ. The pain is felt in the right hypochondriac and epigastric regions, and frequently radiates toward the shoulder and lumbar region. Many patients complain of various digestive symptoms, belching, meteorism, and constipa-

tion; others complain of feeling a movable body, others of bearing down sensations and colicky pains. Among other symptoms occasionally met, may be mentioned respiratory disturbances and palpitation, ascites, hemorrhoids and other symptoms of portal stasis, edema of the lower extremities, albuminuria, polyuria, and purpura. Jaundice is rare, while Jones has reported a case of recurring hemorrhage from the stomach apparently due to this cause.

According to Einhorn cases of floating liver may be divided into five groups:

1. Cases unaccompanied by symptoms in which the floating liver gives rise to no disturbances.

2. Dyspeptic cases with indefinite digestive disturbances in conjunction with a feeling of weakness and certain other nervous symptoms.

3. Cases of hepatalgia, in which almost constantly pains are present on the right side of the abdomen (hepatic region), which often radiate toward the back and shoulder-blades. These pains frequently subside in the recumbent posture. In many instances sensations of a drawing and tearing character are present.

4. Cases of hepatic colic, in which colicky attacks occur similar to gallstone colics. In these no icterus is commonly present, although it may appear in rare instances.

5. Asthmatic cases, in which a feeling of fulness and constriction in the upper abdominal region, associated with slight dyspnea, is especially prominent.

Einhorn reports cases in which the symptoms fall under each of the above-mentioned groups.

The diagnosis of floating liver is made by means of palpation and percussion. To percussion the liver dulness instead of beginning at the fifth rib or fifth interspace in the mammillary line begins at a much lower level, often as low as the costal margin, while the position of dulness in the back is also at a lower level. The presence of a tympanitic sound in the ensiform region is met sometimes, showing that the stomach or intestine lies above the left lobe of the liver. If the liver is made to return to its normal position by making the patient lie upon his back or right side or with the hips elevated, or by means of bimanual manipulation the area of liver dulness returns to its normal or nearly normal limits. It is essential that percussion should be quite delicately performed, as if this is not done it will be difficult to map out accurately the limits of hepatic dulness, especially the upper limit.

The most important means of arriving at a diagnosis, however, is by bimanual palpation, and the discovery of a tumor in the hypochondriac or lumbar regions which careful examination reveals to be the liver. As in the case of percussion, here also the patient must be examined in both the upright and the prone positions, and attempts must be made to replace the organ by manipulation, as this aids greatly in making the diagnosis. Due to the frequency with which flabby abdominal walls are met in this condition, the diagnosis is usually not difficult, but if ascites is present the diagnosis is much more difficult, because in the first place we obtain less information by palpation, and in the second place it is difficult or impossible to use percussion in mapping out the organ. Due to the rotation of the organ, the liver always seems to be enlarged, because the palpable surface is increased, and this should be remembered in diagnosing the condition. In regard to percussion in the upright position, Harley states:

"In all doubtful cases of 'movable liver' it is therefore necessary also to percuss the organ while the patient is in the erect position. For, although cases of atrophy are not rare, cases of abnormally loose suspensory ligaments are common in delicately formed individuals, both male and female."

By palpation we are also able to make out the degrees of movability of the liver. According to Landau, these are as follows:

1. Moderate descent with anteversion or retroversion of the liver.

2. Marked descent: (*a*) With lateral displacement of the liver *in toto* toward the right: (1) With special descent of the right hepatic lobe and raising up of the left; (2) with special descent of the left hepatic lobe and raising up of the right. (*b*) With anteversion or retroversion of the liver.

3. Vertical or oblique displacement of the liver in which the right lobe usually remains in its normal position, or is displaced toward the right, while the left lobe descends into the abdominal cavity.

Inspection sometimes shows a slight bulging out of the abdomen on the right side or of the entire upper abdominal region. Of course, however, it is only in association with palpation and percussion that a definite diagnosis can be made. Sometimes replacement of the organ by manipulation is impossible, due either to adhesions or to the fact that the space normally occupied by the liver is filled up with coils of intestine, while in other cases upward replacement is not possible, but the organ can be moved from right to left and *vice versa*.

Of course, in making a diagnosis of floating liver it is essential to determine whether or not the downward displacement of the organ is due to thoracic disease, such as pleurisy with effusion or diaphragmatic abscess. In differentiating floating liver from enlargement of the liver or liver tumors the essential points can be made out by careful percussion and palpation, especially by the fact that in the latter conditions the upper limit of liver dulness is normal. Among the conditions for which floating liver has been mistaken may be mentioned renal tumors and hydronephrosis, cases of which have been mentioned by Smith, Peters, and Mundé, floating kidney (Terrier and Baudonin); typhlitis (Richelot), and a peculiarly shaped and thickened mesentery, as in the case reported by Müller. In practically all cases, however, careful attention to the methods of diagnosis, which we have described, namely inspection, percussion and palpation should give the diagnosis with certainty.

Before leaving the subject of floating liver perhaps it would be well to call attention to the peculiar linguaform process of the right lobe of the liver, which is frequently met and which is known as Riedel's lobe. This process is due in most cases to the marked constriction by corsets or by constricting bands or belts of the lower portion of the displaced right hepatic lobe.

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[*To be concluded.*]

COURSE OF DISEASES DURING PREGNANCY.[1]

BY

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Diseases of the Respiratory Apparatus.—We have already noticed the diminution of hemoglobin in the blood during pregnancy, and with this diminution there is a corresponding lessening of oxidation or respiratory power of the blood and an increase in the carbonic acid discharged by the lungs. Andral found the mean consumption of carbon hourly in pregnant women equal to 8 gms. instead of 6.5 gms. Besides this the thorax is increased in breadth, but diminished in depth, and toward the end of pregnancy there is a diminution in the vital capacity of the lungs.

[1] Continuation of paper published in *American Medicine*, March 28, 1903.

These circumstances, added to the special condition of the heart already mentioned, point to a state of less resistance of the lungs, and to a more dangerous course of pulmonary diseases on account of the more serious heart complications.

Oppressed Respiration.—There is often experienced, especially in primiparas, a sense of oppressed respiration during the later months. However, this feeling is relieved to a considerable extent when the uterus in the last two or three weeks of pregnancy sinks downward and forward, showing that the oppressed respiration is due partly to the special respiratory condition of the blood, and partly to a mechanical fact.

Pneumonia.—"La pneumonie pendant la grossesse," written by Dr. Flatte in 1892,[1] is one of the most complete works on this subject. Pregnancy does not predispose to pneumonia, but pneumonia assumes a special character, and has special consequences during pregnancy. Pneumonia in pregnancy is always accompanied by a more marked elevation of temperature, and by a very intense dyspnea. Its course is more serious on account of the hydremia and the consequent inability of the poorly-nourished heart (already overworked by pregnancy) to restore the balance of the pulmonary circulation disturbed by the consolidation of lung tissue, and the consequent impermeability of a large capillary area. Abortion and premature labor are common when pneumonia occurs. Abortion takes place in one-half and premature labor in two-thirds of the cases.

The prognosis is very serious, especially in the last three months of pregnancy. Chatelain says that 50% of pregnant women die if stricken by pneumonia during the last three months. He also states that women thus affected recover rapidly after delivery. This would suggest the advisability of inducing labor, but it must be remembered that, as Gusserow has observed, a long and tedious labor during the progress of pneumonia is always fatal. One of the most interesting questions of pathology, and one always much discussed, is the effect of pneumonia on the life and health of the child. The offspring born of a mother afflicted with pneumonia may be alive and healthy, may be stillborn, or it may be sick and die a few days after birth. Since 1884 Levy and Viti have observed many cases of pneumonia transmitted to the fetus. Netter says that for the transmission of pneumonia to the fetus the general infection of the mother is necessary, the streptococcus must be present in the maternal blood. In the fetus the streptococcus is proteiform, and determines not only lesions in the lungs, but meningitis, endocarditis, and multiple abscesses.

Treatment does not differ from the usual treatment followed in pneumonia, but as cyanosis is always marked it would be advisable to bleed the patient. When asphyxia threatens the life of the mother labor should be induced.

Pleurisy is a dangerous complication because it sometimes provokes premature labor but its course is not at all influenced by pregnancy. It may assume all its clinical varieties, *e. g.*, it may be fibrinous, serofibrinous or purulent.

Treatment.—We must bear in mind that the technic of thoracentesis must be modified when performed on a woman during the last months of pregnancy. It should be done with a small trocar, which is introduced in the fifth intercostal space. The end should be raised up to avoid injuring the diaphragm.

Emphysema, producing cardiac dilation prevents the heart from successfully adapting its activity to the varying conditions of vascular tension which obtain in parturition.

Treatment.—The production of abortion may be indicated by the existence of this disease, provided the mother's strength has become so impaired as to incapacitate her for continued uterogestation.

[1] Thèse de Paris.

Tuberculosis.—Lebert, Wernicke and Cullen have observed that the progress of preexistent pulmonary tuberculosis is sometimes retarded by the supervention of pregnancy, but the observation of such a clinical fact constitutes only the exception to the general rule, for in the majority of cases pregnancy hastens or precipitates the development of this disease. Louis was the first to demonstrate the bad influence of pregnancy on tuberculosis, and his opinion was soon followed by many authors, Grisolle, Dubruiell, Robert and others. Pinard says if it is true that in the majority of cases pregnancy precipitates the development of tuberculosis it is also true that sometimes pregnancy has no influence at all on the course of such a disease, and that in a small number of cases pregnancy has been shown to be rather beneficial. The physician attending a pregnant woman suffering from tuberculosis must bear in mind as useful knowledge, that the hastening of symptoms of tuberculosis will occur during pregnancy if the patient is not well nourished and if she is obliged to remain in bed on account of the disease. However the tuberculosis will remain in a latent state during pregnancy if the general condition is good, and the disease will probably only develop in the weeks that follow delivery, when the appetite is diminished and the woman is debilitated by the fatigue of labor.

The influence of tuberculosis on pregnancy is shown by the high fetal mortality and it is also shown in the health of the surviving children. Athrepsia as a rule is produced by the tuberculous mother whose infection was not sufficient to kill the fetus in intrauterine life.

Treatment.—We know that the transmission of tuberculosis from mother to fetus is a fact already demonstrated clinically and experimentally. Merkel, Jacobi, Labrusand, Londongy, H. Mart, Lehman, Schonors, Rockel, and others, have studied the subject in different ways, but have all come to the same conclusion that the physician's duty is to advise women affected by tuberculosis not to marry and those already married not to procreate. A physician attending a pregnant woman with tuberculosis must surround her with the best hygienic conditions, give her plenty of nourishment, rest and pure air. If the patient can reach full term he must increase the hygienic measures during the puerperium, which must always be considered as the period of reaction from pregnancy. It occupies the borderland between health and disease, and for this reason any carelessness may be the exciting cause of the diseases to which the patient is already predisposed, or it may precipitate the development of a disease already present. The mother affected with tuberculosis must be absolutely forbidden to nurse the baby. Lactation might prove fatal to the mother, and very dangerous to the child, who if taken away from its mother soon after birth and nursed by a strong, healthy woman has a chance of a relatively long life.

Diseases of the Liver and Kidneys.—The liver and kidneys play a most important part in the pathology of pregnancy, for during the pregnant state there is an augmentation and less elimination of waste products, and these organs are charged with the neutralization of such products. Should their physiologic action become insufficient to meet the exigencies of the pregnant organism, a state of autointoxication arises.

In pregnancy there is always an increase in the toxic products to be destroyed by the liver, and this increase calls for overwork by the liver, with the result that it sometimes becomes incapable of meeting the requirements of the organism, and grave hepatic toxemia sets in. We can thus speak of hepatic insufficiency as a disease of pregnancy, and of many diseases of pregnancy as symptoms of insufficiency. As there is an increase of the abnormal products, sometimes renal insufficiency also occurs as a disease, and many of the diseases of pregnancy are simply symptoms of such insufficiency.

Icterus.—In pregnancy icterus is a very important

phenomenon on account of its tendency to precede or accompany fatal pathologic changes and symptomatic events connected with acute yellow atrophy of the liver. Consequently if the presence of icterus is suspected the possibility of its being the premonitory symptom of acute yellow atrophy should be considered.

Treatment consists of the administration of saline cathartics, intestinal antiseptics, and a milk diet.

Acute yellow atrophy is an infectious disease due to the rapid destruction and physiologic failure of the liver cells. In this disease all the functions of the liver are completely suppressed. What is the cause of the disease? The multiplicity of microorganisms found in the liver of patients after death (death having been caused by acute yellow atrophy) has demonstrated that there does not exist a special microbe, but many microbes are apt to cause the disease. The only question not yet settled is whether the disease is due to the microorganisms, or to their toxins. The circumstances favoring acute yellow atrophy are alterations of the hepatic cells. In pregnancy there is always a condition of minor resistance of the liver due to the steatose of the liver cells. At the postmortem examination streptococci are found in the liver.

Treatment.—A patient with acute yellow atrophy has always some chance of recovery if the destruction of the liver cells is not complete, and the permeability of the kidney can be reestablished. Our procedure, therefore, should be: (1) To administer a diuretic to diminish the toxicity of the intestinal contents; (2) to promote diuresis; and (3) to restore activity to the action of the liver cells.

1. The toxicity of the intestinal contents can be diminished by the milk diet, the administration of cold enemas (Krull's method), and moderate but repeated doses of saline cathartics.

2. The diuresis will be promoted by the cold enema, milk diet, and the administration of hot drinks.

3. The action of the liver cells can be restored by antisepsis of the biliary ducts aided by the administration of sodium salicylate.

The advice of many authorities to give cold baths to women affected with acute yellow atrophy must be accepted with caution, because, as a rule, patients having liver lesions do not stand the shock of cold baths so well as those not so affected.

Note.—Owing to the fact that the acute yellow atrophy of pregnancy is due to streptococci, I believe it would be advisable, and certainly not dangerous in such cases, to administer hypodermic injections of antistreptococcic serum.

Passive congestion of the liver and cirrhosis become dangerous complications of pregnancy when accompanied by ascites. Owing to the enormous development of the uterus, especially during the last months of pregnancy, dyspnea due to compression is easily manifested even if the amount of liquid is comparatively small. If a patient with ascites comes under observation at the beginning of pregnancy, and we recognize the impossibility of her reaching full term, there are two ways open to us: (1) An operation; (2) induction of premature labor.

Paracentesis is a systematic method of treatment, the fluid being taken away again and again if it accumulates, due care being exercised to avoid lesions of the uterus. This treatment has sometimes given satisfactory results, but if the fluid should form too rapidly and the general conditions of the patient should become alarming, the induction of labor becomes necessary.

If the patient is strong and at the beginning of pregnancy and very anxious to reach the full term, we may advise another operation, viz., the surgical deviation of the blood of the portal vein by the method invented by Professor Talma (Utrecht) and brought to perfection by Dr. Schiassi. Such an operation, which has already been used with success, is not dangerous, and gives the possibility of both mother and child reaching the full term.

Edema is a common occurrence in pregnancy, and is generally due either to a local cause (varices), to a general affection (albuminuria), or to abnormal development of the uterus obstructing the venous circulation. This kind of edema disappears, or at least is diminished if the treatment is rest and a milk diet. However, there exists in pregnancy another kind of edema, that due to a grave toxemia.

Sometimes pregnant women come under observation in whom the presence of varices is not detected, the urine does not contain albumin, and the uterus is comparatively small; but notwithstanding this, they show edema of the legs and abdominal walls, and especially of the pubic region. Patients thus affected need absolute rest and a milk diet. The patient, however, is apt to become albuminuric and eclamptic, and if allowed to reach full term there is great probability of her dying of postpartum hemorrhage.

Albuminuria.—There are few subjects about which so much confusion of thought exists as that of albuminuria in pregnancy. In my opinion, we should always bear in mind that there exists: (1) An albuminuria symptomatic of abnormal conditions of the organism previous to the pregnant state, and (2) an albuminuria of pregnancy, which is the primary symptom of a grave toxemia. The exact differentiation of these two sources of albuminuria will be our principal guide in the treatment and prognosis of the disease.

Albuminuria Symptomatic of Abnormal Conditions Previous to Pregnancy.—All the conditions that modify the anatomic constitution of the tissue of the kidney, either by producing an anemic or congestive state, or by exercising a chronic or traumatic action on its cells, produce albuminuria. For these reasons albuminuria and nephritis are very often different names for the same disease. Albuminuria, when the lesion of the kidney is not chronic, is a temporary symptom that disappears with its cause, but we must remember that any previous lesion of the kidney represents a condition of diminished resistance of that organ and that albuminuria is apt to reappear, any time varied conditions of the organism affect the functions of the kidney.

The history of the patient will be our best guide in determining the cause of albuminuria in the pregnant state. In studying the history of the patient in such a case we must remember that the causes of nephritis are: (1) All the infectious diseases, *i. e.*, scarlet fever, smallpox, measles, pneumonia, typhoid fever, diphtheria, grip, erysipelas, syphilis, etc.; (2) some diathetic disease, such as gout, arteriosclerosis, arthritis, etc.; (3) autointoxication, in which the lesion of the kidney appears secondary to the elimination in excess of tyrosin and other toxic matters due to insufficient oxidation (liver diseases), or to a too rapid combustion (fevers), or to the lessening of the nutrition.

To this third class belongs the primary albuminuria of pregnancy. As a rule, we may say that when albuminuria in pregnancy is due to previous chronic nephritis, either interstitial or parenchymatous, we must usually expect an acute exacerbation of all the symptoms of nephritis. Casts and albumin become more abundant, edema develops, albuminuric retinitis is a common complication, and nasal or intracranial hemorrhage may occur.

Sometimes women, who in the nonpregnant state are apparently healthy, develop albuminuria in the beginning of pregnancy. In such cases the casts in the urine are scanty, the heart's action is increased in force, there is sometimes edema, and occasionally the condition is associated with hemorrhage. There are cases of subacute nephritis in which pregnancy was only an exciting cause, lesion of the kidney being due to preexisting infections.

Treatment and Prognosis.—In chronic nephritis the death of the child from placental changes is so common that consideration for the life of the child must be always subsidiary to the interests of the mother. It is advis-

able in such cases to induce labor in time, but if the patient does not come for treatment until she has reached that stage in which the kidney and heart have almost completely failed it is not advisable to induce labor until every attempt has been made to restore their action. If this cannot be done labor should then be induced. In the acute form of nephritis appearing during pregnancy the patient should be placed in bed and limited to a milk diet so far as possible. Her bowels should be kept free by the daily administration of mild cathartics; hot baths and a wet-pack should be given to increase the action of the skin, and iron might be given to improve the tonus of the weakened vessels. The amount of urine passed must be watched carefully. With such treatment albuminuria sometimes disappears and the patient reaches full term and gives birth to a living child. But such a favorable termination is, unfortunately, not always the rule. Acute nephritis during pregnancy constitutes not only an immediate danger for the mother, but also a future danger. A great many cases of acute nephritis developed during pregnancy become, after pregnancy, chronic nephritis, a disease of which we know the fatal prognosis. On that account no consideration must prevent our energetic intervention in cases in which our medical treatment of nephritis proves inefficacious.

If we consult the histories of patients and the carefully made statistics of different lying-in hospitals and clinics we find that the danger to the mother increases and the hope of giving birth to a living child diminishes the earlier the lesion of the kidney manifests itself in pregnancy. So, if nephritis is shown in the earlier period of pregnancy, the chances of recovery and of bringing the patient to full term in a good condition, with a living child, and of avoiding the further development of chronic nephritis, are problematic, while if pregnancy is stopped in time the recovery of the mother is certain. This knowledge must be our guide in the treatment of nephritis. When the patient comes under observation, if the presence of acute or subacute nephritis is detected absolute rest and a milk diet should be prescribed. Should the nephritis grow worse or even remain stationary, with a percentage of albumin superior to 1.25%, we must prepare the patient and her family at the beginning of the fifth month for the necessity of the induction of abortion. I believe that our intervention between the fifth and sixth months represents the proper time. At the beginning of the fifth month the placenta is already formed, the albuminuric condition of the organism reflects its effects on the placenta. Processes of fibrinous periarteritis and the consequent formation of infarcts occur in the placenta. Such a pathologic condition is an obstacle to the development of the fetus, owing to the imperfect uteroplacental circulation. In the majority of cases, if nature follows its course, there will be a stillborn infant or a premature labor. The anatomic changes of the placenta once started, the defective nutrition of the fetus begins, and so waiting, while of no advantage to the fetus, may prove a great danger to the mother. In these cases should we sacrifice the mother's health to the uncertainty of having a living child, or should we sacrifice the possibility of a living child, which owing to its imperfect intrauterine life will come into the world with the marks of general debility and athrepsy, to the mother's health and probable life?

Antialcohol Congress in France.—The first French National Antialcohol Congress will be held in Paris from October 26 to 29 under the honorary presidency of M. Casimir-Périer. The program consists of two parts—the first devoted to a review of the existing situation in regard to alcoholism and the struggle against it; the second to the plan of campaign, including the action of the State, and of local authorities and private initiative, the medical profession, the clergy, etc.; syndicates, prudential associations; educational propaganda among young people; the influence of women. The congress will also discuss the organization of a systematic warfare against alcoholism by means of the federation of antialcoholic forces directed by a permanent committee.—[*Brit. Med. Jour.*]

TREATMENT OF TYPHOID PERFORATION, WITH REPORT OF A CASE.*

BY

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The following case is presented not for its own intrinsic value, although it offered many remarkable features during its course and in its termination, but rather for the deductions which may be drawn from it:

The patient, J. R., aged 24, a laborer, was admitted to the City and County Hospital, in the service of Dr. J. Wilson Shields, with the following history: Fifteen days previously his feet became cold, he was chilled all over, and sweated profusely; had slight diarrhea and pain in the abdomen. His family history was negative, his habits were good, he had never had venereal disease, and up to the time of his present illness had always been well. On admission, temperature was 103°; pulse, 84; respirations, 20. The patient was a slightly emaciated, well-built man, lying in a passive position, seemingly without much pain, and taking little interest in his surroundings. Pupils were large, the eye reflexes normal. Tongue, large, dry, fissured in places, and covered with a heavy fur, the margins being free. The lips and finger-tips were cyanotic, carotids and brachials visibly pulsating. Pulse was regular, of small volume and low tension.

The apex of the heart was not visible, but was palpable in the fifth interspace, nipple line. Upper border at upper edge of fourth rib, left border one finger breadth inside of nipple line; right, at midsternal line. Over the mitral orifice was heard a loud systolic murmur accompanying the first sound. Second sound was markedly accentuated over all orifices. The lungs showed nothing of importance. The abdomen was somewhat protruding and tender to deep pressure. There was no pain or gurgling in the right iliac fossa. No rose spots. The upper border of the liver was at the lower edge of the sixth rib. Lower border at margin of ribs. The spleen was enlarged to percussion, and palpable just below the margin of the ribs. Reflexes were not exaggerated; sensorium was clear. Urine examination showed, specific gravity 1,031, urine alkaline in reaction. Albumin was present. Diazo reaction was strongly positive, and microscopic examination showed a few granular casts. The stools were diarrheic, two to four daily, yellowish, but not of diagnostic import. Widal examination of the blood was negative, white blood corpuscles, 5,300.

The patient was put upon milk diet, ice sponges ordered, and guaiacol minims 5 to be painted over the liver region whenever the temperature arose over 102.5°. On the third day after admission guaiacol was stopped, and quinin 32 cgs. (5 grs.) ordered four times daily. On the fifth day quinin was stopped, and aspirin 32 cgs. (5 grs.) ordered three times daily. The effect of these antipyretics, combined with cold, tended to keep the fever down, but it also made the fever-curve irregular, depriving it of its diagnostic value. Consequently, all antipyretics were stopped. The curve immediately became regular again and looked like that of typhoid in its third week.

For the first 11 days of his illness in the hospital the patient's condition remained practically the same as on admission, the fever ranging between 104.4° and 104.6°. The white blood count between 5,000 and 6,000. The patient became somewhat more emaciated, apathetic, and sweated profusely from time to time. Upon the thirteenth day the following note was made: "Patient looks sleepy, takes no interest in surroundings. Temperature has dropped below normal; pulse dicrotic, 118. Tongue is dry, face emaciated, cheeks sunken in and red. Abdomen is distended, tympanitic, and painful to gentle palpation. Vomited several times during night; vomitus dark green, no particles of food in it, some flatus passed. White blood-corpuscles, 5,000. Widal test dilution 1 to 50 after half an hour shows some clumping, but not definitely positive."

Upon this finding a perforation was diagnosticated and strychnin 2 mg. ($\frac{1}{30}$ gr.) t.i.d. and saline injections hypodermically ordered. The attending surgeon, Dr. Levison, was called in consultation. A delay of 36 hours was occasioned before the patient came to the operating-table. Just prior to operation the physical examination was as follows: "Patient lies in comparative ease on right side; sensorium clear; pulse 120, of good volume. Abdomen distended, very painful to palpation, especially in right ileocecal region. More tender in region of appendix than at any other point. Tympanites is pronounced, liver dulness still extends to margin of ribs. Auscultatory percussion of abdomen reveals no friction sounds. In left axilla and at left base of lung note is high pitched. Prolonged expiration and crepitant rales are heard. Heart action is rapid. In general the patient's vitality is good. Did not vomit during day. Passes but little flatus. Widal again—dilution 1 to 50—slightly positive. White blood count, 4,000."

Report of operation performed by Dr. Levison: Morphin .02 ($\frac{1}{3}$ grain) administered 15 minutes before operation. Under infiltration anesthesia with cocain 1 to 1,000 (the anesthetic was later changed to ether), an incision was made through the

* Read before German Medical Society, March 3, 1903.

outer border of the right rectus muscle. The intestines, somewhat distended and greatly reddened, protruded through the opening. A clear serum flowed out of the wound. The intestines in the right iliac region were matted together by thick fibrinous adhesions. In separating the adhesions a mass of fecal matter welled up. The general cavity was walled off as well as possible by gauze, the fecal matter being directed to the lower part of the wound. A perforation was found in the ileum traversing the intestines transversely for a distance of about 1½ cm. An attempt was made to close the perforation with fine silk sutures, but without success, the stitches pulling through the soft and friable tissues. A resection not being deemed advisable, it was decided to make a false anus, and the gut was stitched to the peritoneum. The fecal matter was wiped out as well as possible with gauze, the cavity flushed out several times with salt solution, gauze drains inserted deep down into the pelvis, and about the artificial anus. The skin was partially closed with silkworm sutures and gauze dressings placed on the wound.

During the operation the patient received repeated stimulations with strychnin and salt infusion. He left the table pulseless, and small hopes for his recovery were entertained. He rallied, however, in quite a remarkable manner, passing a very comfortable night, and his pulse during the next 24 hours, although between 120 and 130, was of good tension. The temperature ranged between 99.6° and 101.4°. The white blood count rose immediately after the operation to 10,200. The future course of this case covered a period of 45 days, during which time the patient showed at intervals such improvement, that his recovery seemed assured.

After the operation the question of feeding became all important. The patient seemed to assimilate food badly. He took nourishment very well through the mouth, but it was often expelled unchanged through the false anus. Nutritive enemas were sometimes retained, but oftener expelled. The main sources of nourishment, in addition to medicinal stimulants (such as strychnin 1 mg. [$\frac{1}{60}$ gr. t. i. d.] were milk, milk and egg, egg albumen, soft boiled eggs, nutritive enemas, farina, tropon, and peptonized milk.

Two weeks after operation the patient's general condition being deemed very satisfactory, he was again taken to the operating table, the wound thoroughly washed out, and an attempt made to close the false anus. The sutures, after the second operation, held for three days. Then an opening, the size of a pin point, was noticed along the line of suture. Four days later the opening in the bowel was one-half of its original size, and never regained its previous dimensions.

On December 18, 26 days after the first operation, and 40 days after admission to the hospital, the following note was made: "Patient's food has been gradually increased, but for the past three days temperature has been elevated, reaching 103.2°. Today all food by mouth, excepting albumen and peptonized milk, was discontinued. Another attempt to close the wound in the intestine was unsuccessful. Wound is in good condition, granulating well. White blood count, 10,500. Diazo present." This note plainly shows that in spite of the fact that all attempts to close the wound were unsuccessful, and the patient in the event of recovery doomed to carry a false anus perhaps the rest of his days, the prognosis for life was good. The man's vitality and constitution were remarkable. He had withstood two operations and two general anesthesias; had recovered from a large decubitus on the sacrum and bronchopneumonia, and still 40 days after admission to the hospital his general condition was good, he rested easily in bed, had no particular pain, showed some interest in his condition, seemed desirous of getting well, and always complained of being hungry. During the next week, however, the patient's temperature fluctuated between 100° and subnormal, being most of the time subnormal. The pulse, which since the operation had been irregular, varying between 100 and 95 and of good tension, now became very rapid, ranging between 120 and 140. Respiration was also increased. Strychnin was given 2 mg. ($\frac{1}{30}$ gr.) every four hours. Milk and egg enemas were not retained. During the next three days the patient grew steadily worse. He refused food, nourishment being given him by force. On January 4, 57 days after admission to hospital, and 43 days after the first operation, the patient died.

Repeated blood counts after the operation showed a fluctuation between 6,800 and 15,500, the mean blood count being about 10,000.

Autopsy.—This was performed by Dr. Harry Ryfkogel, who made the following report:

Body of an emaciated man; gaping operative wound to right of median line, from level of umbilicus to pelvis; subcutaneous fat has practically disappeared. The lower abdominal cavity is filled with pus and feces. Intestines are matted together, and adherent to the parietal peritoneum, especially on the right side. Pericardium contains 50 to 75 cc. of bloodstained serum. Heart is somewhat smaller than normal, muscle brownish red. Left pleura is adherent throughout. Left lung crepitant, not voluminous. Right pleura is partially adherent. Small abscesses are seen at the base of right lung, apparently continuous with subphrenic abscess. Pus exudes from every section. Right lung is much more congested than the left. Between the diaphragm and peritoneum, covering it over right lobe of liver, is an abscess, which extends half way back to spinal column and down into the pelvis. The nerves of the lumbar plexus are exposed on the floor of the abscess, which is subperitoneal throughout, and opens anteriorly into the operative wound. The liver is congested and shows cloudy swelling. The spleen is smaller than normal, firm, and the trabeculæ are not well marked. The kidneys show parenchymatous degeneration. The right kidney has three retention cysts. A few areas of hemorrhagic enteritis are seen in the upper part of the ileum, in lower part two ulcers extend to the serous coat.

Summing up, it is plainly evident that we had to deal with a typical case of typhoid from the start. The classic signs were present, especially leukopenia. I lay considerable stress upon the white blood count in typhoid, attaching as much, if not more importance to it, than to the Widal reaction, since the latter is never present until the second week, and is often then not definitely positive, while the former occurs during the first few days, and is always very positive, being as a general rule between 3,000 and 5,000. The white blood count can be made in a very few minutes, and should be taken daily, since a rise always means a complication. However, in our case the diagnosis of perforation was not aided by the blood count since there was no rise until after operation.

The early treatment of our patient was slightly at fault. Excellent results have been obtained in the City and County Hospital in typhoid fever, by combining the cold water treatment with guaiacol minims 5 painted over the liver region whenever the temperature rises above 102.5°. Two other patients, treated the same as this one, did remarkably well on this method, but in the case described we added antipyretics in the form of quinin and aspirin, which, besides causing profuse sweating, visibly weakened the patient. We destroyed the regularity of the temperature curve and consequently its diagnostic import. In spite of the fact that many advise antipyretics, I deem them of little value in typhoid fever, considering their efficacy only problematic, and firmly believe that they may even lead to harm, through their deleterious action on the heart.

We now come to the all important period of our case, the time of perforation. I do not claim too much when I say we diagnosed it as soon as one possibly could. In fact, there is a probability that the temperature fell before the actual perforation took place and that our diagnosis, if anything, was a little premature. Unfortunately our patient was not operated on until 36 hours after the symptoms had presented themselves. The subject of early diagnosis of perforation has been often and exhaustively reviewed, but too much stress cannot be laid upon it. The symptoms are often veiled. We look for the classic signs of shock, high pulse, drop in temperature, tympanites, pain in the abdomen, the facies of shock, etc., and do not find them. Our patient had few of the regulation signs. We had only the drop in temperature, the high pulse, and tympanites. The facies was not that of a patient with perforation. The liver dulness was not obliterated. The pain was not excruciating, and the signs of shock were practically absent. If all the classic signs are present then the diagnosis is simple and the physician's course clear; but it is in those cases, and they are very frequent, in which few of the usual signs are present, that the physician is called upon to use his diagnostic and therapeutic skill. It is far better to diagnose perforation, open the abdomen, and be mistaken than to fail to diagnose one when it exists. For after all, as R. Le Conte claims, the dangers of typhoid perforation lie chiefly in imperfect diagnosis and delay in operating. The condition of the patient can never be too bad for operation, since without it he stands no chance and with it, as shown by statistics, his chances are fairly good. Keen recommends operation in every case of perforation which is not absolutely hopeless. In our case the patient's condition was none too good at the time of operation. He was emaciated by disease, had a large decubitus on the sacrum, and in addition a beginning bronchopneumonia. He left the operating-table pulseless, but nevertheless

rallied quickly, and died long after the typhoid process must have spent itself, from sepsis. Now, could this subsequent sepsis have been avoided had the patient been operated upon immediately after the diagnosis was made, instead of waiting 36 hours, as we were compelled to? To this question it is impossible to give a positive answer, and still we know that patients with perforation operated on during the first 12 hours, stand better chances of recovery than those operated upon later. The operation can also be made quickly, since we know that 85% to 90% of all perforations occur in the last 60 cm. of the ileum, in the cecum, or in the appendix.

Perforation is more common than is generally supposed. In Munich, 114 out of 2,000 autopsies, gave 5.7% perforation. Osler found it present in 23 out of 829 cases, or 2%. Other authors give larger percentages. Curschman claims 13% as the number of perforations based upon 577 autopsies. Murchison gives 13.8%, based upon 435 autopsies. Hoffman, in 250 autopsies found 8% perforations, these figures showing that the percentages may vary according to the character of the epidemic. Curschman, whose statistics are the newest and most reliable on this subject, summing up the observations of various clinicians, comes to the conclusion that 9% to 12% of all deaths in typhoid fever are due to perforation peritonitis.

The principal time for perforation to occur is at the end of the second week, and during the third. Late perforations, however, are quoted by Curschman, Murchison, Griesinger, Niemeyer, and Liebermiester. Curschman's statistics as to the time of occurrence of perforation are as follow:

Among 73 perforations:

23 occurred from eleventh to twentieth days.
31 occurred from twenty-first to thirtieth days.
13 occurred from thirty-first to fortieth days.
6 occurred after fortieth day.

J. A. McAulay, in his report of 168 cases of typhoid fever treated in 1901 in the Royal Victoria Hospital, Montreal, gives the mortality as 5.6%. Of 9 deaths, 3 were due to perforation; 5 patients were operated upon, 3 successfully. Finney, in a report of 112 patients operated on for perforation, gives 23 recoveries, or over 20%. Osler says that of 11 patients operated on in his wards, 5 recovered. Hagopoff finds that recoveries through surgical intervention amount to 23.26%.

In speaking of the early recognition and operation of typhoid perforation, Osler shows that of 15 patients operated on within the first 12 hours, 4 recovered. Of 20 patients operated on from the twelfth to the twenty-fourth hour, 6 recovered, and of 13 patients operated on in the second 24 hours, only 1 recovered. Drawing our conclusions from the statements of the foregoing observers, all of whom have large clinical material at their disposal, we must admit: (1) That perforation is of frequent occurrence in typhoid fever; (2) that it is imperative to recognize it early; (3) that the patient should be operated on as quickly as possible after it is recognized.

Typhoid fever lies in the realm of the medical man, but he should be imbued with the proper surgical sense when treating it. Recent surgical studies in the pathogenesis of typhoid fever have demonstrated beyond a doubt that it is a general septicemia, with a local manifestation in the intestine. Reports from careful observers during the last two years show that typhoid bacilli can be recovered from the blood in about 80% of cases. Dr. H. Schottmüller, of the Eppendorfer Krankenhaus, Hamburg, recovered the bacilli from the blood in 84 out of 101 cases. During the past three years I have recovered them in about 75% of cases experimented upon. W. S. Thayer, of Johns Hopkins, says that typhoid fever "is clinically a general septicemia, of which the intestinal change forms the more marked local manifestations." It is the duty of the physician to keep prominently before his eye the probability of operating, to watch his patient carefully, and be on the *qui vive* to advise operation the moment he suspects perforation. Involuntarily the analogy of appendicitis and typhoid fever, presents itself to my mind. In former years appendicitis was also looked upon as a purely medical disease, but now, through surgical intervention, we are often enabled to ward off peritonitis, and to save life, when peritonitis has occurred, in cases in which formerly the patient was doomed to death. Mikulicz was the first, in 1887, to advocate laparotomy for the relief of typhoid perforation, since which time his example has been followed by thousands of surgeons. We should, therefore, look upon typhoid fever as both a surgical and medical disease wherein the surgeon and medical man should always cooperate for the best interests of their patient, and not sit idly by when a perforation has occurred, saying "he must die," but rather submit him at once to operative intervention. I wish to repeat and emphasize strongly that I do not believe opening the abdomen of a typhoid patient is attended with any more evil consequences than is attendant on any laparotomy.

The diet and treatment following on operation for perforation cannot be given at length here. I simply wish to say that in cases such as the one I have presented, when it is necessary to leave a false anus, rectal feeding should be pushed from the start, nutritive enemas, milk, and prepared food being given. Feeding per os should be attempted, and if successful increased slowly. When the perforation is high up the food passes out of the false anus, and the patient does not assimilate it. Consequently there will be danger of death from starvation and general asthenia.

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ETIOLOGY OF DYSMENORRHEA.[1]

BY

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Dysmenorrhea has been classified by various authorities in different ways, but it seems to me that to divide it into (1) local or pelvic; (2) general or constitutional; and (3) reflex, will tend to bring prominently to our minds that dysmenorrhea is frequently present when no local lesion can be found to account for it; or to quote Dr. Kelly, that "dysmenorrhea is often a local expression of a constitutional tendency." Undoubtedly in the great majority of cases the cause will be found in the pelvis, but at this time I will ask your attention to a brief consideration of what can be termed extrapelvic or general and reflex causes before we take up the more frequent local ones. It seems to me that we can regard the symptom dysmenorrhea as a neuralgia located in the pelvic organs, and when we remember that the nervous supply comes from the second, third and fourth sacral nerves; that the sympathetic fibers come from the branches of the aortic plexus, and that the aortic plexus is derived from the semilunar ganglion and renal plexus on each side; the genitalia are connected by no remote

[1] Read before the Philadelphia County Medical Society, May 11, 1903.

strands with the cerebrospinal system and with all abdominal viscera. It is, therefore, easily understood how no great disturbance of the nervous system can occur without causing some corresponding disturbance of the genitalia. If dysmenorrhea is a neuralgia, a review of what are considered predisposing and exciting causes of neuralgia in other parts of the body might throw some light upon this subject. What do we find? First, that women are more susceptible to all forms of neuralgia than men, that neurasthenia and hysteria undoubtedly are strongly manifested locally by what Goodell aptly called "the intangible, imponderable, invisible pelvic pains," and these pains are especially liable to increase during menstruation. Normal menstruation depends as much on a good constitution as on a healthy state of the pelvic organs. Clinical evidence points to the conclusion that the neurotic feature is the only one in many cases, and that it is manifested to a greater or less extent in all. Dysmenorrhea is too often the penalty of poor inheritance, defective hygiene, forced education, and false stimulation of our modern and artificial life. Gout, rheumatism, anemia, chlorosis and malaria all at times seem to have an etiologic relation to dysmenorrhea.

In Schaeffer's gynecology we find the statement that dysmenorrhea may arise reflexly from disease of the pelvic organs, and most authorities seem to regard the ovaries and tubes when causing dysmenorrhea as doing so reflexly. Dr. Kelly in his operative gynecology says: "That 72% of pelvic inflammatory cases present dysmenorrhea as a complication and that it is a symptom common to a variety of pelvic affections," but it was to reflexes from another organ of the body that I wished to call your attention particularly, and I will therefore quote from the third edition of Dudley's gynecology, "The assertion made by Fliess in 1897 of a close relationship between the nasal mucous membrane and the genital organs of women seems to be fully confirmed by Schiff, of Vienna, who undertook in a skeptical spirit the investigation of this subject." It will be remembered that Fliess found genital spots on the inferior turbinated and on the nasal septum, which showed swelling, congestion, and sensitiveness during menstruation, and in cases of dysmenorrhea it was found possible to prevent the pains in the abdomen and loins by applying cocain to the nasal spots; and, indeed, to cure entirely the symptoms by cauterization of these spots. Before taking up the local or pelvic conditions that could be considered as etiologic factors of dysmenorrhea, it will be well to picture what is going on prior to and during menstruation. Leopold, Marshall, and others have described a menstrual cycle, which occupies typically 28 days, and can be divided into four stages. The first or constructive stage is the preparation for the reception of the ovum, and is characterized by the formation of the socalled menstrual decidua, at which time there is a marked hypertrophy of the mucosa engorgement of its superficial vessels, enlargement of the uterine glands, and an increase of the connective tissue. In the second or destructive period we notice the menstrual flow, which consists mainly of blood by diapedesis through the mucous membrane, a large quantity of mucus and the cells from the superficial layers of the endometrium. The phenomenon of normal menstruation is strikingly similar to the beginning steps of a pathologic inflammation, and as the pain in inflammation depends a great deal upon the location and the character of the tissue involved, it seems to me that to some extent the same holds true in normal menstruation. Nature has made allowance for the premenstrual swelling incident to this phenomenon, but when there is any condition present which in any way prevents the softening and swelling of the uterus, and especially the endometrium, pain must necessarily result by pressure on the nerve endings. In some cases of endometritis an exudate has been found between the mucous membrane and the muscularis, partially separating the former from the latter, but in the majority of cases the inflammatory exudate is found directly among the fibrillas of the myometrium; in either instance pain could result, due to an interference with the normal menstrual phenomenon.

The theory, which for a long time was accepted by the profession as the most frequent cause of dysmenorrhea, was a mechanic obstruction to the flow due to flexions, especially antiflexions, and pinhole external os uteri; this theory first popularized by Mackintosh, of England, in 1832, and subsequently by Marion Sims, and Simpson has too often swayed the professional opinion. While antiflexions and small os uteri are clinically often associated with dysmenorrhea, they cannot cause this symptom unless very marked, and it is not infrequent to find flexions of the most marked degree and cervical canals too small to allow the passage of anything but the smallest probe and still no dysmenorrhea; therefore, it cannot be argued that this condition alone is more than a predisposing cause, as it must have associated with it some other pathologic condition in order to give rise to dysmenorrhea. Mann in the "American System of Gynecology" advances the theory that a condition of hyperesthesia of the endometrium is frequently a cause of dysmenorrhea, and when associated with a condition of general pelvic congestion caused by malpositions, constipation, sexual excesses, and thermic insults, etc., all contribute no doubt to form a vicious circle very likely to produce a most severe form of dysmenorrhea. Any organ in the pelvis when diseased seems to be able at times to give rise to menstrual pain, while on the other hand it is not unusual to find all kinds of pelvic lesions without dysmenorrhea. Before closing, I must make brief mention of the socalled membranous dysmenorrhea. In 1882 Moericke expressed the opinion that menstruation was accompanied with little or no destruction of tissue. Dr. J. W. Williams, of Baltimore, and others support the same opinion after a careful examination of uteruses removed during menstruation; therefore the throwing off of any membrane at this time must be considered distinctly pathologic. Membranous dysmenorrhea is very rare, and the method of the production of the membrane still an unsettled one. Kleinwaechter could only find 80 cases on record; nearly 80% of the recorded cases were found in married women, and therefore some authorities claim it to be the decidua vera of a pregnancy which had come to an early termination. That some cases of supposed membranous dysmenorrhea may have really been an expulsion of the decidua vera is probably so; but that it is a pathologic entity has been proved, I think, without a reasonable doubt.

In conclusion, I would say that dysmenorrhea is produced in various ways by various conditions of the general system, by various pathologic conditions of the pelvis, sometimes reflexly from other organs of the body and it may be produced by a combination of some or all of these conditions.

A SUCCESSFUL TREATMENT FOR MORPHINISM WITH REPORT OF CASE.

BY

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I have come in contact with quite a number of morphin habitues and always endeavored to cure the patient by the methods recommended by our standard authors. I have usually pursued the gradual reduction method, but in no instance have I been able to effect a cure. I kept one patient under treatment more than a year, making a number of efforts to entirely withdraw the drug after reducing it gradually to a small fraction of a grain, but in every instance the patient would break down and I would be compelled to give either morphin or some substitute for it. Repeated failures to cure this

habit by either the rapid or the gradual reduction method and like experiences related to me by others convinced me that the morphin addiction could very rarely, if ever, be cured by any one of the methods known to medical literature, therefore for a number of years I declined to undertake a case of this kind.

CASE.—Some five years since, I had a relative fall victim to this drug by taking it for relief in an attack of sciatica. After the attack had subsided he found himself unable to leave off the drug, and therefore applied to me for relief. On account of our relationship I could not refuse him. Having had such complete failures by the reduction methods and knowing him to be a man who would stoically endure anything in order to be freed from this enslaving drug, I decided to withdraw the drug at once as advised by Levinstein. My patient being willing, the drug was discontinued. All went well for about 15 hours. At the end of that time he showed symptoms of acute coryza, was stretching, yawning, and complaining of aching limbs and back, accompanied by rigors as if having a chill. He was put to bed under ample covers with hot applications to the feet. After a half-hour in bed he said he was not suffering so much but still decidedly uncomfortable. His pulse was accelerated and deficient in volume. He was urged to remain in bed and keep as quiet as possible, which he endeavored to do, but in the course of the next six hours he became very restless and, notwithstanding his fixed purpose to follow my instructions or die, he said he just could not remain in bed another moment. Said he would not be in greater misery if he were in a bed of hot embers; that it seemed as if every bone in his body would break and as if there were worms crawling under his skin. He said a change of any kind would be a relief to him and begged to be allowed to get up and walk the floor. This was tried but gave little relief. He was suffering from intense colicky pains in the bowels, which this exercise seemed to augment. Perspiration, which had been profuse, was increased and this was accompanied by difficult and oppressed breathing. Pulse was more rapid and of less volume. Strychnin was administered hypodermically and whisky by the mouth, but with very slight, if any, relief. He spent the next 12 hours rolling on the bed and on the floor and in every conceivable attitude that a man could assume. His favorite attitude seemed to be that of lying on his back with his feet up the wall. His facial expression and demeanor, as well as his words, bore positive evidence of the most intense suffering. He was assured that his worst suffering would be over in another day or so, and even in this intense agony he insisted on being allowed to suffer it out or die. I watched his condition from hour to hour, and I was fully determined not to give him an opiate unless it became necessary to do so in order to save his life. About 24 hours from the time of taking the last dose of morphin his bowels began to run off, and soon there was a watery diarrhea that seemed to weaken him very much. This, with the profuse perspiration and the intense suffering which he had been and was still enduring, was pulling him down very rapidly. By the end of the thirty-sixth hour he was hardly able to arise from the bed, was becoming delirious, throwing himself from side to side of the bed, groaning and muttering in a half unconscious manner; skin was bathed in a cold, clammy sweat, respiration labored, pulse irregular and of very small volume. To all appearances the patient was rapidly going into what I felt sure would be a fatal collapse, therefore I could no longer withhold morphin. I therefore gave .13 gram (2 grains) hypodermically, but the relief was not sufficient, and at the end of half an hour .19 gram (3 grains) more were given. In an hour from that time his condition was fairly good, and he fell asleep and slept 10 hours. On waking he was willing to continue the struggle, but believing it was both useless and unsafe to do so, I told him it would be best for him to continue the use of the drug for a while, and that we would then try some other plan. After a few days' rest I endeavored to withdraw the drug gradually, but after 30 days spent in that undertaking the effort was abandoned as a hopeless failure.

My patient was a proud-spirited, ambitious fellow, and notwithstanding our failure to secure release by either of the methods tried, he could never reconcile himself to continue the use of the drug. He was continually rebelling against it, and would put off taking each dose until driven to it by suffering. We now began to investigate the claims of the various advertised cures for this addiction. We found that there were legions of these, many of which made the most positive claims to cure. We selected one after another, and sent the price demanded and received in return the supply of the remedy supposed to effect a cure. Each of them was given a fair trial, and usually as long as the use of the remedy was continued there was little if any demand for morphin, but always within 24 hours from the time the supply was exhausted or the remedy discontinued a return to the use of morphin was imperative, and in two or three instances the dose required to keep the patient comfortable was larger than was being taken before the use of the "cure" was begun. One of these, obtained from a much-advertised southern doctor, was used for more than 12 months, with the assurance that each shipment would complete the cure, but after 12 months' use of the "cure" the dose of morphin required to keep the patient comfortable was considerably larger than at the beginning of the treatment. This much-lauded cure was evidently only a solution of morphin colored with potassium permanganate. These failures left us in a state of complete despair, and I felt that death alone would release my cousin from his bondage, but he was more hopeful and urged me to continue to search for a remedy for him.

I was in this state of mind when a few months since I saw an abstract of an article read before the Alabama State Medical Association, April, 1902, by Dr. Geo. E. Pettey. I wrote, asking for a full text of the article, also any other matter he might have on the subject, and received several reprints. The views as to the pathology and treatment of this condition as set forth in these articles were entirely new, but seemed quite rational. The treatment outlined was fully in accord with the general principles of medicine, but the claims he made as to the possibilities of treatment were so radical that I could not but feel that he was an enthusiast and was overstating his case; however, his arguments seemed so conclusive as to awaken hope, and my kinsman and I decided to investigate the matter fully. I found that Dr. Pettey's personal and professional standing was good, and that his treatment for morphinism had the endorsement of the leading physicians of his city. My patient decided to try the treatment, and insisted that I accompany him. In discussing the management of these cases with Dr. Pettey, I found him to be a man of strong convictions and decided views, but always ready to give a reason for his faith. Several of his propositions struck me as new and unusual. He says:

The essential pathology of morphinism is autotoxemia, and the chief cause of the phenomena known as withdrawal symptoms is the presence of this toxic matter in the system and not the drug itself. The withdrawal of the drug merely permits these symptoms to develop, but that it is not their principal cause. The portal system is very much engorged, thus greatly impeding the flow of blood through that system, and that the heart, deprived of the support given it by morphin, is unable to propel the blood through that system against such an obstruction, and this fact accounts for the difficult heart action, oppressed breathing, profuse sweating, extreme prostration and collapse, which occur after the sudden stoppage of morphin. When the system is cleansed of the accumulated effete material, autotoxemia overcome, and the portal system disengorged, morphin can be at once withdrawn without shock, collapse, or danger to life, and the suffering, incident to such withdrawal, would subside in a few days. This suffering can be obviated or relieved and these days passed in comfort by the discreet administration of hyoscin, and this drug need not be administered for a longer period than 36 to 48 hours. At the end of that time the patient would, as a rule, be free from all desire for morphin, and withdrawal symptoms would not return. The patient would be able to sleep from four to eight hours out of each 24 without hypnotics, and there would rarely be further necessity for medication of any kind. The patient's bowels could be thoroughly emptied and the system cleansed of toxic and effete material without nausea, vomiting, exhaustion, or other distress. Patients thus treated would not have diarrhea following the disuse of morphin. Persons who had formed the habit because of some painful ailment or injury or by the indiscreet administration of the drug by a physician—that is, had formed the habit without any element of dissipation entering into it, had little if any tendency to return to the use of the drug after they were once released from its grasp.

The following are clinical notes of the case:

S. E. N., a male, aged 50; has used morphin five years. For the last 12 months his usual daily quantity has been .65 gram (10 grains) taken hypodermically in two doses.

On January 14, 1903, the kidneys were flushed by drinking water freely, and the use of saline solution by enema. The usual quantity of drug was allowed. On January 15, after abstinence from dinner, and taking a turkish bath, a capsule containing .16 gram (2½ grains) calomel, .16 gram (2½ grains) powdered extract cascara, .02 gram (1¼ grain) ipecac, and .01

gram ($\frac{1}{3}$ grain) strychnin was given at 4 p.m., and repeated at 6 p.m., 8 p.m., and 10 p.m. The usual .32 gram (6 grain) doses of morphin were given at 7 a.m. and 5 p.m. The latter was the last dose of morphin or opiate of any kind that was given.

On January 16, at 6 a.m., bowels not having moved, 4 mg. ($\frac{1}{15}$ grain) strychnin was given hypodermically. Between 7 a.m. and 10.30 a.m. the patient had four free evacuations from the bowels, said the first two were the most copious he had ever had. No nausea, griping, or other distress attended these actions. The last two were very bilious. Patient experienced much relief from these free evacuations, and instead of requiring morphin at 7 a.m., as usual, he said at 10 a.m. that he did not feel the need of it. At 12.35 p.m. he said he was beginning to need his drug, was feeling chilly, sneezing, and legs were beginning to ache. Instead of administering the customary dose of morphin, .4 mg. ($\frac{1}{150}$ grain) of hyoscin hydrobromate was given hypodermically, and at 1.15 p.m. he was given .6 mg. ($\frac{1}{100}$ grain) hyoscin. The patient fell asleep at 1.45 and slept 1½ hours. On waking he was not entirely comfortable. At 3.20 p.m. he was given .4 mg. ($\frac{1}{150}$ grain) hyoscin. He slept from 4 p.m. to 6.30 p.m.. On waking he said he was not suffering any real pain, but that his legs were still aching some. His mind was clear. At 6.35 p.m., .4 mg. ($\frac{1}{150}$ grain) hyoscin and 3 mg. ($\frac{1}{20}$ grain) strychnin was given, and at 7.55 p.m., .4 mg. ($\frac{1}{150}$ grain) hyoscin. At 9 p.m. the patient was entirely comfortable, but was beginning to show slight delirium and was picking at the bed clothes. At 12 p.m., .4 mg. ($\frac{1}{150}$ grain) hyoscin was administered. Between 12 midnight and 6 a.m. patient slept several short naps, but when awake his mind would wander slightly and he would see and talk of imaginary objects. If his attention was attracted and he was asked a question he would answer intelligently, but if left to himself he would soon lapse back into a semiconscious state. The imaginary objects he saw were of a pleasing and amusing variety, such as flowers, picnic parties, etc. He seemed quite happy and said he was not suffering. His respiration was practically normal, pulse 8 to 10 beats below normal, but was regular, full and soft.

On January 17, at 6 a.m., he was given .4 mg. ($\frac{1}{150}$ grain) hyoscin and 2 gms. (30 grains) sodium hyposulfite; at 8 a.m. 2 gms. (30 grains) hyposulfite; at 10 a.m. .6 mg. ($\frac{1}{100}$ grain) hyoscin and 2 gms. (30 grains) hyposulfite; at 12 noon 2 gms. (30 grains) hyposulfite; at 2 p.m., 2 gms. (30 grains) hyposulfite; at 4 p.m., 2 gms. (30 grains) hyposulfite; at 5.45 p.m., .6 mg. ($\frac{1}{100}$ grain) hyoscin. This was the last dose of hyoscin. During the 18 hours from 6 a.m. to midnight the patient's condition was practically the same as for the preceding six hours. Between 6 p.m. and midnight there were several bilious actions from the bowels, two of them quite free. By midnight the patient's mind was much clearer and he fell asleep and slept five hours. On waking his mind was entirely clear and he said he felt quite well, but weak, and that he had no desire for morphin.

On January 18, at 7 a.m., a glass of hot malted milk was given and repeated three or four times during the day. The patient did not particularly care for anything to eat, but took milk and retained it. No medicine of any kind was given during the day. Patient was given a bath and sat up half an hour at a time three times during the day, and this night he slept six hours without the aid of medicine. During January 19 and 20 he was still kept on light diet, milk, soups, etc., but on January 21 he insisted on having more substantial food. This was allowed, and taken with relish from this time on. On the fifth day from the beginning of the treatment the patient remained out of bed most of the day and was not in bed any part of any succeeding day. No medicine of any kind was given after the fourth day of treatment and his convalescence was rapid and uninterrupted.

There was an entire absence of the painful reactionary or withdrawal symptoms usually encountered in the disuse of morphin. There was no approach to collapse, which had compelled me to abandon the effort at withdrawal before. After the discharges from the purgatives given at the beginning of and during the treatment ceased, there were from two to four actions from the bowels each 24 hours, but not even a symptom of diarrhea appeared. The kidneys acted normally throughout. There was no colic, sweating, or aching of the limbs, and the nerves were as steady as when taking morphin, but as surprising as all these were to me, the greatest surprise of all was the fact that the patient slept almost normally from the very beginning of the treatment, and has continued to do so. He says he has never felt the slightest desire for morphin since the first dose of hyoscin was given him.

After the patient began to eat solid food his pulse ran from 10 to 15 beats a minute faster than normal for a few days, and his temperature was .5° above the normal in the evening, but after the tenth day his temperature did not show any perceptible rise. His skin, which had been swarthy and yellow, became clear. From the fifth day his appetite was greater than normal, and he could eat almost any quantity of food with impunity. He was encouraged to take outdoor exercise daily, and if the weather was inclement he was assigned to the billiard-room and instructed to play billiards at least an hour morning and evening.

Strictly speaking, this patient's treatment was completed in four days, as no medicine was given him after that time, but he was kept under observation and supervision the remainder of three weeks, at the end of which time we returned home. Although this supervision was prudent, I do not believe there was ever a time after the beginning of treatment that he would have taken morphin if it had been offered him. His weight at the beginning of treatment was 142 pounds. He evidently lost several pounds during the first five days of treatment and regained it during the succeeding five, as his weight on the tenth day was the same as on the day of beginning treatment. At this time, 90 days from the beginning of treatment, his weight is 175 pounds, a gain of 33 pounds in 80 days. He is in perfect health. His memory and reasoning faculties are as acute and clear as before the formation of the habit, and he is so rejoiced at being freed from his soul-crushing slavery that he has more the spirit of a youth than a man of 50.

I am aware that it is difficult for those who have attempted to cure patients with this habit by any of the old methods to realize that it is possible to obtain such results as are here recorded, but I confess that the claims made, which I regarded as extravagant before I witnessed the treatment of this and other patients, have been fully sustained. During the three weeks that I spent with this patient I observed the treatment of 10 victims of morphinism and in each the addiction was entirely overcome within a few days and the suffering was so slight that it hardly deserves to be spoken of as such. There was no appearance of collapse, heart failure or other untoward symptom in any case and there was an entire absence of that train of nervous symptoms usually encountered in such cases. The results were a complete revelation to me and I feel that too much credit cannot be accorded to its originator for his exhaustive study and frank and philosophic writings on the subject.

The University of Berne.—The new buildings of the University of Berne were recently opened. An address was delivered by Professor Kocher. For nearly 70 years the University was housed in an old Dominican friary. In recent years its popularity has increased and the names of 1,200 students are now on its books. The new buildings are charmingly situated on an eminence commanding a view of the whole city and of the Bernese Oberland. The total cost has been £48,000.—[*Brit. Med. Jour.*]

Insanity Increasing in England.—The annual report of the lunacy commissioners shows an enormous increase in madness in England and Wales. In 1859 the number of insane was 36,762, a proportion to the population of 1 in 536. There has been a steady increase up to January 1, 1903, when the insane numbered 113,964, a proportion of 1 to 293 of the population. The rate of increase since 1894 is specially noted, the leap being from 92,067. There never has been such an increase in numbers of insane as in the year ending December 31, 1902, the increase over 1901 being 3,251. The number of persons to become insane in 1902 alone was 22,581, almost 500 weekly. The increase is found almost entirely among pauper lunatics. The increase in 1902 in England was composed of private, 188; criminal, 48; pauper, 3,015. The proportion of private lunatics to the population is about the same now as in 1859, whereas the pauper proportion is twice as high. A careful table explains so far as possible the causes of lunacy. The list is headed by drink, whereto 23% of male insanity and 9.6% of female is ascribed. Heredity accounts for the greatest number of women lunatics, the proportion being a high one, 24.6%. Heredity is second in the case of men, accounting for 18.8%. Previous attacks come next, with 23.1% of women, and 16.2% of men. Unknown causes is 17% of men, and 15.4% of women. According to the commissioners, physical rather than direct mental causes are responsible for a great increase, and one case in three can be traced to some disease or disorder. The old age percentage is 7 for men and 8 for women. The age limits between which the majority are admitted to asylums are 25 and 44. One-fourth of all admitted are found suicidally inclined. Lunacy is increasing more in the country than in towns.

THE WORLD'S LATEST LITERATURE

Journal of the American Medical Association.

August 15, 1903. [Vol. XLI, No. 7.]

1. Recent Investigations Bearing on Infectious Diseases of Unknown Etiology. LUDVIG HEKTOEN. (Continued.)
2. Requirements for Admission to Medical Schools. N. S. DAVIS, JR.
3. Cooperative Methods for Improving the Usefulness of Statistical Classification of Causes of Death. CRESSY L. WILBUR.
4. The Proper Perineal Prostatectomy Incision. NICHOLAS SENN.
5. The Essential Principles of Infant Feeding and the Modern Methods of Applying Them. THOMAS MORGAN ROTCH. (Concluded.)

2.—Requirements for Admission to Medical Schools.—N. S. Davis holds that such requirements are needed as will enable graduates to mingle on an intellectual level with the best people, and as are essential to an understanding of what is taught in the medical curriculum. This means that at least part of a college course is necessary. The following are the subjects most important to know: Inorganic chemistry and qualitative analysis, mechanics, light, heat, and electricity; general biology, some comparative anatomy, particularly of vertebrates; German and French, and such botany as will acquaint students with the more important groups of plants; experimental psychology and logic. Physics and chemistry should be the first of these demanded, general biology being almost as important. No students should be admitted on certificates. Examinations should be required of all. [H.M.]

3.—See *American Medicine*, Vol. V, No. 20, p. 776.

4.—The Proper Perineal Prostatectomy Incision.—N. Senn has found the apex of Kocher's triangular incision liable to slough, and Zuckerkandl's curved incision does not give enough room. The median incision is altogether inadequate in difficult cases. Very little is gained by attempts to render the prostate more accessible by intravesical instrumental pressure, which beside is not always harmless. Senn has attempted to expose the prostate as freely as possible to sight and touch by an incision resembling an inverted Y. The median incision lays bare the membranous portion of the urethra. The lateral incisions are carried from the lower end of the median incision to a point half way between the anal margin and the tuberosity of the ischium, cutting through about the same structures as are involved in the lateral operation for stone in the bladder. The wound is deepened by blunt instruments, hemorrhage being arrested as it occurs. In this comparatively bloodless way the rectum is detached until the membranous portion of the urethra and the lower segment of the prostate can be seen and felt in the apex of the triangular wound. On a grooved staff in the bladder the membranous portion of the urethra is incised and the grooved director of Wheelhouse inserted in the bladder. Using this as a guide the prostatic part of the urethra is dilated with the left index finger, which after it enters the bladder is used as a blunt hook to draw the prostate into the wound. The capsule is incised and the left lobe enucleated. This is facilitated by traction on the lower part with the author's bullet forceps. Then the right index finger is inserted and the right lobe enucleated. Morcellement may have to be resorted to. Enough tissue must be removed to insure free outlet. A soft rubber drain from the bladder is sutured in the lower angle of one lateral incision. The perineal wound is drained with a strip of iodoform gauze. [H.M.]

5.—Infant Feeding.—T. M. Rotch discusses the variations in human milk and the fact that it is not adapted to the digestion and nutrition of all infants. Feeding is an individual problem. Fat is important for nutrition, heat, and in regulating the bowels. The surplus eliminated in the feces must not be always looked on as unnecessary. By diluting cow's milk with whey we can make the whey proteid relatively greater than the more indigestible caseinogen. He gives comparative analyses of mammal's milk and of the various breeds of cows. Holstein milk emulsifies better than that of Jerseys and Guernseys. In modifying we must know the composition of the materials used. A table illustrates the percentage of other elements in creams of different strengths. The proprietary foods are useless without the addition of milk, and being starchy are unsuitable until the tenth month, and then cereals in accurate percentages may be added to the milk. The problem of modification has been to a great extent solved by the laboratories. The prescription is written by the physician in percentages with the number and size of each feeding, and the amounts are calculated at the laboratory. The results have proved reasonably accurate, more so than when mixtures are prepared at home, and the cost is not much greater. The laboratory modifications are often sent to great distances. For aid in home modifications he tabulates percentages in the different layers of cream, endorses Westcott's formulas for modification with Ladd's card for home use. In feeding both healthy and sick infants one should begin with weak milks and gradually strengthen. Very rarely peptonization may have to be resorted to. [H.M.]

Boston Medical and Surgical Journal.

August 13, 1903. [Vol. CXLIX, No. 7.]

1. The Present Status of the Surgery of the Prostate Gland. PAUL THORNDIKE.
2. Preliminary Report of Five Cases of Renal Decapsulation. J. BAPST BLAKE.
3. Rupture of the Quadriceps Extensor Femoris Muscle. HALBERT G. STETSON.

1.—Surgery of the Prostate.—Paul Thorndike gives a short review of the present condition of prostatic surgery and concludes: 1. That no prostatic should be allowed to suffer for lack of proper treatment. 2. There is still a place for the catheter in such treatment, and many patients can be made comfortable and can be kept so by its systematic and proper use. 3. All those patients who cannot be kept comfortable by palliative means are fit subjects for some operation. 4. The operation of choice is always prostatectomy, but this operation can be properly offered to those patients only whose general conditions make them fair surgical risks, and such is rarely the case after 60 to 65 years of age. 5. To all other patients the Bottini operation can be fairly offered as one attended with little risk to life, a short convalescence, and a good prospect of such a degree of improvement as will at least do away with any further necessity for the systematic use of the catheter. [A.G.E.]

2.—Renal Decapsulation.—J. B. Blake reports 5 cases of renal decapsulation. Two of the five are, for the practical purpose of business and occupation, well. Two have died, at intervals of 4 days and 6 months after the operation. One is not relieved. All of the cases were operated by 2 surgeons simultaneously, one decapsulating the right, the other the left kidney. In 1 case the capsule had two distinct layers. The technic of the operation is briefly described. From the condition of the urine both before and after operation, Blake feels certain that the socalled ether nephritis is largely a medical scarecrow. Judged by Edebohl's standard, none of the patients are cured but the two are doing hard work as well or better than before their attacks of kidney trouble. Detailed notes of the 5 cases are given. [A.G.E.]

3.—Rupture of Quadriceps Muscle.—H. G. Stetson considers the pathology, diagnosis and treatment of this condition. Operative treatment seems to be preferable in the hands of the skilled surgeon and under favorable surroundings. In many instances the general practitioner had better at least try the effect of mechanical treatment. Stetson reports a case, the patient being a man of 71, with considerable arteriosclerosis. Operation was thought inadvisable and mechanical treatment was adopted. Five months later, extension was found to be strong and forcible; patient was able to kick vigorously and, compared with opposite leg, had 75% to 80% of normal function. Patient stated that improvement was still continuing. [A.G.E.]

Medical Record.

August 15, 1903. [Vol. 64, No. 7.]

1. Consideration of Mammary Cysts in the Differentiation of Breast Tumors. ROBERT ABBE.
2. Prostatic Hypertrophy and Its Radical Cure. WILLIAM POST HERRICK.
3. The Causation of Cancer and Its Treatment without Operation. ROBERT BELL.
4. Pathology and Treatment of Pneumonia. JOHN NORTH.
5. The Principle of Life and Cognate Things. JOS. CLEMENTS.
6. An Unusual Case of Empyema of the Antrum of Highmore. SIDNEY YANKAUER.

1.—Mammary Cysts.—Robert Abbe, in speaking of the relative frequency of mammary cysts, says that during 8 years he has seen in his office 41 cases of mammary cysts and 56 cases

of scirrhous carcinoma, in addition to a few cases of adenoma. He speaks particularly of the differential diagnosis and of the cure of cysts, both of which are claimed to be easy and absolute. Cysts may be localized in any part of the gland; scirrhous carcinomas are almost universally distributed between the nipple and the axilla. A tumor in the lower half of the breast has the greater probability of being a cyst. Cysts may be so hard as to be deceptive, hence every doubtful tumor should be pierced with an aspirating needle attached to a syringe, holding at least 2 dr. All of Abbe's 41 cases of cysts have been cured by aspiration. He believes that severe surgical work in these cases is unjustified. The article is accompanied by charts showing the relative positions of cysts and solid tumors. [A.G.E.]

2.—Prostatic Hypertrophy.—W. P. Herrick reviews the anatomy of the prostate, the cause and character of prostatic hypertrophy, and the treatment. His chief conclusions are: 1. When chronic posterior urethritis and prostatitis exist, these should receive appropriate treatment, the catheter used to withdraw residual urine, and the result carefully watched. 2. In patients in whom operation has become too hazardous, we must endeavor to improve their general condition, and if necessary do aspiration or perineal cystotomy under cocain, endeavoring to prepare them for radical operation or alleviate their symptoms. Advanced arteriosclerosis should also be carefully considered. 3. Palliative operations should rarely or never be done from their hazardousness and inefficiency. 4. Prostatic hypertrophy is now curable by means of an operation which, though serious, is not hazardous when undertaken in proper time and manner. 5. Anatomically, and now surgically, the simple perineal is the direct and preferable route. Rarely suprapubic exploration or lithotomy may be advantageously added to it. [A.G.E.]

3.—Causation of Cancer and Its Treatment without Operation.—R. Bell thinks if cancer were due to a parasite it would not be unilateral and the irritation would cause a rise of temperature. He believes a normal cell alters in character, becomes aggressive and cannibalistic, multiplying with great rapidity. This is due to prolonged irritation and reduced vital energy. Cancer is a disease of civilized life, unknown among savages and those who lead a simple life, therefore it is preventable. We have an example of what is essentially epithelioma in a wart. This assumes a malignant character only when subjected to rough usage. Cancer of the cervix is contingent upon endometritis with its concomitant neurasthenia and prostration of general functional activity. The integrity of the epithelium depends largely upon an unimpaired thyroid and there is direct relationship between the latter and the uterus. The thyroid secretion renders intestinal toxins innocuous, and it is to this that its beneficial action in cancer is due. Saccharomycetes in the blood transform these toxins into uric acid, interfering with cell metabolism and thus predisposing to cancer. Meat diet tends to produce intestinal toxins. In cancer it is advisable to abstain from highly nitrogenous food, relieve constipation, administer thyroid extract with salicylates to destroy the saccharomycetes, and remove all sources of irritation. If the disease has not advanced too far it will yield to this treatment. [H.M.]

4.—Pathology and Treatment of Pneumonia.—J. North has taught for 30 years that pneumonia was not an inflammation and believes that the high mortality is largely due to antiphlogistic treatment. In inflammation there is an effusion and passage of leukocytes from the nutritive circulation. In pneumonia the effusion is from the functional blood supply, and there is no change in the parenchyma and but little effect on the epithelium but that caused by pressure. Inflammation affects the tissue itself, causing anatomic change. In pneumonia there is crisis with sudden fall of temperature, while physical signs remain the same. Could this occur if the process were inflammatory? Pneumococci irritate the air cells, the functional capillaries exude a material which acts as a culture medium until pressure prevents any more exudate; in 5 to 8 days the germ exhausts this supply, ceases to produce toxin, and the symptoms subside. During this process the nutritive capillaries maintain the nutrition of the lung tissue, preventing injury. It is better to treat a patient in unhygienic surroundings than to remove him from a warm bed to a cold ambulance. A mercurial and saline should begin the treatment. Quinin given before the chill may abort the disease. Afterward it retards the production of leukocytes and prevents ameboid movements. Ammonium chlorid increases the alkalinity of the blood, diminishes its viscosity and prevents coagulation, and aids in the elimination of sodium chlorid. Aconite reduces tension, moistens the skin, and is diuretic. He uses opium throughout, preferring svapnia in a tenth-grain doses every 2 hours. Heroin is also efficient. [H.M.]

5.—The Principle of Life.—J. Clements insists that the vitalistic conception has always been entertained in various degrees of modification, and that life phenomena have never been conceived and interpreted on a purely physical basis. There is at present not "a revival of the vitalistic conception," but a more general interest in and a more purely vital idea of the force operative in physiologic work. There is a consensus of medical opinion that there is something not identified with any known physical and chemic activities. The attempt by objectors to identify electricity and life is a confession of the reality of this special force. The organic force is centrifugal from within outward. According to Kelvin, "all motion in pure dynamics is reversible," but this principle "has no place in the world of life." Misconception of the facts in physiology and pathology rendering oblivious and inoperable the idea of the sovereignty of the life principle, has given rise to the error of active agency in disease of other than vital forces, and of active principle in drugs in the sense of curative properties possessed and therapeutic activities originated by them. Microorganisms and drugs do certainly have relation to pathologic processes, but there is a real distinction between cause and origin in disease. The causal and adjuvant interpretation of the role of external things recognizes the force special in living entities, affording a rational view and interpretation of the processes. The principle of life, fully recognized, would reconstruct pathology and therapeutics, and medicine would emerge as the most exact of the natural sciences. [H.M.]

6.—Empyema of Antrum of Highmore.—S. Yankauer gives a brief history of a man of 48, who for 2 years had had obstruction of both nasal passages and the characteristic signs of nasopharyngeal catarrh. Incision allowed the escape of pus which was found to have arisen in the antrum. The condition present, a bulging inward of the middle meatus with either a congenital absence or a necrosis of the bony wall, is considered to be one of the rarest manifestations of disease of the antrum. The case is interesting from the fact that an abscess could remain for so long a time unrecognized. [A.G.E.]

New York Medical Journal.

August 8, 1903. [Vol. LXXVIII, No. 6.]

1. Further Observations on the Influence of the Röntgen Ray upon Sarcoma. WILLIAM COLEY.
2. Some Further Remarks and Queries Concerning the Influence of Altitude upon Heart Disease. ROBERT H. BABCOCK.
3. The Psychic Relations of Tuberculosis in Fact and Fiction. G. A. DE SANTOS SAXE. (Concluded.)
4. The Cause and Specific Treatment of Hay Fever; A Preliminary Report on the Uses of the Toxins and Antitoxins of Professor Dunbar. EMIL MAYER.
5. Malta Fever. C. F. MASON.
6. Peripheral Palsies Following Manual Replacements of the Congenitally Dislocated Hip. HENRY LING TAYLOR.
7. Rheumatism and Typhoid in Childhood. J. R. CLEMENS.

1.—See *American Medicine*, Vol. V, No. 25, p. 981.

2.—See *American Medicine*, Vol. V, No. 24, p. 942.

3.—The Psychology of Tuberculosis.—G. A. De Santos Saxe believes that the tuberculous individual exhibits psychic and temperamental traits that have not been studied by medical men with the attention which they deserve—traits that are well worth studying, inasmuch as they are directly connected with the disease, although not specifically characteristic of tuberculosis. The only probable theory thus far advanced as to the causes of the mental and moral degeneration of the tuberculous, leading even to criminal tendencies, is that of toxic poisoning of the central nervous system by the products of the tubercle bacillus, resulting in neurasthenia, psychasthenia, hysteria, and insanity. The fundamental factors in the psychic make up of the typical tuberculous patient are the loss of self-control, the rise of brute selfishness, the increase of suscepti-

bility to suggestion, to emotion, and to nervous irritation, and the tendency to rapid nervous and psychic fatigue. There is no tangible proof that the sexual functions are exalted in tuberculosis, but in all probability the sexual irritability is raised in the early stages of the disease and lowered coincidently with the lowering of vitality in the later stages. Saxe says that in all probability there is a connection between tuberculosis and insanity, the tuberculous toxin contributing, with other factors, in persons rendered susceptible by psychic and somatic degeneration, to the derangement of the mind. Any form of insanity may be found in tuberculous persons, and the term "tuberculous insanity" should not be used to designate a type of insanity peculiar to tuberculosis. The criminal tendencies of the tuberculous have been observed with sufficient frequency to justify an investigation into the medicolegal question of restricting the responsibility of a criminal on the ground that he is tuberculous. The euthanasia of these patients, which has excited speculation, is explained on purely physical grounds, the changes in the nervous system being so marked at the time of approaching dissolution as to efface the patient's suffering, and render his death easy. [C.A.O.]

4.—Specific Treatment of Hay Fever.—Emil Mayer has made an investigation on the action of the toxins and antitoxins of Professor Dunbar with good results. The cases were divided into two groups: (*a*) Those suffering from periodic attacks in May, June, and July; (*b*) those suffering in August and September. In each instance a person nonsusceptible to hay fever was similarly treated, and all received the following: One drop of a mixture of equal parts of normal horse serum and of pollen toxin was dropped in 1 eye, while 1 drop of a mixture of equal parts of antitoxin and pollen toxin was dropped in the other. Where reaction occurred there was much redness, followed by burning, itching, and finally slight edema in the eye in which toxins and normal serum were placed, while the other eye remained normal. The symptoms appeared promptly, and when the burning became intolerable, 1 drop of the antitoxin relieved it immediately. Reaction occurred in practically all of the spring cases, and there was an absolute failure to react in all the autumnal cases. In each instance, save one, there was no reaction in the control cases. The attacks may be prevented by placing 2 drops of the antitoxin well back in each nostril and sniffing up on rising, and before leaving the house one drop is placed in each nostril. On the slightest evidence of itchiug 1 drop should be applied. [C.A.O.]

5.—Malta Fever.—The case reported by C. F. Mason is that of a sergeant of the United States Army, under treatment at Fort Sam Houston, Texas. He had served in Cuba and the Philippines, and from June, 1899, to June, 1900, he was continually on sick report for rheumatism and fever, of which there is no record. He next appeared sick in September, 1902, and had practically a continuous fever until January, 1903. An examination of the blood showed the presence of *Micrococcus melitensis*. Mason believes that during his entire sickness he was suffering from Malta fever. [C.A.O.]

6.—See *American Medicine*, Vol. V, No. 23, p. 898.

Medical News.

August 15, 1903. [Vol. 83, No. 7.]

1. A Review of Some of the Recent Literature of the Etiology, Pathology and Prophylaxis of Hydrophobia. FIELDING LEWIS TAYLOR.
2. Hydrophobia: Symptoms and Diagnosis. WILLIAM BROADDUS PRITCHARD.
3. Rabies. H. D. GILL.
4. Best Methods to Prevent Hydrophobia. FOLLEN CABOT.
5. Adenoids in Relation to Audition and Cerebration. JAMES FRANCIS MCCAW.
6. Chronic Leg Ulcers F. WARD LANGSTROTH, JR.
7. Some Phases of Cranial Surgery. GILBERT GEOFFREY COTTAM.

1.—Recent Literature of Hydrophobia.—F. L. Taylor, in reviewing the literature finds that dogs and cats are affected more frequently than wolves, horses seldom have it, cattle do rather frequently, but pigs rarely. Deer and skunks are sometimes affected. It can be inoculated in most warm-blooded animals and birds. It has been produced by dissection wounds, eating infected flesh and milk. The virus is found in the central nervous system, peripheral nerves, salivary glands, pancreas, lacrimal, suprarenal and mammary glands, and perhaps in the seminal fluid. The infective agent has to multiply in the tissues before it can produce its effects. The disease is not from previously formed poison. The author describes the pathologic anatomy. The saliva is virulent 24 to 48 hours before the appearance of symptoms. Stray dogs should be destroyed. The police and people should be taught the importance of capturing instead of killing a dog who has bitten any one. Muzzling should be enforced. Wounds should be cauterized with fuming nitric acid. He describes prophylactic inoculation of virus, giving its low mortality and the production of an antirabic serum, 1 cc. of which will neutralize 1,200 infective units. The earlier this is administered the less the dose required. [H.M.]

2.—Hydrophobia: Symptoms and Diagnosis.—W. B Pritchard calls attention to the fact that the disease in dogs and men has increased in the past 2 years. One case of genuine hydrophobia may inspire 50 to 100 examples of the pseudo type, and some of these may prove fatal. Within 6 weeks or 6 months of the bite the victim notices malaise and perhaps feverishness with depression of spirits and irritability, and as a rule, recrudescence of irritation of the wound. This stage is termed the first great mental anxiety. This continues for 2 or 3 days, and ends abruptly in the convulsive stage. Attempts to swallow induce spasm of the glottis, pharynx, and neck muscles, the water regurgitating through the nose. Solids and semisolids can sometimes be swallowed. Delirium and hallucinations often ensue. After 2 or 3 days this passes into the paralytic stage which rarely lasts over 24 hours. In hysterical hydrophobia the incubative stage is either shorter or longer than that usual to the true disease. Symptoms appearing in a day or two are almost certainly hysterical. The patient develops at once the convulsive stage, and shows a disposition to bite rare in the genuine disease; he also barks, growls, and snaps with much more imitative accuracy. Showing the dog alive and well often results in immediate recovery. Should the disease last over 7 or 10 days, this is almost conclusive. The crucial test is the Pasteur inoculation. [H.M.]

3.—Rabies.—H. D. Gill notes the increase in this disease. There are 2 forms, furious and dumb, depending on whether the brain or spinal cord is first invaded. He has noticed that when an animal was bitten on the head, the furious, and if on the body or legs, the dumb form developed. In the furious form there is a melancholic, an irritated, and a paralytic period. The first varies from 12 hours to 2 days; the second lasts 3 or 4 days; in the third the expression is scowling, the lower jaw hangs, he staggers, and dies from cerebral paralysis or exhaustion from the fifth to the eighth day. In dumb rabies the second stage is absent. In the furious form the desire to bite may continue after paralysis of the jaw. In the dumb form owners often think the dog has a bone in his throat. Rabid dogs are not afraid of water. Beware of a dog who is dull, hides, appears restless, sullen, and walks with his head down, barks at nothing, scrapes incessantly, tears things up. Look out for a dog which has become too fond of you and is continually trying to lick you, and above all who has difficulty in swallowing, or who has wandered from home and returns dirty and miserable. Rabies is relatively more common in New York, and will increase without suitable regulations. The methods of the Society for the Prevention of Cruelty to Animals tend to spread the disease. Dogs should be placed under medical jurisdiction, muzzling should be required at least in infected areas, there should be separate compartments in the wagon and pound for each dog, there should be places for isolating those that are suspected, and every dog bitten should be destroyed or quarantined for a year. [H.M.]

4.—Best Methods to Prevent Hydrophobia.—F. Cabot divides preventive work into intelligent laws, treatment of wounds by antiseptics and cauterization, and Pasteur immunization. The season bears no relation to prevalence, and laws should apply all the year round. Owners should be compelled to register, and each dog should be quarantined for 6 weeks after coming to the city. Muzzling all dogs for 6 months would at present be desirable. Dumb rabies is the usual form seen in New York. The microorganisms are localized in the tissues for 24 hours probably, infecting the system by way of the nerves. In wounds of exposed parts a general anesthetic

should be given and the wound scrubbed with green soap and bichlorid 1-1,000 and then fuming nitric acid applied on a glass rod. If no anesthetic has been given, cocain may be applied after the scrubbing, followed by pure carbolic and then nitric acid. This must be done as early as possible, but has been of value in guineapigs after 2 days. Experiments show this will save 91% of the cases. Silver nitrate saves only 55%. Cabot believes cauterization of more value than the Pasteur method, but believes both should be used. The dog should be kept under observation a week. [H.M.]

5.—Adenoids in Relation to Audition and Cerebration.—J. F. McCaw believes that lymphoid tissue in the pharynx is the most important predisposing factor in acute and chronic suppurative and nonsuppurative otitis media and recurring earache in children. Obstruction causes rarefaction of the air. This is followed by passive congestion and hyperemia of the mucous membrane extending through the eustachian tube to the middle ear. Resultant swelling interferes with ventilation, causing depression of the tympanic membrane. An inflammatory process can be readily engrafted on this, which soon becomes infected. Adenoid tissue between the eustachian tubes is more dangerous than a much larger amount in the upper posterior part of the vault. It is one of the most frequent causes of chronic running ear and deafness. These children are mentally deficient. The nasal congestion may induce corresponding congestion in the anterior portion of the brain. The obstruction to the return of lymph may be a factor. Another is the restless, unrefreshing sleep, imperfect oxidation, and impaired nutrition. [H.M.]

6.—Chronic Leg Ulcers.—F. W. Langstroth gives the causes of chronic leg ulcers in the following order of frequency, based on the records of nearly 200 cases personally observed: (1) Varicose veins; (2) syphilis; (3) trauma, especially when varicose veins are present; (4) tuberculosis and leprosy. Regarding treatment, the use of various methods, including bandaging, cureting, incision, and numerous drugs, are detailed. Rules insisted on are: (1) A proper differential diagnosis; (2) avoid all ointments and pastes; (3) consider local and general treatment; (4) do not despair. The ulcer that absolutely refuses to heal is exceedingly rare. [A.G.E.]

7.—Cranial Surgery.—G. G. Cottam, in speaking of progress in brain surgery, says it is a notable fact that experimental procedures unsupported by sound pathology have been invariably unproductive of results, and that wherever pathologic conditions have received correct interpretation permanent advances have followed. But incomplete knowledge of the pathology of the central nervous system is not the only barrier to progress in its surgery. Much of cerebral localization is yet to be revealed. Two cases are cited to illustrate the fallacious import of localizing symptoms. Exploratory operation is the only other available method of diagnosis. Cottam believes that in many cases, particularly compound fractures of the skull, the operator does too much. If limitation of infection, hemostasis, and relief of pressure can be accomplished through the original opening, what is the use of trephining in every case as directed by many textbooks? If suture of the scalp in these cases interferes in the slightest with drainage it should be omitted. The utmost simplicity of technic should be observed in all operations. [A.G.E.]

CLINICAL MEDICINE

DAVID RIESMAN A. O. J. KELLY

REVIEW OF LITERATURE

Hyperchlorhydria; Etiology and Treatment.—The June number of the *International Medical Magazine* is devoted entirely to a symposium upon hyperchlorhydria. A series of 9 questions regarding some of the disputed points in etiology, diagnosis, etc., are briefly answered by Ewald, von Noorden, Rosenheim, Einhorn, Hemmeter, Kuttner, McCaskey, and Reed. G. Hayem writes on the pathology and etiology of the condition, stating that many authors describe under the name of continuous hypersecretion what is really gastric retention due to the existence of a mechanical obstacle to the evacuation of the stomach. These 2 conditions should not be confounded. Hayem distinguishes 2 varieties of hypersecretion—the predigestive and postdigestive. Disturbance of the nervous system as a cause can be admitted only as an hypothesis. The causes of hyperchlorhydria are the causes of the various forms of parenchymatous gastritis and the hypersecretion seems to arise from a peculiar modification of the protoplasm of the granular epithelium. G. Herschell describes his method of treating hyperchlorhydria by the direct application of electric currents of high frequency to the mucous membrane of the gastrointestinal tract by means of one electrode upon the tongue, the other in the rectum. J. C. Hemmeter speaks briefly of an experimental and clinical study of the etiology of hyperchlorhydria. The treatment of hyperchlorhydria is considered by F. B. Turck. Lavage by means of the intragastric bag is much better than the direct method in most cases. When the latter is used, a mucilage in slippery elm bark is more efficacious than plain water. An apparatus for applying vapors plain or medicated, to the stomach is described, also a somewhat similar means for forcing food into that organ. The medicinal treatment is discussed by A. A. Jones, and the relations between hyperchlorhydria and neurasthenia by J. A. Lichty. The effervescence test for gastric acidity is still further elaborated by A. L. Benedict and Boardman Reed and A. Robin writes of the etiology of hyperacidity. [A.G.E.]

Rare Case of Measles.—B. Machold[1] observed during an epidemic of measles a case in which the patient, after apparently recovering from a typical attack of the disease, broke out all over with bluish-red spots the size of a quarter; there were no bad symptoms otherwise. Desquamation occurred after the fifth day. Machold believes this to have been a relapse during measles. [E.L.]

Tuberculosis and the Medical Profession.—A. Hillier[2] says that a recent visit to Berlin forcibly impressed upon him 2 points in reference to tuberculosis: (1) The great emphasis laid upon the cough-sprayed infection in pulmonary tuberculosis; (2) the drop in the Prussian tuberculosis deathrate. An accompanying chart shows that in England the deaths from pulmonary tuberculosis have been declining since 1838, when they were 38 per 10,000, down to the present time, when they are only 13 per 10,000. In Prussia the only decline in the deaths from tuberculosis has occurred since 1886. From 1876 to 1886 the Prussian rate remained stationary at 31 per 10,000. From 1887 to 1900 it fell steadily from 31 to 21 per 10,000. In England during the same time the drop was only from 24 to 19. An interview with Professor Koch showed that he does not consider sanatoriums to be the chief cause of this decline. The chief factor has been the knowledge of the infectious character of tuberculosis and the precautions gradually brought into practice, even among the lowest classes in Germany, against it. Koch states that neither England nor Germany have as yet provided the most essential of all institutions—the institution for advanced cases. The danger of infection from early cases is trifling as compared to that from the advanced and fatal cases. Danger from infection cannot be abolished by merely controlling the sputum. It is the microbe-laden spray shed by the tuberculous around him in his last stages that is the most deadly method of conveying the disease. [A.G.E.]

A Study of the Tonsils and the Uvula in the Tuberculous.—In a study of the palatine tonsils and the uvula in the tuberculous, Escomel[3] comes to the following conclusions: (1) Tonsillar tuberculosis is very common in the tuberculous; (2) the macroscopic diagnosis of this affection is very difficult; (3) the tonsils nearly always become infected by exogenous contamination; (4) the crypts are always filled with many species of microorganisms; (5) among these, the bacillus of Koch is frequent in the tuberculous; (6) it is also found in latent state in some persons that are not tuberculous; (7) the bacillus of Koch is sometimes found in the blood of the tonsillar vessels; (8) the uvula is rarely tuberculous. [D.R.]

Zomotherapy in Tuberculosis. — Because of the small amount of experimental work done on this subject and the contradictory results obtained, L. Brown[4] was led to make 2

[1] Münchener medicinische Wochenschrift, April 14, 1903.
[2] The Practitioner, June, 1903.
[3] Bull. et Mem. de la Soc. anat. de Paris, March, 1903.
[4] American Journal of the Medical Sciences, June, 1903.

series of experiments with dogs. Five dogs were each inoculated in the external popliteal vein with 2.5 cc. of an emulsion of tubercle bacilli obtained from the sputum of a rapidly advancing case of pulmonary tuberculosis. Two were chosen as controls and fed cooked meat, milk, and scraps from the table. The others were fed nothing but fresh raw beef. All the dogs finally died, riddled with tubercles. There was no greater difference between the pathologic findings in the control and the tested animals than among the tested animals themselves. The average life in the controls was 34.5 days; in the dogs fed on raw meat, 31.5 days. Fearing that the bacilli had been too virulent and the dose too great, 6 dogs were injected with a culture of greatly attenuated tubercle bacilli. Four were fed on raw meat, fat, and a little bread and dog biscuit. The other 2 were fed on a general diet exclusive of raw meat. The test dogs lived on an average of 110 days after inoculation, the controls on an average of 308 days. The results are taken to show that raw meat has but little or no effect upon the duration of experimental tuberculosis in dogs. With regard to the administration of raw meat or its juices to human tuberculous patients it is believed that the disadvantages of preparing and preserving raw meat-juice more than offset its advantages. [A.G.E.]

Prevention of Seasickness.—O. Dornblueth[1] recommends travelers to wear abdominal bandages, and to inhale deeply while the ship is descending a wave, believing that the disease is brought about by the sense of falling as the ship descends. By supporting the abdominal contents, the sensation is done away with to a great extent. [E.L.]

Chronic Catarrh of the Stomach.—C. D. Aaron[2] says there is no reason why an average patient suffering from chronic gastritis cannot be restored to health by a proper regimen. In primary and secondary stomach catarrh the same clinical symptoms may appear. In considering diagnosis, great stress is put upon the value of examination of the stomach contents, the points to investigate being the presence or absence of hydrochloric acid, pepsin, and rennin. Absence of the acid means chronic gastritis, absence of the ferments atrophic gastritis. Treatment is considered under dietetic, mechanical, and medicinal means. No special diet list should be followed, for each case must have a list of its own. Lavage is of value. Aaron gives hydrochloric acid in large doses when it is absent from the stomach contents. To protect the teeth it is given in double capsules, 15 minims of the dilute acid every 10 minutes after meals until 6 doses are taken. The fallacy of giving pepsin when hydrochloric acid is absent is emphasized. The prognosis of chronic gastric catarrh depends upon the ferments; if they are present, there is, under rational treatment, a prospect of recovery and improvement of the secretory functions; if they are entirely absent, there certainly exists an irreparable degenerative process of the mucous membrane of the stomach, but so long as the food is promptly carried from the stomach into the intestine, the prognosis is always good. Prognosis is bad when some complication obstructs the forwarding of the chyme into the intestine. [A.G.E.]

GENERAL SURGERY

MARTIN B. TINKER

A. B. CRAIG C. A. ORR

EDITORIAL COMMENT

Ulcers of the Leg.—Local and general causes act, separately or jointly, to produce ulcers of the leg. Among the former may be mentioned injury, infection, breaking down of neoplasms, interference with circulation, prolonged pressure, embolism, etc. The essential factor in the general causes is that they undermine and debilitate the system, causing nutritional disturbances. DaCosta states that all ulcers, whatever their origin, are either acute or chronic, and such conditions as great pain, hemorrhage, edema, exuberant granulations, phagedena, sloughing, eczema, gout, syphilis, etc., are to be viewed as complications. The essentials in the treatment of acute ulcer of the leg are thorough emptying of the bowel, a restricted diet, rest in bed with the leg elevated, cleansing with hydrogen dioxid, followed by mercuric chlorid solution and trimming away all slough. In many instances local blood-letting is of value. The ulcer should be dressed antiseptically, and to the inflamed area about it, dressings wrung out of lead-water and laudanum and covered with oiled silk or waxed paper should be applied until the acute inflammation is under control. While the ulcer manifests a disposition to spread it should be touched daily with a solution of silver nitrate. In dispensary service chronic ulcer of the leg is very frequently met with, many being due to varicose veins. Curtis says varicose veins do not cause ulcers unless the vascular changes have involved the minute venous radicles in the skin. In the treatment of these ulcers rest and elevation are of course indicated, but they so frequently occur among a class of persons whose daily toil requires them to be almost constantly on their feet that this advice is seldom followed. The essential factors consist in cleansing the ulcer antiseptically, removing all redundant or sloughing tissue, the application of lead-water and laudanum to the surrounding area only if there be marked inflammation, and when this has subsided protonuclein, glutol or bovinin may be applied to the ulcer proper and the whole leg, wrapped about with cotton or sterile gauze and a firm roller bandage applied. Before a chronic ulcer will heal there must be softening and absorption of the indurated edges and base. For this purpose moist warm dressings and multiple incisions carried through the deep fascia are indicated. If there be an eczematous condition in the area around the ulcer the drying and constringing effect of zinc oxid ointment, to this area only, is very beneficial. The indolent ulcer should be stimulated with such preparations as silver nitrate, tincture of iodin, balsam of peru, pyoctanin, etc. The different preparations which have been applied locally with asserted success are legion, but the essentials in treating chronic ulcer of the leg are cleanliness, the stimulation of the ulcer once it is put in a healthy condition, and the combating of venous stasis by the application of a *firm* roller bandage extending from the toes to the knee.

[1] Münchener medicinische Wochenschrift, April 7, 1903.
[2] The Medical Standard, June, 1903.

REVIEW OF LITERATURE

Acute Yellow Atrophy of the Liver Following Removal of Appendix.—Max Ballin[1] reports the case of a brass-worker of 22, who for the past 2 years had suffered from lead colic and typical attacks of appendicitis. Operation was performed during an attack of appendicitis, and that organ found in a fibropurulent condition. Three days later jaundice developed. Stupor and delirium supervened. The following day there was marked delirium and coma with increased jaundice. Venesection of right median vein and intravenous saline solution were resorted to. For 3 days this condition continued and gradually the symptoms abated. The icterus cleaned up and the patient made a complete recovery. The author believes that there is no doubt that he had to deal with acute yellow atrophy of the liver following removal of the appendix. The icterus, delirium, spasm, coma, fever, etc., complete the clinical picture. Most cases are fatal. He has found but few cases of acute yellow atrophy of the liver following removal of appendix, in this country but 9. In all of the 10 cases, including his own, icterus developed 1 or 2 days after the operation, and was followed by vomiting, delirium, coma, and in 9 cases out of 10 death. He believes the chloroform method for an anesthetic may have had some causal relationship. [A.B.C.]

Treatment of Traumatic Tetanus with Behring's Tetanus Antitoxin.—A patient of Frotscher's[2] injured his scalp by striking his head against a dirty log. The antiseptically treated wound was well 11 days after injury. Five days later symptoms of tetanus developed; by the next day the entire muscular system was affected, and convulsions were

[1] Annals of Surgery, March, 1903.
[2] Deutsche medicinische Wochenschrift, March 5, 1903.

already very frequent. Frotscher injected 200 units of antitoxin in 2 doses 12 hours apart, with apparently no relief. Excision of the scar was next resorted to, and symptomatic method of treatment begun. On the fifth day convulsions occurred every few minutes, and the patient's death seemed imminent, when without known reason a gradual improvement set in which continued progressively until recovery was complete. The author does not say whether he considers the tetanus antitoxin responsible for the cure or whether this would have occurred spontaneously, his opinion however is, that the antitoxin should be looked upon with more confidence, and, especially as its innocuity has been proved, that it should be employed early in every case of lockjaw. [E.L.]

The Moist Dressing in the Treatment of Compound Fractures.—C. H. Lemon[1] says the reason for so many failures in the treatment of compound fractures is a misplaced confidence in the ability of bone structure to successfully combat infection. The abdominal cavity more readily takes care of infection introduced from without than do the fractured ends of a bone. Lemon emphasizes the difference between a "moist" and a "wet" dressing. A wet dressing soon becomes a dry dressing except on the wound side it is covered with a layer of pus. A moist dressing remains moist and does not become plastered with pus next to the wound. The moist dressing promotes by capillary attraction the absorption of wound secretion, removing it from the cut surface to the most distant parts of the overlying dressing. To those who object to the moist dressing because it is faulty in a clean wound, macerates the skin, acts as a poultice, and induces infection by retaining heat and moisture, Lemon urges the use of the dressing along the lines he indicates. They will have better results in their work. He illustrates his points by the summary of 2 cases. [A.G.E.]

Intestinal Obstruction.—Schneiderlin[2] reports a case of intestinal obstruction in a hysteric female, beginning with symptoms pointing to inflammation of the appendix. The latter was found inflamed and removed; the symptoms did not disappear, however. At a second operation the cecum and ascending colon were found to be filled with pieces of linen several inches in diameter. They had been caught in the meshes of mucous membrane. Massage of the intestinal walls was used to loosen them, and they came away in the course of the next few days by the aid of copious enemas. [E.L.]

GYNECOLOGY AND OBSTETRICS

WILMER KRUSEN FRANK C. HAMMOND

REVIEW OF LITERATURE

Funnel Pessary in Genital Prolapse.—Professor Schatz[3] describes with an illustration a newly devised funnel-formed pessary, constructed in several sizes, and points out its advantages over other pessaries. [W.K.]

Injuries to the Child During Spontaneous Labor.—Dörner[4] calls attention to the fact that injuries may occur during the normal birth of a child, which especially in appearance may simulate injuries inflicted for criminal purposes. He relates such a case. The patient, a primipara, was in labor 2 days and 3 hours, and gave birth spontaneously to a living child; it lived 2 days. Among the injuries the child was found to have the following are especially noteworthy: Hemorrhage beneath periosteum of temporal bone with external ecchymosis, hemorrhage beneath skin of right cheek, beneath skin over left frontal bone, abrasion of neck covered with bluish scabs (they look as if child had been choked). The trunk and limbs also presented numerous injuries. He explains the manner in which the various lesions, and especially those of the neck, may be produced during delivery, and warns against judging such a case too hastily. The importance of a careful anamnesis and examination is well illustrated by this case. [E.L.]

[1] The Wisconsin Medical Journal, June, 1903.
[2] Münchener medicinische Wochenschrift, April 7, 1903.
[3] Zentralblatt für Gynäkologie, August 1, 1903.
[4] Vierteljahrschrift für Gerichtliche Medizin, Vol. xxiv, p. 277.

Cause of Inversio Uteri.—F. Schauta[1] refers to a case of inversio uteri in a woman 78 years old, and says that inversion in an old woman with highly atrophied uterus brought him to the conviction that the inversion of the puerperal and the nonpuerperal uterus was due to the same cause; that it was never due to muscular activity, but to muscular weakness or deterioration through atrophy, or through thinning of the walls combined with pressure from above or tension from below. Pozzi says that to produce inversion of the uterus it is necessary that one part of the organ, having become inert and thin, be seized by contraction of the part of the uterine muscle situated below it. MacNaughton Jones states that the essential—as it always is the predisposing element—in inversion is an atonic state of the uterine parenchyma, favoring relaxation of the muscular fibers. This leads to a partial prolapse of the uterine wall; the prolapsed portion is treated by the uterus as a foreign body; it excites contractions which end in expulsion of a part or the whole of the fundus. Schauta, however, claims that the inversion of the uterus never occurs during a contraction, as during contraction the uterus is hard and stiff, and this condition is unfavorable to inversion. After reviewing the opposing views of Treub and Thorn, he asserts that contraction plays no part in inversion; but that inversion is caused by weakness of the organ through paralysis, atrophy, thinning of the walls, or distention of the uterine cavity by a myoma, etc. [W.K.]

The Determination of Sex.—This evasive problem has found a rather simple solution at the hands of A. Litkens.[2] He transfers the entire question to the lowest forms of life, where the conditions are much less complex. If we study the propagation of bacteria, for instance, we find that it is of two kinds: In a warm, moist, and nutritious medium they propagate by division or budding, while in unfavorable conditions they multiply by means of spores, which do not require any nutrition for a long time, and are generally able to resist cold, heat, dryness, etc. It would therefore seem, according to the author, that when the parental organism is stimulated by privations to a struggle for life, a better adapted offspring is produced than at other times. The same principle he applies to the higher animals and to man, asserting that whenever the parents are in condition of high nervous tension, conception will result in male issue as a better adapted form; on the other hand, in times of ease, relaxation and comfort, conception will yield female issue. A series of observations is adduced to confirm these statements. [L.J.]

Does the Injury to the Round Ligaments in Herniotomy Cause Retrodeviation of the Uterus?—S. Goldner,[3] in discussing this question states that out of 50 women who underwent Bassini's radical operation he examined 28 in from 3 to 6 years after the operation. Of these, in 13 cases the operation was bilateral, in 15 unilateral. These patients belonged to the class of working women, and went back to their labors undisturbed and completely free from pain. Of especial interest was the condition of 12, in whom the round ligament, on account of adhesions, was cut through and the stump of the hernial sac ligated with the round ligament; in 6 cases this was done on 1 side, and in 3 cases on both sides, and in none of them did there appear any change in the position of the uterus. This condition led him to conclude that the severing of the round ligaments in the inguinal canal caused no disadvantageous result, and that the fact that even in those cases in which both ligaments were severed no retroflexion occurred, justified the use of the radical operation of Bassini. [W.K.]

Vaginal Hysterectomy.—This operation receives the enthusiastic support of A. F. Kalelukoff,[4] whose experience covers 62 cases, most of them cases of cancer. While the choice may be a matter of personal favor in benign uterine growths, in malignant disease extirpation of the uterus by the vaginal route should be given the preference whenever feasible, as the more rational and less dangerous method. That it is less dangerous is shown by the striking difference in the mortality of both operations, vaginal hysterectomy averaging 10%, while laparotomy runs as high as 60%. In illustration of the possibil-

[1] Wiener klinische Wochenschrift, July 9, 1903.
[2] Obsrenie Psychiatrii, etc., April, 1903.
[3] Zentralblatt für Gynäkologie, August 1, 1903.
[4] Chirurgia, May, 1903.

ities of the vaginal method the author cites 2 original cases of uterine fibromas in which the tumors reached the umbilical line, and yet the extirpation offered no special difficulties. The author operates according to the ligating method in preference to using forceps-pressure as recommended by others. The field of operation is continually irrigated with sterile water. The mortality in the 62 cases was 11%. [L.J.]

The Diagnostic Value of Leukocytosis.—E. Waldstein and O. Fellner[1] give tabulated statements of their investigations in 29 cases, and their experience in inflammatory adnexal tumors leads them to conclude that suppurating adnexal tumors in the acute stage are accompanied with leukocytosis. The leukocytosis persists longer than the fever, but yet it diminishes in spite of the continuance of the pus sac. Adnexal tumors with no pus contents show no leukocytosis. The hope that the condition and number of the leukocytes would be an index in differential diagnosis between intraperitoneal suppuration and internal hemorrhage proved fallacious, since the leukocytosis in the cases studied furnished no data of distinction between suppuration and hemorrhage, being similar in both conditions. [W.K.]

TREATMENT

SOLOMON SOLIS COHEN
H. C. WOOD, JR. L. F. APPLEMAN

REVIEW OF LITERATURE

Treatment of Mucomembranous Enteritis.—A. Robin[2] states that the most frequent cause of mucomembranous enteritis is gastric hyperacidity. To correct this he prescribes:

Precipitated calcium carbonate,
Calcined magnesia . . . . of each . 6 gms. (1½ drams)
Sodium bicarbonate . . . . . 4 gms. (1 dram)

For 12 powders. One after each meal, in the middle of the afternoon, and at bedtime in a little water.

The diet should be restricted to easily digested food; and fats, sauces, raw or fried articles, condiments, and acid substances should be avoided. Intestinal irrigation may be practised once daily for not more than 8 days; by this time when the intestine is cleared of its irritating contents 2 or 3 irrigations a week are sufficient. These irrigations should be made with about 1 quart of water at a temperature of 95° to 98° F., to which 5 or 6 drops of tincture of sage has been added, the latter favoring the contractility of the intestine. Feeble laxatives are useful; before breakfast 1 or 2 teaspoonfuls of castor-oil, to which 3 drops of the following has been added:

Tincture of opium
Tincture of belladonna } of each . . 5 cc. (80 minims)
Tincture of hyoscyamus

Massage may also be practised, following the course of the large intestine. [L.F.A.]

Symptoms of Withdrawal in Morphinism.—F. X. Dercum says that morphin patients are so untrustworthy, and the means of obtaining the medicine save under rigid isolation are so many, that the physician should carefully watch the patient in order to learn whether withdrawal is actually taking place. Absolute supervision is possible only under absolute isolation, and even then, by the most unexpected means, the patient may be placed in possession of the stimulant. However, if the quantity administered is really being diminished, certain symptoms inevitably make their appearance. They are, first, restlessness, which may become very marked, and is accompanied by more or less insomnia. The patient also yawns a great deal or sneezes, complains perhaps of having caught a slight cold, or perhaps has an attack of difficult respiration, simulating asthma. In addition to restlessness, he manifests signs of fear, complains of a sense of oppression, declares himself dissatisfied with the treatment, and insists upon going home. Involuntary movements of the legs and arms also make their appearance, the limbs being thrown about the bed. At times this is merely due to restlessness; at other times distinct involuntary jerkings are observed. Intention tremor also becomes evident. When, for instance, the patient attempts to pick up a glass of water, it is noticed that he trembles decidedly. Sometimes, instead of an asthmatic attack, all the symptoms referable to a cold in the head or a spasmodic cough may be noted. Sometimes vesical tenesmus is present. Palpitation of the heart may also be evident, or the patient may complain of fluttering sensations in the precordia. Obviously, if none of these disturbances be observed, and if the patient continues comfortable and in good spirits, sleeps well, and is contented with his surroundings, he is obtaining the drug surreptitiously. It should be remembered that even under very gradual withdrawal some of the symptoms described make their appearance, and may, indeed, become so marked as to necessitate for a time a return to a larger quantity. No picture is more alarming than that often presented by morphin patients in the stage of withdrawal, especially if the depression produced by the vomiting and diarrhea be accompanied by mental confusion and delirium. These symptoms cannot be relieved by other remedies, and a recourse to morphin for a time is not only indicated, but is really the only course to pursue. The history of the withdrawal in a confirmed case of morphinism is, in the author's experience, not a steady and unbroken decrease in the quantity of the drug, but embraces a series of diminutions, the progressive decrease being every now and then broken by a return to a slightly larger quantity.—[System of Physiologic Therapeutics, Vol. viii.]

Improvement in the Treatment of Grave Forms of Syphilis.—Leredde[1] finds the cause for failures in curing grave forms of syphilis in too small a dosage, and in faulty methods of employing the mercury. To produce a cure in grave eye-affections, tabes, progressive paralysis, etc., it must be given subcutaneously and in large doses, especially at the beginning of the treatment. In cases in which speedy results are absolutely necessary, he gives the bichlorid or cyanid of mercury subcutaneously in doses of 0.03 gm. to 0.04 gm. (½ gr. to ⅝ gr.) daily, of the biniodid from 0.06 gm. to 0.08 gm. (1 gr. to 1¼ grs.) daily; if calomel is preferred, from 0.07 gm. to 0. 1 gm. (1⅛ grs. to 1½ grs.) should be injected twice a week. Inunctions of 4 gms. (1 dr.) daily produce absolutely no result, in his opinion. [E.L.]

Antitoxins of High Grades.—Discussing the best methods of obtaining diphtheria antitoxin of great strength, S. W. Korshun[2] maintains that frequent injections of small quantities of toxins which do not affect the animal's health are a better stimulant to the formation of antitoxins in the system than less frequent and voluminous toxin doses which make the animal sick. The local and general reaction (fever infiltrations) is not an indication of efficiency, but rather an undesirable complication of the method. [L.J.]

Aristochin.[3]—This new compound is a diquinin carbonic acid ester. It is a white, tasteless powder, insoluble in water, with difficulty soluble in ether and easily soluble in chloroform and ethylic alcohol. It contains 96.1% of quinin. Aristochin does not cause the untoward effects usually seen after quinin. In the urine, it is detected by treating it with a solution of iodin and potassium iodid after having acidulated the urine with sulfuric acid. Aristochin is particularly efficacious in malarial fever. Its action is again as intense as that of quinin. It is given in doses of 1 gm. (15 grs.) 1 to 3 times daily in grip, typhus, whoopingcough, and malarial fever. [L.F.A.]

Methylene-blue in Psychiatric Practice.—The selective action of methylene-blue on the nervous system can now be considered as definitely established. The remedy has been quite extensively used as an antineuralgic, especially in malarial neuralgia. G. M. Saitzeff and N. N. Toporkoff[4] employed methylene-blue in various excited conditions of the insane as a sedative. Patients with maniacal excitement, with hallucinations, suffering from obstinate insomnia, from delirium tremens, etc., were treated with this remedy, which was administered subcutaneously in doses varying from 3 cgs. to 13 cgs. (½ gr. to 2 grs.) Generally speaking, the sedative efficiency of methylene-blue was established beyond doubt. The authors also tested the drug in epilepsy, and they reserve a detailed report for a future issue. [L.J.]

[1] Wiener klinische Wochenschrift, July 9, 1903.
[2] Journal des Praticiens, Vol. xvii, No. 14, 1903, p. 209.
[1] Monatsschrift für praktische Dermatologie, Vol. xxxv, 218.
[2] Russki Vratch, May 3, 1903.
[3] Les Nouveaux Remèdes, Vol. xix, No. 7, 1903.
[4] Obosrenie Psychiatrii, etc., April, 1903.

PATHOLOGY.

J. EDWIN SWEET

EDITORIAL COMMENT

Concerning the Etiology of Carcinoma.—References to descriptions of certain findings in the tissues of various tumors, bodies which resemble unicellular organisms, are to be found in many of the recent medical publications. The authors generally assume these bodies to be organisms, and the name "cancer parasites" is quite generally in vogue. One fact concerning these findings is of no little interest—we can recall no instance of a description of such "parasites" which emanated from the pen of a man known to the medical world as a pathologist of long experience. In fact, these articles have generally passed unchallenged by wellknown pathologists, though when a criticism has been written it has been of a clearness and terseness which may seem too severe, but which leaves no doubt that experienced men consider these "parasites" to have no significance whatsoever in the question of the etiology of tumor formation. A few examples from recent literature will explain what we mean. Sjöbring[1] describes the morphology and development of the parasites which he has constantly found in cancers, and which he claims to have cultivated in artificial media; inoculation into mice is said to produce tumor formation. Sjöbring considers his "parasites" related to the rhizopods, and therefore calls them "rhizopodeida." And yet at one of the recent meetings of the German Surgical Society, Sjöbring presented a long article upon these same "parasites," and was finally dismissed by the president. In the discussion which followed, one of Germany's oldest surgeons remarked that he had seen these same bodies in carcinomas twenty years before, and that he considered it almost an insult to the society for any man to describe them as specific for carcinoma. In an article from the Botanical Institute of the School for Agriculture and the Institute for Plant Physiology of the University of Berlin, entitled "The Tissue and Cause of Cancer," Feinberg[2] defends the position taken by him in an earlier article (*Deutsche med. Wochenschrift*, No. 11, 1902) in regard to the significance of what he considers to be unicellular organisms in the tissue of carcinomas. Feinberg claims to have demonstrated a distinct nucleus by the use of Romanowski's method of staining, and considers that he has thus proved these bodies to be unicellular organisms. He also points to the similarity existing between these bodies and the unicellular organisms found in a disease of cabbage plants, where tumor-like formations occur. But Hertwig[3] considers these bodies to be vacuoles due to artificial influences. Lubarsch[4] believes these "unicellular organisms" of Feinberg to be nuclei in the state of caryorrhexis. Marchand[5] considers that these bodies are vacuoles, caused by an internal secretion. Feinberg calls attention to the fact that these three critics of his work do not agree among themselves as to the nature of the formations but the question of what they really are is of secondary importance, the fact still remaining that all are agreed that these findings have no specific bearing. Now the question occurs: If pathologists cannot agree as to the real nature of these bodies, the existence of which cannot be called in question, why do they treat these descriptions in such an abrupt, and as it sometimes seems, severe and unfair manner? Are they really fair-minded, or do they, from a certain *esprit du corps*, resent the intrusion of botanists and agriculturists into these most difficult fields of pathology Something akin to such a feeling of resentment may possibly enter into the question, for it would not seem unnatural that a man who has spent more or less of a long life in the study of tumors should find it difficult to accept the idea that he has missed seeing such large bodies as coccidia and rhizopods. But the rejection by pathology of all these recent findings is not based upon any feeling, but upon some very old and some very new considerations, which, it seems to us, are too often lost from sight. The old considerations date from the day of Cohnheim and before. From a simple hyperplasia of the epidermis, through all the range of the carcinomas proper, from the simplest sarcoma to those tumors which the Germans so aptly call "wondertumors," the teratomas, certain steps, certain analogies, certain traditions may be traced. We are not confusing carcinomas with sarcomas, and it would make no difference in this consideration if we were, for the authors of the descriptions of "cancer parasites" generally claim to have found the same "parasites" in sarcomas and even in syphilitic gummas. The stumbling-block to any rational theory has ever been the rare tumors, those which the experienced pathologist sees but once or twice in a lifetime. There are the congenital polypi of the pharynx, a case of which was recently described by Hanszel,[1] the socalled "branchiogenic carcinomas," recently reviewed by Ioannovicz.[2] It would not be difficult to understand the role of an infection in a case of sarcoma of the vagina of a multipara, but what shall we do with the rare cases of vaginal sarcomas in very young children, one of which has been described as congenital? Then there are the malignant tumors of the base of the bladder occurring in very young children. Now the accepted teaching of bacteriology is that not even the smallest of the bacteria known at present can pass through the uninjured placenta—to say nothing of coccidia, and even if they could, whence come these infections seen in the newlyborn children of perfectly healthy mothers? An infectious origin for the common cancer of the breast would not seem irrational, but will the same assumption explain the 14 cases of development of carcinomas in dermoid cysts and the 5 cases of development of the same tumor in teratomas, which have been recently collected by Krische?[3] Mertens[3] describes a new case of carcinoma developing in a dermoid cyst. Whence comes such an infection, and how does it gain entrance to the cyst? But it is possible that the teaching of bacteriology in regard to the permeability of membranes for bacteria may have to be radically revised as our knowledge of the "invisible microbes" becomes more extended. (See review by Roux, *Bulletin de l'Institut Pasteur*, Nos. 1 et 2, Fev., 1903.) A further consideration against the "cancer parasite" is that none of the recent findings have been corroborated. Thus Noesske[4] considers on the basis of his own studies that the socalled "Plimmer's bodies" and the "parasites" of Feinberg are degeneration products. He also emphasizes the fact that Feinberg's cabbage disease is not comparable to human cancerous growths, for the cabbage tumors are made up solely of masses of the parasites concerned. It has been known for some time that the inoculation of vaccine virus into the cornea of rabbits gives rise to intracellular formations, which have been described as coccidia. Sikovsky,[5] however, has recently demonstrated that the same intracellular bodies can be produced by the inoculation into the cornea of heated virus, of rabbit serum, and of diphtheria toxin. Recent methods have suggested entirely new possibilities in the great problem of the cause of tumor formation. Marx and Sticker[6] have found that the cause of the disease of fowls known as epithelioma contagiosum, a disease which affects the epithelium in a manner suggestive of the carcinomatous

[1] Über Krebsparasiten, Langenbeck's Archiv, Bd. 65, 1902, S. 93.
[2] Deutsche med. Wochenschrift, No. 4, 1903, p. 67.
[3] Deutsche med. Wochenschrift, No. 13, 1902.
[4] Pathologische Anatomie und Krebsforschung.
[5] Deutsche med. Wochenschrift, Nos. 39 and 40, 1902.

[1] Wiener klin. Wochenschrift, No. 50, 1902, p. 1332.
[2] Zeitschrift für Heilkunde, Bd. 23, Heft 1.
[3] Beiträge z. klin. Chirurgie, Bd. 31, Heft 2.
[4] Deutsche Zeitschrift für Chirurgie, Bd. 64, 1902, S. 352.
[5] Archives Russes des Sciences biologiques. Fasc. 5, T. 9.
[6] Deutsche med. Wochenschrift, No. 50, 1892, p. 893.

process, and which has been an especially fruitful field for "parasites," will pass through the pores of a Berkefeld filter; it is, therefore, impossible that any of the causes which have been described, notably coccidia-like organisms, can be concerned. In an admirable comparative study, Borrel [1] gives the interesting results of a pathologic-anatomic study of ovine variola, or sheep-pox, of vaccinia and variola, aphthæ, bovine plague and molluscum contagiosum, and of the epithelioma of mice. These various forms of epithelial disease have chiefly this in common with carcinoma, that in all of them "parasites" have been described. Borrel gives drawings of a number of these cell inclusions, but he seems to incline to the opinion that these "parasites" are polynuclear leukocytes, which have become included in the epithelial cells and have then suffered a degenerative process. The most important point, however, is that the specific virus of nearly all these diseases will pass the pores of a porcelain filter. This has been demonstrated for aphthous fever by Loeffler, for the sheep-pox by Borrel,[2] for bovine plague by Nicolle and Adil-Bey, and for molluscum contagiosum by Marx and Sticker. The conclusions reached by Borrel seem to us to contain an unusual interest: "The study of the epithelial infections has shown us that many of the etiologic factors can pass through the pores of a porcelain filter, and are therefore to be placed in the group of the very small microbes. It would be too bold to affirm that such is the case for the virus of carcinoma, but the hypothesis seems plausible. . . . Let up recognize simply that the etiology of the malign tumors is still obscure, and let us guard ourselves from establishing too intimate a relation between the epithelioid infectious tumors and epitheliomas. There is an analogy, but not an identity."

We have cited but a few examples of the articles which are constantly appearing. The search for parasites belonging to the coccidia or the sporozoa seems especially futile, not from any preconceived prejudice, but from the fact that not a single such description has remained without direct contraindication, and but few of them have received any confirmation whatever; and further from the fact that in one disease especially, where these "parasities" have been most often found—epithelioma contagiosum—the possibility of the cause being a coccidium or related organism seems to have been definitely excluded. Borrel's hypothesis offers a very tempting suggestion, and the recent announcement by Siedentopf and Zsigmondy [3] of a method for rendering the ultramicroscopic particles visible may make it possible to soon learn if this new hypothesis contains the long sought truth.

REVIEW OF LITERATURE

Observations of the Changes of the Blood Following the Extirpation of the Spleen.—Rautenberg [4] gives a study of the blood for a period of some 9 months following the removal of the sarcomatous spleen. A relapse appeared some 7 months after the operation. The red cells increased during 4 to 5 months; the hemoglobin content of the corpuscles was not increased. The white cells increased to double their number during the first 4 weeks after the operation, then decreased during the next 4 months. A marked lymphocytosis without enlargement of the lymph-glands developed during the course of the first 4 weeks. The eosinophiles increased 5 to 6 fold during the first month. [J.E.S.]

The Changes in Human Serum Demonstrable by the Biologic Method, Following Therapeutic Serum Injections.—From a study of the reactions of the serum of children suffering from scarlatina and treated with injections of Moser's antistreptococcus serum Hamburger and Mosso [5] conclude that man reacts to an injection of the serum of the horse by production of precipitins; that in human as well as in rabbit serum the substances in the horse serum which can be precipitated (*i. e.*, those components of the serum which probably provoke the production of the precipitins) are demonstrable for several days after the injection and are finally lost after the appearance of the precipitins. It was impossible to decide if the exanthema following serum injections has any causal relation to the appearance of the precipitins in the human serum. [J.E.S.]

Widal's Reaction in a Case of Liver Abscess.—The case reported by Megele [1] is one of abscess of the liver with a positive Widal test during part of the course of the disease. Megele believes that typhoid could be positively excluded by the post-mortem findings and the result of bacteriologic examination. A Widal test on the nineteenth day was negative; but a few days later the reaction was positive in dilutions of 1:40 and 1:100. About a month later the reaction was again negative. Megele seems to think that the case is probably to be explained by the passage of bile into the blood, since it has been shown that the serum of icteric patients possesses marked agglutinative properties for typhoid. However, no signs of icterus appeared in this case until a few days before death, long after the positive Widal reaction had disappeared. [J.E.S.]

Moser's Antistreptococcus Serum in Scarlatina.—Pospischill [2] reports the results obtained in 26 cases of scarlatina with streptococcus infection by treatment with Moser's serum. In 12 cases the prognosis was "doubtful;" under serum treatment 9 of these cases recovered. The prognosis in 13 cases was very grave; a successful result was obtained in 5 of these. One case with good prognosis is excluded from these figures. Under the immediate beneficial effects of the serum injection Pospischill includes fall of temperature, decrease of frequency of pulse and respiration, improvement in the character of the pulse, clearing of the sensorium, etc.,—in short, disappearance of the severe symptoms. The lasting effect of the injections is considered demonstrated in a streptococcus sepsis, which began 14 days after the injection, showed the sole symptoms of hemorrhages and increase of temperature, and ended in recovery. Pospischill discusses very fairly at the beginning of the article the difficulties of judging the prognosis and the effects of the serotherapy. [J.E.S.]

Etiology of Carcinoma of the Esophagus. — Wolf [3] describes three cases of carcinoma of the esophagus in which the neoplasm occurred at points of the esophagus, which were compressed by vertebras, this displacement being due to spondylitis deformans. Two further new cases are recorded. The paper is an addition to the statistics of the question of the development of carcinomas under the influence of chronic irritation. [J.E.S.]

Early Diagnosis of Icterus.—Bouma [4] has observed cases repeatedly in which bile-pigment existed in the circulating blood without appearing in the urine, the kidneys being perfectly normal, and without jaundice either in skin or conjunctivas. He cites several such cases and then describes the clinical tests employed to study the pigment. He has derived the best results in the case of urine containing urobilin and bile pigments by adding 2 cc. of a 10% calcium chlorid solution to 8 cc. of fresh, acid urine, and neutralizing this with weak ammonia. The precipitate is removed and the supernatant liquid will be found to give a greenish-blue absorption band, typical of urobilin. The sediment tested with ferric chlorid solution in the presence of bile-pigments gives a green color. To examine the blood-serum he mixes 2 cc. of serum with 6 cc. of distilled water, and 1 cc. of a normal solution of neutral sodium phosphate; he adds to this 1 cc. of a normal solution of barium chlorid and centrifugates. The sediment is shaken with water, again centrifugated, and then tested with Obermayer's ferric chlorid solution. The smallest quantity of biliary coloring matter will produce a distinct bluish-green coloration. [E.L.]

Pathologic Variations in the Hemolytic Power of the Cerebrospinal Fluid.—L. Bard [5] reports the results of his investigations concerning the hemolytic power of the cerebro-

[1] Annales de l'Institut Pasteur, No. 2, 1903, p. 81.
[2] Annales de l'Institut Pasteur, 1903, No. 2, p. 123.
[3] Annalen der Physik, Series 4, Bd 10, 1903.
[4] Münchener med. Wchschr., No. 16, 1903, p. 684.
[5] Wiener klin. Wchschr., No. 15, 1903, p. 445.

[1] Münchener med. Wchschr., No. 14, 1903, p. 598.
[2] Wiener klin. Wchschr., No. 15, 1903, p. 433.
[3] Münchener med. Wchschr., No. 18, 1903, p. 771.
[4] Deutsche medicinische Wochenschrift, November 27, 1902.
[5] La Semaine Médicale, January 14, 1903.

spinal fluid and its aid in the diagnosis of various nervous diseases. Place 10 drops of the fluid in each of a series of centrifugating tubes, and dilute with water in different proportions. A drop of blood is added to each tube, and they are then centrifugated. It remains only to observe the point of dilution at which the supernatant liquid first shows signs of coloration. In normal conditions hemolysis appears first in the tube in which 10 drops of fluid have been diluted with 12 drops of water. In pathologic conditions which alter the hemolytic power the latter is almost always elevated at first, but as the defensive powers of the organism become developed it gradually returns to normal, or even falls below. The method is of little use in diagnosing the varieties of meningitis, but is often of value when studied in conjunction with cytology of the cerebrospinal fluid, as advocated by Widal. The study of hemolysis is especially valuable in the separation of purely functional nervous disorders from those of infectious or toxic origin, the hemolytic power being normal in the former and increased in the latter. It is also useful in diagnosing hemorrhages of the cerebrospinal axis from other conditions, such as embolism, which might give similar symptoms. In hemorrhage, no matter what the cause, the hemolytic power is increased, while embolism exercises no such influence. [B.K.]

Treatment of Rodent Ulcer by the Röntgen Rays.—J. H. Sequeira[1] pays particular attention to the changes produced in the growth after the application of the Röntgen ray. He says tissue examination leads him to believe that in some instances the rodent ulcer begins in the hair follicle, in others in a mole, in still others in sebaceous glands. After the beginning of treatment, changes are observed in the nuclei and in the protoplasm of the cells of the rodent growth. The nuclei become disorganized and cell-plasm breaks up, often becoming fatty. These changes have been observed in all the cases examined. At the same time there is an infiltration of leukocytes, and at present it is impossible to determine whether the damage done to the epithelial cells is the direct effect of the rays or whether the effect is indirect and due to leukocytic infiltration, or to obscure nervous and vascular changes. While the destruction of the epithelial cells is going on there is a marked activity of the connective-tissue elements, there is an infiltration of round cells, of mononuclear cells, and later the formation of firm scar tissue. This remarkable activity of the connective tissue is well seen in the rapid filling of the cavities left by the rodent ulceration. Recurrences are by no means uncommon, and the question which is still to be decided is, whether the relapses are due to the fact that some cells have escaped the action of the rays or whether they are true recurrences. Some sections which the author has made support the former contention. In some instances recurrences have been seen more than once. As a rule, these recrudescences are easily dealt with by fresh application of the treatment. Two interesting cases are reported. [A.B.C.]

Metastases of Normal Thyroid Tissue.—H. Oderfeld and J. Steinhaus[2] report a case in which a tumor of the frontal bone contained normal thyroid tissue. At the time this tumor was removed the thyroid gland showed no enlargement. A year later recurrences of the tumor at the site of operation and in the temporal bone occurred, and the thyroid also showed characteristic changes. The case terminated fatally. All the growths were made up of thyroid tissue. The thyroid was believed to be the primary growth, with the other tumors as metastases. [E.L.]

Microphysiology of the Lacrimal Gland.—In view of the prevailing contradictory opinions on this subject the following original data obtained by A. T. Worouoff[3] are important: The gland shows a distinctly alveolar structure, consisting of round or oval alveoles lined with cylindric or cubic epithelium. The cells contain a central nucleus and their structure appears to vary according to the state of their activity. When at rest the cell shows a clear, homogeneous structure, while during secretion the protoplasm is darker and granular. Not all cells are resting or working together, there being a regular alternation, some doing duty for a time while others are recuperating. [L.J.]

Tuberculosis of the Male Breast.—H. Morestin[1] reports a case in a man of 50. He had passed through a right-sided pleurisy four years before, and since then he has been troubled more or less with bronchial catarrh. For five months his right breast had been slowly enlarging, but without giving him the slightest pain. The skin remained perfectly normal, and the nipple showed neither retraction nor any other pathologic change. One enlarged lymph-gland could be made out in the axilla. The diagnosis rested between epithelioma and tuberculosis. Examination of the removed breast and lymph-node revealed numerous tubercles with characteristic giantcells. [E.L.]

Bacteriology of Pulmonary and Bronchial Suppurations.—H. Kerschensteiner[2] has made an exhaustive study of the bacteria to be found in the sputa in various pulmonary conditions. The sputum of tuberculosis differs from that of other diseases only in the presence of the tubercle bacillus. The commonest organism in purulent sputum is the streptococcus. In tuberculous sputum the staphylococci, micrococcus tetragenes, and certain diphtheria-like bacilli are very abundant; in nontuberculous sputum the micrococcus tetragenes is most abundant. Less frequently in tuberculosis are found various micrococci, pneumococci, influenza bacilli, and colon-like bacilli. In nontuberculous bronchial suppurations the influenza bacillus and pneumococcus are frequent, while the diphtheria-like bacilli and especially the staphylococci occur seldom. Sporadically there are found streptothrices and blastomycetes, pseudotubercle bacilli, and bacillus pyocyaneus. By intratracheal injections of the tubercle bacillus with micrococcus tetragenes in dogs a very rapid tuberculous process was produced in the lungs, which resulted in large cavities. Streptococci, cultivated from tuberculous lungs, were shown to be quite virulent for dogs, and were also found to have a certain pathogenicity for men, producing a local erysipelas when injected subcutaneously. [B.K.]

Histologic Appearances of the Nervous System in Krait and Cobra Poisoning.—W. K. Hunter[3] found the changes from krait and cobra poisoning very much alike, both showing acute degeneration in ganglion cells and nerve fibers, the Nissl bodies being broken up with vacuolation of the plasma in some cells, the myelin being converted into ordinary fat in the medullated fibers. In all cases there was increase in connective tissue corpuscles, particularly about the ganglion cells. [H.M.]

Study of Urine for Tubercle Bacilli in 60 Cases of Tuberculosis.—L. F. Flick and Jos. Walsh[4] have examined the urine in 60 tuberculosis patients for tubercle bacilli, in the usual manner, and report positive results in 44. They conclude that renal involvement occurs more frequently in tuberculosis than is indicated in the text books; that tubercle bacilli are found in the urine in many more cases of tuberculosis than is usually supposed. Not all of their patients have, clinically judged, a tuberculous kidney; in many a catarrhal nephritis is set up, manifesting itself by a severe ache in the lumbar region, casts and pus in the urine, and rarely albumen. [E.L.]

Pathology of Socalled Bone Aneurysm.—Harvey R. Gaylord[5] gives a review of the literature bearing on so-called bone aneurysm, and reports a case. The patient had suffered 3 years before from a fracture of the lower end of the right femur, which had healed satisfactorily. A year later the patient fell and the femur was again broken at the seat of old fracture. The second fracture likewise healed, but was accompanied by excessive callus formation, and there was an unusual amount of thickening at the seat of injury. During the second year this thickening increased materially in size. Amputation was performed, and on cutting into the tumor a quantity of greyish-yellow material flowed from the large cystic cavity and from a smaller cavity came fluid blood. During the entire history of the case there was no pulsation, nor was a bruit

[1] British Medical Journal, May 30, 1903.
[2] Centralblatt für Allgemeine Pathologie, 1903, Vol. xiv, p. 84.
[3] Russki Vratch, May 3, 1903.

[1] Bull.. et. Mem. de l. Soc. Anatomique de Paris, 1902, Vol. iv., p. 588.
[2] Deut Archiv für klin. med. Bd. lxxv, pp. 132 and 441.
[3] Glasgow Medical Journal, February, 1903.
[4] Transactions Pathological Society of Philadelphia, 1903, Vol. vi, 149.
[5] Annals of Surgery, June, 1903.

present. A microscopic examination showed that the tumor was originally a sarcoma, developed at or near the seat of original fracture, probably in the medulla of the bone. This is indicated by the marked distention of the shaft of the femur and the presence of giant cells in the sarcomatous tissue. The difficulty experienced in detecting sarcoma indicated that the process was only active in a very small portion of the mass of tissue. In reality, search was continued to a point where practically the discovery of malignant cells was abandoned, when ultimately the sarcomatous tissue was found. The author states that it is fair to assume that the sarcomatous process in this case was practically subsiding, as in a case reported by Roughton. The author further states that he is inclined to the view that in all probability the greater portion, if not all the cases of socalled bone aneurysm are originally medullary sarcomas, and he concludes with Gentilhomme that while these tumors may present the characteristics of aneurysm, their etiology and the mechanism of their development have little in common with that affection. He is inclined to the belief that failure to find sarcomatous tissue in these growths is in most cases due to an insufficient search, and even if such tissues are not found, it is possible that the tumor was originally sarcomatous and that the characteristic structure had disappeared. [A.B.C.]

Serum Specific for the Human Placenta.—In this, his second contribution to the above subject, W. Liepman[1] describes his animal experiments, and reports concerning the results of some of these. He finds that human placenta is not toxic to the animal organism, explaining the occasional albuminuria as due to the inability of the organism to make use of all the foreign albumin injected. He claims to be able to diagnose the presence of placental tissue existing in the circulatory stream by means of his specific serum. If his serum is added to blood containing placental particles, an instantaneous turbidity results, which is not seen when the blood of nonpregnant women for instance, is examined. The turbidity is greater when free placental particles exist, than in the normal pregnancy. [E.L.]

Chemistry of the Sputum.—F. Wanner[2] has studied the sputum especially for the presence of albumin, albumoses, and residuary nitrogenous bodies resulting from the splitting up of albumin. In cases of chronic bronchitis he found only traces of albumin and small quantities of albumoses and residual nitrogen. In asthma also there was no albumin. In bronchiectasis albumin was present, with a considerable quantity of albumoses, and an unusually large percentage of residual nitrogen, the two latter being due to putrefaction and autolysis of the purulent sputum. In pulmonary tuberculosis albumin was always found in moderate amounts, varying with the extent of the disease; albumoses and residual nitrogen varied with the amount of pus in the sputum, but were never large. In two cases of infarct of the lungs only traces of albumin and small quantities of the albumoses were found. In gangrene of the lungs the albumin is so quickly split up by a ferment that only small quantities can be found in the sputum, although large amounts must be secreted. On the other hand, the figures for the residual nitrogenous bodies reaches the maximum for any pulmonary condition. In the first stage of pneumonia the albumin percentage is greater than for any other disease, but falls very rapidly after a few days. Here we have to deal with an abnormal permeability of the bloodvessels, resulting in an albuminous exudate. Estimations of mucin were also made in various diseases, but the results were of little importance. [B.K.]

Morphology of the Diphtheria Bacillus.—A. T. Laird[3] tabulates according to Wesbrook's scheme the types of diphtheria bacilli observed in the positive cultures received at the Bender laboratory in Albany since July, 1901. Of the 959 cultures for diagnosis the proportion was: Granular type, 509; barred, 95; solid, 355. Of 707 cultures for release 218 were granular, 42 barred and 447 solid. These results confirm other observations that in the later stages of the disease the granular types are frequently replaced by solid color types. No constant difference was noted between the types found in cultures from Albany and Schenectady, or between types in cultures from different parts of the State. [A.G.E.]

The Immunization of Typhoid Bacilli Against Specific Agglutinins.—P. Muller[1] describes the method which he employed in his attempt to produce immunization of typhoid bacilli against specific agglutinins. He was not successful, however, and believes this to be due to a weakening of their agglutinating power, when in contact for some time with specific agglutinins. He succeeded in reproducing this power by inoculating such bacteria into ordinary nutrient media, repeatedly. The practical value of the investigations consists in this, that a culture resembling typhoid bacilli in other respects cannot be denied the name of typhoid bacilli simply because the agglutinizing test is found to be negative. If such is the case it will be necessary by their repeated inoculation into ordinary media to attempt to redevelop this agglutinating power. [E.L.]

The Etiology of New Growths.—K. W. Monsarrat,[2] after discussing the probable etiology and peculiarities of new growths, their cell activity, cell proliferation, etc., comes to the following conclusions: 1. Cell activity and cell type must always be a resultant of biochemic reaction of the principles of which the researches of Ehrlich and others have enabled us to obtain some information. 2. Cell proliferation, as a form of cellular activity, is the resultant of such action when it takes place as the result of increased availability of normal food material, the new cells produced conform to the type of the parent cells. When it follows the action of assimilable materials of abnormal constitution new cell types are evoked varient on the type of the parent cells. 3. Cell proliferation of the latter type takes place in certain microparasitic infections. 4. The new cell types thus evoked exhibit various degrees of instability. 5. In the carcinomas their instability is considerable; in certain growths which result from infective agents as condyloma the equilibrium of the new type appears to be stable. 6. In the socalled true tumors, cell types arise as varients on the normal cells of the organ or tissue of origin. The ways in which such cell varients may be evoked is not discussed, but that they may result in some cases from the action of the microparasites is a reasonable view. 7. These cell types are stable; their stability is due to the capacity of the particular varient to attach to itself and assimilate material in conformity with its type. 8. In the simple tumors they are only locally stable and are not immune to reactionary influences outside of the tissue of origin and the normal relationships of parenchyma and connective tissue. 9. In the malignant growths they possess a wide range of stability and immunity and the degree of this is the measure of their capacity to form metastasis, while local infiltrations, the other histologic characteristic, is dependent on the principle of chemiotaxis, the cells extending in those directions in which their varient and aberrant biochemic affinities enable them to annex material conformable to the building up of their characteristic type. [A.B.C.]

Method of Investigating the Bone Marrow of Living Animals, and the Motility of Myelocytes.—To study unstained myelocytes to better advantage than heretofere, A. Wolff[3] opens the tibia or femur of small living animals, with aseptic precautions, in several places with a gimlet, after having made the bone bloodless with an Esmarch tube. The marrow is then removed by means of a sterile platinum oese and examined at once microscopically over a heated stage. As the wound is very small and heals rapidly, the animal is not made useless for other investigations. Employing this method, Wolff has been able to observe movements in the neutrophilic myelocytes of rabbits, and shows drawings of the various stages of his observation. As marrow preserving substance he advises Deetjen's agar, or normal salt solution as recommended by Dekhuyzen. [E.L.]

Blood Investigations in a Case of Extirpation of the Spleen.—R. Staehelin[4] reviews 21 reported cases of extirpation of the spleen. The most frequent subsequent symptom was a vicarious swelling of the lymphatic glands. Another symptom

[1] Deutsche medicinische Wochenschrift, January 29, 1903.
[2] Deut. Archiv für klin. Med., Bd. lxxv, p. 347.
[3] Albany Medical Annals, May, 1903.

[1] Münchener medicinische Wochenschrift, January 13, 1903.
[2] British Medical Journal, June 27, 1903.
[3] Deutsche medicinische Wochenschrift, March 5, 1903.
[4] Deut. Arch. für klin. Med., Bd. lxxvi, p. 364.

was weakness and pains in the limbs, attributed to changes in the bone marrow. The author reports a case of his own, with detailed blood findings. The red corpuscles and hemoglobin were not affected. The multinuclear neutrophiles were considerably increased for a time, and then returned to normal; the increase is attributed to a local erysipelatous infection. The lymphocytes, especially the larger forms, steadily increased in number, the increase keeping pace with the swelling of the lymph-glands. The increased function of these glands may account for the greater number of these cells, thus excluding the spleen from any direct influence on the blood-forming function. [B.K.]

The Cause of the Formation of Peptone in Leukemic Blood.—Franz Erben[1] describes experiments made upon the blood of a patient suffering from lienomyelogenous leukemia. Under certain conditions albumose and peptone are found in distinct amounts. The blood was found also to contain thryptic and peptic ferments which are not present in normal blood, or at least are not liberated by the death of the cells. These ferments are present in the polynuclear eosinophiles, polynuclear neutrophiles and the myelocytes. The literature of the subject is fully given. [J.H.W.R.]

Interfascicular Endothelioma of the Lower Jaw.—J. Steinhaus[2] reports such a case which clinically was diagnosed as sarcomatous epulis. Microscopically it was found to be made up of alveoli, the septa of which contained many blood-vessels with swollen endothelial cells. The alveoli were filled with a fine stroma containing many large nucleated cells. In places the tumor had undergone colloid degeneration. The cells gave the glycogen reaction with iodin. He considers the tumor to have originated from the endothelium of the interfascicular lymphspaces. [E.L.]

The Hematolysis of Cancerous Exudations.—L. Baid[3] notes that in normal states there is no autolysin capable of disintegrating the red blood cells, and in the majority of pathologic states, exudates, effusions, and even the urine, have no hematolytic action. We must distinguish between hematolysis due to difference in density and that due to special lysins. He has observed it whenever liquids were of cancerous origin, it being exhibited in two cases out of five of hemorrhagic pleurisy, three of which were noncancerous. Serous effusions of cancerous origin have no hematolytic action on blood of the finger. That hematolysis occurs only in spontaneous hemorrhagic effusions suggests that it is associated with actual contact of the tumor with the fluid; that the hematolysed blood is of direct cancerous origin. The destruction of the red corpuscles in a tumor may be one of the factors in the production of cachexia. Hematolysis has no diagnostic value, unless independent of any lowering of the isotonic power, which can be easily ascertained by cryoscopy. Certain infective diseases and toxins have a hematolytic action even on circulating blood. Investigations should be pursued serum by serum, no general law being applicable. Hematolysis is met in the cerebrospinal fluid in all varieties of meningitis. Its presence cannot therefore be taken as a symptom of cancer. In pleurisies it is absent in tuberculosis and the greater number of infections. [H.M.]

Paratyphoid Septicemia.—Schmidt[4] reports the case of a man of 33, whose disease presented the clinical picture of a pyemia, originating from a suppurative cholecystitis. He had daily chills with hyperpyrexia, diffuse bronchitis, typhoid stools, splenic tumor, no roseola, no leukocytosis. The autopsy revealed hemorrhagic nephritis, endocarditis, and suppurative cholecystitis. From the urine during life, from the gallbladder abscess, and from the endocardial membrane was isolated a bacillus which morphologically and culturally seemed identical with the typhoid bacillus, but differed from it in not responding to the Widal test. He therefore concludes this to have been a general pyemic process, caused by the paratyphoid bacillus. He mentions that his is the first case described in which the paratyphoid bacillus was isolated from a general infective process, and in which this bacillus led to an autopsy. [E.L.]

Coexistence of Two Primary Cancers.—E. Devic and L. Gallavardin[1] report a case which showed at autopsy 2 absolutely independent cylindric epitheliomas, one situated at the pylorus, and the other in the rectum. The authors have been able to find only 7 previously reported cases. Three groups may be distinguished: 1. Cases in which the 2 tumors arise from 2 distinct types of epithelium. 2. Those in which the tumors arise from epithelium of the same type, but present histologic differences. 3. Those in which they arise from the same kind of epithelium and present analogous structures. The reported case belongs to the third class. The reasons for regarding these cancers as 2 primary tumors are as follows: 1. The situations of the tumors are extremely rare for secondary growths. 2. There is a complete absence of other metastases. 3. Both tumors show all the morphologic and histologic characteristics of primary growths in their respective regions. 4. A gradual transformation of the mucous membrane into cancerous tissue may be observed in both localities. 5. There are certain fine structural differences between the 2 cancers. [B.K.]

Behavior of Typhoid Bacilli when Sown in Soil.—W. Rullmann[2] placed typhoid bacilli in earth, to which had been added decoctions of vegetables, blood, urine or water. Some of the earth specimens were sterilized, others were not. Within one month the tubercle bacilli had spread themselves through the sterile earth, some of them were still in existence 16 months later. Those placed in the nonsterile earth died very promptly with exception of two specimens, which could still be demonstrated 100 days later. He considers this due to the chemic composition of the samples of earth. [E.L.]

Nerve Endings in the Pleura of Man and the Lower Animals.—By means of staining with methylene-blue and fixing with ammonium molybdanate, A. S. Dogiel[3] has succeeded in demonstrating the nerve terminals in the pleura. These terminals are of 2 kinds, encapsulated forms, of the type of the Vater-Pacini bodies and of their modification, the Golgi-Mazzoni bodies; and nonencapsulated endings. The latter consist of the terminal branches of the axis cylinder, covered with leaf-like projections, producing a similarity to a tree with many short, leaf-covered branches, the individual leaves being united by delicate fibers. The nerve terminals in the pleura were found to be practically identical with those of the diaphragm. Terminals similar to the nonencapsulated variety were also found in the intercostal muscles. [D.R.]

[1] Zeitschrift f. Heilkunde, February, 1903, p. 70.
[2] Centralblatt für Allgemeine Pathologie, 1903, Vol. xiv, p. 81.
[3] Medical Press and Circular, February 18, 1903.
[4] Wiener klinische Wochenschrift, December 4, 1902.

[1] Lyon Médical, May, 24 and 31, 1903.
[2] Zentralblatt für Bacteriologie, xxx, p. 321.
[3] Arch. f. mikrosk. Anat. u. Entwicklungsgeshichte, Bd. lxii, Hft. 2, 1903.

THE PUBLIC SERVICE

Health Reports.—The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended August 15, 1903:

	SMALLPOX—UNITED STATES.	Cases	Deaths
Alabama:	Mobile ..... Aug. 1-8	4	
California:	Los Angeles ..... July 25-Aug. 1.....	1	
	San Francisco ..... July 26-Aug. 2.....	3	
Massachusetts:	Fall River..... Aug. 1-8.....	1	1
Michigan:	Detroit..... Aug. 1-8.....	3	
Missouri:	St. Louis..... Aug. 1-8.....	6	
Nebraska:	Omaha..... Aug. 1-8.....	1	
New Hampshire:	Manchester ..... Aug. 1-8.....	1	
New Jersey:	Camden..... Aug. 1-8.....	4	
Ohio:	Cincinnati..... July 31-Aug. 7.....	2	
	Dayton ..... Aug. 1-8.....	3	
	Toledo..... Aug. 1-8.....	1	
Pennsylvania:	Allegheny..... Aug. 2-9.....	5	1
	Altoona..... Aug. 1-8.....	1	
	imported from Virginia, via Washington City		
	Carbondale ..... July 24-31.....	2	
	McKeesport ..... Aug. 1-8.....	4	
Utah:	Salt Lake City ..... Aug. 1-8.....	2	
	SMALLPOX—FOREIGN.		
Belgium:	Antwerp..... July 18-25.....	3	
Ecuador:	Guayaquil..... June 24-July 4.....		1
		Sporadic case	
Colombia:	Bocas del Toro..... July 20-28.....	1	
Great Britain:	Bristol ..... July 18-25.....	1	
	Leeds..... July 18-25.....	9	1
	Liverpool ..... July 18-Aug. 1.....	12	2
	London ..... July 11-25.....	19	
	Manchester ..... July 18-25.....	7	
	Nottingham ..... July 11-25.....	10	

India:	Bombay	July 7-14	14	
	Calcutta	July 4-11	1	
Mexico:	City of Mexico	July 26-Aug. 2	7	4
	Tampico	Aug. 1-8		2
Netherlands:	Amsterdam	July 25-Aug. 1	1	1
Russia:	Moscow	July 11-18	2	

YELLOW FEVER.

Colombia:	Panama	July 27-Aug. 3	3	1
Costa Rica:	Limon	July 23-30	2	2
Mexico:	Tampico	July 24-Aug. 8		25
	Vera Cruz	July 24-Aug. 1	30	3
		Aug. 1-8	61	26
	Victoria	Aug. 10	1	1

CHOLERA—INSULAR.

Philippine Islands:	Manila	June 13-20	9	8
	Provinces	June 13-20	368	319

CHOLERA—FOREIGN.

India:	Bombay	July 7-14		1
	Calcutta	July 4-11		35
Straits Settlements:	Singapore	June 13-20		6

PLAGUE—UNITED STATES.

California	San Francisco	July 29		1

PLAGUE—FOREIGN.

Australia:	Queenland			
	Bundaberg	June 1	1	
China:	Hongkong	June 17-26	52	47
Egypt:	Alexandria	July 5		1
	Port Said	July 13	7	
	Tantah	July 9	4	
India:	Bombay	July 7-14		68
	Calcutta	July 4-11		15
	Karachi	July 5-12	2	2
Mauritius:		July 2-16	11	10

Changes in the Medical Corps of the U. S. Army for the week ended August 15, 1903:

WHEELER, LEWIS H., contract surgeon, is relieved from duty in the department of Dakota, and will proceed to his home, Westport, Conn., for annulment of contract.

HODSON, F. A., contract surgeon, leave for 2 months granted, to take effect upon the arrival at Fort McKenzie of First Lieutenant Henry H. Rutherford, assistant surgeon.

GREENBURG, HARRY, contract surgeon, is relieved from further duty at Malabang, Mindanao, and will proceed to Iligan, Mindanao, for duty at that station or at camps on Iligan-Lake Lanao road, as the exigencies of the service may require.

COFFIN, First Lieutenant J. M., assistant surgeon, is relieved from duty at Malabang and will proceed to Tucuran for duty, relieving Contract Surgeon A. G. Bising, who will proceed to Iligan for duty.

ROBERTS, E. E., contract surgeon, now at Puerta Princesa, Paragua Island, will proceed to Misamis, Mindanao, to relieve Contract Surgeon C. H. S. Stearns, who will avail himself of leave.

BOWMAN, MADISON H., contract surgeon, now in Iloilo, P. I., will proceed to Camp Bumpus, Tacloban, Leyte, for duty.

The following changes in stations and duties of officers are ordered: First Lieutenant Edward M. Talbott, assistant surgeon, now at Batangas, Batangas, will proceed to Taal, Batangas, relieving First Lieutenant James M. Phelan, assistant surgeon, who will proceed to Manila, P. I., for assignment to duty at Malate Barracks.

HALL, First Lieutenant JAMES F., assistant surgeon, is assigned to duty in command of the casual detachment, hospital corps, Luneta Barracks, Manila, relieving First Lieutenant Louis Brechemin, Jr., assistant surgeon.

RUFFNER, First Lieutenant ERNEST L, assistant surgeon, is relieved from duty at the convalescent hospital, Corregidor Island, and will report at first reserve hospital, Manila, P. I., for duty.

The following named medical officers having arrived on the transport Logan, will report, as follows: First Lieutenants Samuel E. Lambert and Clarence H. Connor, assistant surgeon, to the commanding general, Department of Mindanao, for assignment to duty; First Lieutenants Charles F. Morse and Leon T. LeWald, assistant surgeons, to the commanding general, Department of the Visayas, for assignment to duty; First Lieutenants Alexander Murray, Jay W. Grissinger, Edwin D. Kilbourne, assistant surgeons, to the commanding general, Department of Luzon, for assignment to duty; First Lieutenant William H. Moncrief, assistant surgeon, to the commanding officer, convalescent hospital, Corregidor Island, for duty.

GRISSINGER, First Lieutenant JAY W., assistant surgeon, will proceed to Santa Mesa, Manila, for temporary duty. Upon the departure of the first available transport Lieutenant Grissinger will proceed to Legaspi, Albay, for duty.

KILBOURNE, First Lieutenant EDWARD D., and First Lieutenant ALEXANDER MURRAY, assistant surgeons, will proceed to Calamba, Laguna, and San Mateo, Rizal, respectively, for duty.

REDDY, JOSEPH W., contract surgeon, now in Manila, P. I., will report at Cuartel de Espana, for temporary duty.

COLLINS, First Lieutenant CHRISTOPHER C., assistant surgeon, is relieved from duty in the Department of Luzon, and will report to the commanding officer, first reserve hospital, Manila, P. I., for duty.

WOODS, OSCAR W., contract surgeon, now at Vancouver barracks, will proceed to Fort Worden for duty.

LA GARDE, Major LOUIS A., surgeon, leave granted July 9 is extended 3 months.

HAUGHEY, PATRICK, sergeant first class, will be relieved from further duty aboard the army transport Sheridan upon the arrival of that vessel at San Francisco, Cal., and will proceed to discharge camp, Angel Island, Cal., to relieve Sergeant First Class Arthur A. Chenay. Sergeant Chenay will proceed to San Francisco, Cal., and report for duty aboard the army transport Sheridan.

SINKS, Contract Surgeon E. D., leave granted for 2 months from about September 1.

APPEL, Major DANIEL M., surgeon, having completed the duty for which he was ordered to Denver, Colo., will proceed at the proper time to San Francisco, Cal., and take transport to sail from that place not later than October 1, 1903, for the Philippine Islands, where he will report for assignment to further duty.

GREGORY, First Lieutenant JUNIUS C., assistant surgeon, is relieved from duty at the U. S. General Hospital, Washington Barracks, to take effect at such time as in the opinion of the commanding officer of that hospital his services can be spared, and will then proceed to San Francisco, Cal., and report for assignment to duty at the U. S. General Hospital, Presidio.

POMEROY, Contract Surgeon WILLIAM, leave granted for 20 days.

COMPTON, PAUL, sergeant first class, appointed August 1, is relieved from further duty at Fort McPherson and will proceed to Fort Barrancas to relieve Sergeant First Class Patrick P. Vane. Sergeant First Class Vane will proceed to Washington, D. C., and report to the officer in charge of the Army Medical Museum and Library Division for duty in the supply depot.

JOHNSON, Major RICHARD W., surgeon, leave granted July 25, is extended 15 days.

GODFREY, Captain GUY C. M., assistant surgeon, now at San Francisco, Cal., will proceed to Fort Apache for duty.

GODFREY, Captain GUY C. M., assistant surgeon, leave granted for 2 months.

CARSWELL, First Lieutenant ROBERT L., assistant surgeon, is relieved from further duty at the Army General Hospital, Presidio, and will report at Fort Miley for temporary duty.

HAHN, Sergeant First Class GUSTAVE, appointed August 1, now at San Juan, P. R., is relieved from further duty at that station and will proceed to Fort Strong for duty.

STEVENSON, EPHRAIM, sergeant first class, now at Carthage, O., will report on or before expiration of furlough granted him from Fort Strong, to the commanding officer, Fort Thomas, Ky., who will send him to Fort McDowell with instructions to report to the commanding officer of Company of Instruction, No. 2, hospital corps, who will send him to Manila, P. I, for assignment to duty.

Changes in the Medical Corps of the U. S. Navy for the week ended August 15, 1903:

COOKE, P. L., acting assistant surgeon, detached from the Chesapeake and ordered home to wait orders—August 10.

EDGAR, J. M., surgeon, detached from the Wabash and ordered to the Asiatic Station with a detachment of marines, leaving Washington August 24—August 11.

WILSON, G. B., surgeon, detached from the Naval Hospital, Chelsea, and ordered to the Wabash—August 11.

BACHMANN, R. W., assistant surgeon, detached from the Solace and and ordered to the Naval Station, Guam—August 13.

Changes in the Public Health and Marine-Hospital Service for the week ended August 13, 1903:

GASSAWAY, J. M., surgeon, granted leave of absence for 2 months from August 10—August 11, 1903.

IRWIN, FAIRFAX, surgeon, granted leave of absence for 2 months from September 5—August 11, 1903.

CARMICHAEL, D. A., surgeon, to proceed to Washington, D. C., and report to Director of the Hygienic Laboratory for special instructions—August 10, 1903.

BROWN, B. W., passed assistant surgeon, granted leave of absence for 15 days from August 12—August 10, 1903.

EAGER, J. M., passed assistant surgeon, detailed to represent the service at International Congress of Hygiene and Demography at Brussels, Belgium, September 3 to 8, 1903—August 12, 1903.

WICKES, H. W., passed assistant surgeon, granted leave of absence for 1 day, August 15—August 13, 1903.

LUMSDEN, L. L., passed assistant surgeon, relieved from temporary duty at San Juan, P. R., and directed to proceed to Vineyard Haven, Mass., and assume temporary command of service during the absence of Surgeon D. A. Carmichael—August 10, 1903.

DECKER, C. E., assistant surgeon, placed on waiting orders from August 1—August 12, 1903.

WARD, W. K., assistant surgeon, granted leave of absence for 10 days from August 25—August 8, 1903.

BROWN, B. J., JR., acting assistant surgeon, granted leave of absence for 2 weeks from August 4—August 6, 1903.

DELGADO, J. M., acting assistant surgeon, granted leave of absence for 7 days from August 5, 1903, under provisions of paragraph 210 of the regulations.

DUFFY, F., acting assistant surgeon granted leave of absence for 10 days from August 12—August 13, 1903.

FRISSELL, C. M., acting assistant surgeon, granted leave of absence from August 6 to 18, inclusive—August 6, 1903.

PRIMROSE, R. S., acting assistant surgeon, granted leave of absence for 15 days on account of sickness—August 7, 1903.

SAVAGE, W. L., acting assistant surgeon, granted leave of absence for 30 days from August 6—August 6, 1903.

SOUTHARD, F. A., pharmacist, upon being relieved by Pharmacist C. R. McBride, to proceed to Washington, D. C., and report to the Director of the Hygienic Laboratory for duty—August 12, 1903.

WATTERS, M. H., pharmacist, granted leave of absence for 22 days from August 15—August 6, 1903.

MCBRIDE, C. R., pharmacist, to proceed to New York, N. Y. (Stapleton) and report to medical officer in command for duty and assignment to quarters—August 12, 1903.

Appointment.

MCBRIDE, CHARLES R., of Ohio, appointed pharmacist of the third class—August 7, 1903.

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PUBLISHED WEEKLY AT 1321 WALNUT STREET PHILADELPHIA BY THE AMERICAN-MEDICINE PUBLISHING COMPANY

VOL. VI, No. 9. AUGUST 29, 1903. $5.00 YEARLY.

The Characteristics of American Medical Crankism.—It seems impossible in speaking of these morbid American growths to avoid the use of the word crank. Our crankism, the medical variety, is such a strange jumble of inconsistencies that there is no old word by which it may so well be named. The patient's diseases are old, it is true, but he seems to have all the old quack diseases all at once, and that makes at least a new symptom-complex. The connotations of the term crank are such that the subject is recognized as not actually or entirely insane, and yet always partially so, sometimes and in some ways perilously near, possibly really over the border line. He is also in some respects sane, or possessed of a cunning that adroitly simulates sanity. To an extent, or as regards some things, he is sincere, in one or two positively fanatical, but again he shows the previous psychologic contradiction of keeping some parts of his brain normal. His mind is evidently constructed on the water-tight compartment plan. All of this is also part of the suggested meaning of the word crank. Again, he is as to certain objects unselfish, in reference to his hobby furiously so; but there is never absent the attribute of a spider-like watching for "the main chance," a highly developed astuteness in getting money from the greater fools who trust him. He is intensely ignorant, and as inordinately egotistic, and all of that is latent in the word crank also. Lastly, "he" is often a woman, and the word must be stretched to cover that noteworthy fact.

The morbid egotism of crankism is perhaps the most striking thing that appears in all the books, periodicals, writings, preachings, and doings of these strange people. Alienists well know how egotism rules the minds of their insane patients. Mentally diseased the cranks plainly are, normal cerebration being disturbed and irregular, or more commonly undeveloped and atavistic. Strip the mind of the higher educated and social results of evolution, whether by disease or by utter failure to keep up with civilized progress, and the egoistic instincts, the primal and basic of the *principii individuationis* are all that it has to fall back upon. Egomania raves and wantons pathetically, but also ludicrously, in every page of these sorry eddyites, "vibralogists," "mental scientists," distant healers, and ranters of a multitude of subvarieties. The photographs of the *poseurs* and *poseuses* are everywhere, with the eyes of the "magnetic gaze," either with the look of inflamed vanity, semidelirium, or stupid cunning, often with a strange blending of all. The keynote of all the teaching is the infinite value of "I," the unlimited power of it, the eternal emphasis and repetition of it. In the worst cases and magazines the editor becomes one with God, and his sentences for pages are entirely meaningless drivel and word-swash, and one wonders how soon there must be a writ *de lunatico inquirendo* and a commitment to the asylum.

The ignorance of the medical cranks is as astonishing and noteworthy as their egomania. In their thousand books and in their hundred periodicals on medicine and healing there is not a hint that one of them has ever studied anatomy, physiology, or any branch of medicine five minutes; nay, not even grammar! Conversely every sentence will reveal the most unbelievable ignorance of the simplest and long-established truths of science. There is not the slightest sign of a glimmer of the great verities of bacteriology, physiology, hygiene, therapeutics, established with such labor during the last hundred years by discoverers and investigators. Feeling dumbly their barbaric ignorance and the impossibility for such powers as they have to gain even the merest rudiments of such knowledge, they wildly storm and rave at it all as not only worthless but diabolical. When one comes out of the madhouse of the worst of these literatures and glances at some of the best of it, one only finds slime and hypocrisy. In the same number of the *Osteopathic World* which hates drugs, never heard of astigmatism, cures asthma by prostatic massage, etc., one finds grandiloquent advice of an orator to a graduating class of osteopaths. The one who is not a master in bacteriology and expert in making examinations of blood, sputum, feces, and urine, should not, he says, be allowed to practise, and yet was ever an osteopath qualified to do this? Is there one of them that really cares a rap for such "nonsense"?

The cunning selfishness of cranks is sometimes slightly concealed or disguised under a spurious and hollow sentimentalism. Usually there is no attempt to keep it out of sight or to pass it by any other name. In

perhaps a majority of cases the gush and the cunning exist side by side in smiling amity. In one column or paragraph there is the rant and crazy verbiage of the assumed Christ or divine power "to heal poor humanity" of all its diseases mental, moral, and physical, and abutting is the sharper's demand of "cash in advance" for the god's service. Money, and again money, success, "success circles," how to win in the commercial game, pleas to subscribe for gold-mine stocks, every dodge of the advertiser, promoter, bookseller, with self-praise of the wildest sort—all this glares at the reader with as unblushing eyes and "magnetic gaze" as do the photographs of the divine persons of the advertisers themselves! No one of Mrs. Eddy's worshipers denies she is making hundreds of thousands of dollars, and her priests and priestesses brag of their ability to make money as loudly as of their miraculous powers. Every one of all the sorts of the cranks claims to be Christ or christian, and often laughs at the manifest hypocrisy of the claim, and yet the mephistophelean greed of money runs riot in all their work and ways. It is an amazing exhibition that these poor creatures would hide if they had the real cunning or even the astuteness of a country bumpkin. The American touch is that they take pride in exposing their shame.

The Newness, New Thought, etc., of Crankism.—An interesting result of this uprush of commingled egotism and ignorance is that it pretends to be new, while in reality it is the living on of the old dirty medievalism which all historians know so well. One of the amusing characteristics of another "school" of medicine was its claim to be a brand new school, while it affected to look down upon the "old" school of scientific medicine. What was new was the laboratory, the science of the germ theory of disease, hygiene, scientific diagnosis, and the laws of health. What was "old" was the itch theory of disease, the mythical supernaturalism of high potencies, and a remaking of the doctrine of signatures. So in the "New Thought" there is nothing newer than the African's voodooism; in the new christian science there is no newness, no christianity, no science. In vibralogy there is nothing but medieval magic and miracle mongering, and in osteopathy there is only the old English bonesetter's ignorance, plus the old impertinence of the old quack of the olden time. In other words, the entire brood of modern medical crazes and crankisms, while furiously contending that it is new, is in every cell of its being the very demonstration of the utter lack of the new or modern spirit, of the mental incapacity to take it on, or even to see it. Every modern discovery in medicine is ignored. It is the spook of the middle ages ludicrously gibbering in a really new epoch of science, skill, and reason. It is atavism pure and simple; the old barbarism freed by democracy. It is a sequel of a rapid growth of the intelligent, while the rest, not growing, become the neglected residue of stranded incapables upon our hands. Our punishment is the warning that in the last resort we are responsible for the wreckage. The only way we can abridge the evil is to set about the duty of primary medical and social education.

Boil All the Water.—A patient recently came down with typhoid fever, in whose household it had for years been the custom to boil all the water used for drinking purposes. As the patient had not drunk any unboiled water away from home, her family could not understand how she could have acquired the disease. It was, however, ascertained that, while the drinking water had been boiled, the family had not boiled that used for washing lettuce, fruit, etc. It is this point that should be impressed upon the community. If the water contains typhoid germs, all the water used in the kitchen should be boiled, whether it be for drinking, for washing articles of food, or for cleansing dishes. In cleansing the teeth even, the same precaution should be used.

Medical Germany in Russia.—Dr. Marcou, a member of French mission to Russia, laments the decadence of French medical influence in the Czar's empire. The Dual Alliance seems to have been of no value in bringing Russian and French medicine more closely together. German influence, on the other hand, is growing at a tremendous pace; and German textbooks and manuals, German instruments, and German journals are, as Dr. Marcou regretfully admits, seen everywhere in hospitals and universities. In one of the largest libraries, the only French journal seen by him was the *Annales de l'Institut Pasteur*. In Berlin, courses have been established for the especial instruction of Russian students; and Bergmann and Zabloudowsky give their lectures in the Russian language. The writer contrasts the cold reception extended to Russian physicians visiting Paris with the warm and generous greeting that they receive in Berlin. For one of its consequences this has the sending of wealthy Russian patients to the Berlin physicians in consultation.

"The Milk Supply of 200 Cities" is the title of a pamphlet of 210 pages issued by the United States Department of Agriculture, and compiled by Henry E. Alvord and R. A. Pearson. It is a good example of the work Dr. Salmon is doing in his department, and of the service to the people, to hygiene, and medicine which the government may render. Although by the glass jar or bottle passing sealed from producer to consumer is so far the best method of conveying milk, the authors state that the ideal package has yet to be devised. It is emphasized that the best milk is really the cheapest, and as milk, at the advanced price, is cheaper than most other articles of food, it might well form a large part of the dietary. Seven cities receive some of their milk from points 200 or more miles distant. It cannot be too often repeated that the zeal of the people and of health officials to prevent the sale of adulterated milk, if with pure water, is out of proportion to the greater danger from the relatively neglected contamination of milk and attention to the health of the cows and dairy people. The volume is largely made up of statistical tables concerning the milk supply, and of abstracts of the laws in reference to it of each State and of the principal cities of each State. There is an omission of any mention of the noteworthy work of the Philadelphia Pediatric Society in improvement of the quality of the milk of its certified dealers.

The suggestions for the improvement of market milk are so good that we reproduce the heads herewith:

The registration of all dairies.

Official indorsement of properly conducted dairies.

Inspection of all herds, barns, dairy buildings, etc., once a month.

Better lighting, ventilation, drainage, and cleanliness of cow stables.

Whitewashing the interior of stables.

Eradication of tuberculosis from dairy herds.

Branding of condemned cows.

Cows not to be given swill feed, etc.

Cows to be regularly cleaned.

Pasturage for city cows.

Aeration of milk in pure air.

Prompt cooling of milk and holding it at a low temperature until final delivery.

Shipment of milk from farms promptly after milking.

Delivery of milk and cream in sealed packages (glass bottles or small cans) so as to avoid unnecessary contamination by city dust, etc.

Delivery of milk in cities at any hour of the day when it can be supplied in the best condition.

Restrictions upon the sale of milk in markets, candy stores, etc.

Delivery of milk from such stores in bottles only.

Mixing of herd milk to get an article of uniform composition.

Bottling of milk only at the dairy or place of general supply.

Daily sterilization of milk utensils.

More rigid inspections for preservatives in milk.

Chemic and bacteriologic examinations of milk.

Standards for cream and skimmed milk.

The passage of no law that cannot be reasonably well enforced.

More pay and allowances and greater authority for milk and dairy inspectors.

More severe penalties for violations of milk laws.

Publication of reports on inspection of dairies.

Education of milk producers by a liberal distribution of circulars, leaflets, etc., bearing upon their work.

"Tumidum Guttur" in Switzerland 164 Years Ago.—To physicians traveling in Switzerland, a letter written by the poet, Thomas Gray (1716–1771) will prove of interest. Oliver Goldsmith, the thriftless, erratic, ill-disciplined Roscommon youth, and patientless graduate in medicine of the Dublin University, took at an early period of his career a prolonged flute-playing tour around and through the greater part of Western Europe. Like a true-born Hibernian genius, he was penniless, ragged, and partially—or wholly—barefoot throughout the prolonged period of his pilgrimage. But he saw what was worth observing, and he described some of the items as nobody else could. One of his published comments refers to the *epidemic* prevalence of thyroid tumors and cretinism in some of the Alpine valleys. Indeed, in certain Swiss districts when a young woman approached the marriageable age she was obliged—in the rare cases in which Nature's usual process had failed to supply her with the recognized proportion of thyroid development—to wear a false goiter in order to give herself a chance of the usual settlement in life. The author of the "Elegy Written in a Country Churchyard," in a tour of Switzerland also wrote home to his friend, Mr. West, on November 16, 1739, describing his experiences and impressions of the crossing of Mont Cenis. At that date, so far preceding the conception and construction of the now familiar railway tunnel, Mr. Gray found reason to complain that "Mont Cenis carries the permission that mountains have of being frightful, rather too far; and its horrors were accompanied with too much danger to give one time to reflect upon their beauties." And he further informs his correspondent that "the creatures that inhabit them (the mountains of that vicinity) are in all respects below humanity; and most of them, especially the women, have the *tumidum guttur*, which they call *goscia*." Of Mont Cenis he further tells us that "there is a family of the Alpine monsters I have mentioned upon its very top, that in the middle of summer calmly lay in their stocks of provisions and firing, and so are buried in their hut for a month or two under the snow." From such observations it would appear that the holiday medical tourist of the present day who avails himself of the rapid and comfortable means of transit supplied by the great Mont Cenis tunnel loses alike an opportunity of surveying the fascinatingly appalling grandeurs of some of Nature's most impressive architecture, and of examining the most striking specimens of one of Nature's most mysterious pathologic aberrations.

"The Pink Iconoclast" is a weekly paper, published at Denver, not on yellow paper, but on very pink paper, and at $1.00 a year. It seems to be devoted to antireligion and antimedicine in about an equal and intense degree if one may judge from the slang jargon which is used instead of English. The first editorial in the issue lying before us says that "Vaccination is to the doctor what hell is to the preacher—a graft to loosen you from your money without giving anything in return." Commenting on an article in the *Ladies' Home Journal* advocating the vaccination of children, the editor says that "It is evident that either a female monstrosity edits the *Home Journal*, or some medical sneak has got in his graft with that periodical. For vaccination kills." Concerning physicians, the reader is advised to "give them three plunks to guess that you will die anyway. So pay them to help you die." "All Free Thinkers are Socialists" is an indication of the editor's opinion as to the nature of socialism and free-thinkerism. Antivivisection, antisociety, antieverything medical is luridly set forth in many columns, until one comes to quack medicine, and that of course, is good—at least when the advertisements are paid for. We therefore find that "Dr. Warde's Magnetic Pad," is "a sure cure for heart trouble, rheumatism, paralysis, and sexual weakness." Actina "restores eye-sight," and cures every imaginable eye-trouble when eminent occulists termed the cases incurable." (The Actina sort of men always spell it "occulist.") The *Pink Iconoclast* is "entered as second-class matter under the act, etc."

"Lucifer" is a name that is likely, in Christian countries, to suggest a decidedly bad and sulfurous odor, but the editor of the periodical published in Chicago under that title is proud of it, defining it with at least etymologic correctness as the light-bearer. The editor claims to be "both socialist and anarchist," "both egoist and altruist, both individualist and collectivist, or more correctly speaking, a cooperative individualist." The editor's chief grievance seems to be against marriage, or

as he terms it, "enforced monogamy" or "institutional marriage." He demands "freedom" from "the evils, monogamous and polygamous, of marriage." In his own columns we learn that the editor was "sentenced to a long term in the penitentiary." Even in a medical journal we cannot quote passages we had marked. But Postmaster-General Madden should see them. A hint may be gained from the following by a writer:

Every child should be accustomed from earliest childhood to the sight of the nude human body, male and female. The second great cause of excess is that sex is forbidden, and therefore more enticing. Abolish these two great causes of vice and sexual excess will soon be as rare as gluttony. Of course, when I use the word "excess," I mean the expenditure of more energy on sex than health and strength admit of. So long as this limit is not exceeded there is no excess, and sex is an unmixed good if agreeable to both parties. Neither has excess anything to do with the number of persons on whom sexual energy is spent.

Crime against the law is thus advocated and encouraged by the journal "entered as second-class matter, etc." Politically the editor says that "voting is one of the worst of vices," and his opinion as to the church is found in the words put into an approving quotation from Ingersoll: "If I can drive a dagger to the heart of that old harlot, the church, I shall have contributed my share to the world's redemption." As to medicine, we note advertisements of A Private Maternity Home for Those Desiring to Avoid Publicity, etc.; The Fate of the Prodigal Daughter; Vice; Vaccination a Crime; Love's Coming of Age; The Physician in the House; Regulating Reproduction by Controlling Conception; Karezza (obscene book); Motherhood in Freedom, etc.

EDITORIAL ECHOES

A highly interesting and important pamphlet has just been issued by Professor Ray Lankester and his assistants of the British Natural History Museum in relation to the suspected connection between the tsetse fly and the sleeping sickness which has been making such havoc in certain parts of southern and western Africa. Colonel Bruce discovered that the tsetse fly produces the death of horses and cattle by introducing into the blood of its victims a minute parasite, and in the early part of this year Dr. Castellani, a member of the Royal Society Commission, sent to Uganda to investigate the sleeping sickness, found this parasite in the cerebrospinal fluid of nearly 70% of the cases of sleeping sickness examined for this purpose by him at Entebbe in Uganda. Until recently it was supposed that the tsetse fly was inseparable from the African buffalo, and could only exist in districts inhabited by that animal. But this theory is now much doubted. Sir Charles Eliot, Commissioner and consul-General for British East Africa, is convinced that the buffalo cannot be the only host of the parasite which the tsetse fly introduces into the blood of domestic animals. Commissioner Sir Alfred Sharpe declares that the tsetse flies appear to depend upon wild game for their existence, as he had never found them where game was nonexistent, but does not think that they are in any way especially dependent upon buffalo. Mr. F. J. Jackson, Deputy Commissioner for British East Africa, is firmly of the opinion that in East Africa the existence of the tsetse fly was never in any way more closely connected with buffalo than with any other species of game, and expresses his conviction that the tsetse is, like the mosquito, only a blood-sucker by predilection.—[*N. Y. Evening Post.*]

AMERICAN NEWS AND NOTES.

GENERAL.

American Veterinary Medical Association.—The fortieth annual meeting of this association will be held in the City Hall, Ottawa, Canada, September 1–4, 1903. The secretary is J. J. Repp, Ames, Iowa.

American Electrotherapeutic Association. — The thirteenth annual meeting of this association will be held at the Hotel Windsor, Atlantic City, N. J., September 22–24, 1903. It is important to secure rooms well in advance of the meeting. Executive sessions will be held at 9 a.m., and scientific sessions at 10 a.m. and 3 p.m. each day. Members of the profession are cordially invited.

The Fifth International Dermatological Medical Congress will meet in Berlin, Germany, September 13–17, 1904. The following subjects have been selected by the officers of the Congress for discussion: 1. The Syphilitic Affections of the Circulatory Apparatus. 2. The Diseases of the Skin in Anomalies of Metabolism. 3. Epitheliomas and Their Treatment. James Nevins Hyde, of Chicago, is secretary for America.

Covering for First-aid Package. — Some interesting experiments are to be made with coverings intended for first-aid package issued to troops in the field by the army medical department. General Davis has reported that this package is not sufficiently protected from the elements and that its contents are injured by exposure to rain and climatic conditions. Experiments have been made with such coverings as vulcanized rubber, which officers consider the best protection, but which is difficult to cut or to remove; with papier mache; with tinned brass, and with isinglass. The latter is believed to exclude water so far as the tests have shown and has the quality of lightness in weight. The medical officers are inclined to favor tinned brass, however, and it is probable that 1,000 of these envelopes will be issued for practical trial in the field. The metal cases are equipped with cords, the tops of which will permit the packages to be suspended from the ammunition belts.—[*Army and Navy Register.*]

The Late Major Walter Reed.—On August 15 a meeting was held in Bar Harbor, Me., of friends of the late Major Reed, to whom in a large degree is due both the discovery of the mode by which yellow fever has been spread, and also the consequent suppression of that dire disease. Representative men were present from different parts of the country, and letters were received from various members of committees already appointed to promote the collection of a memorial fund in grateful commemoration of Dr. Reed's services. Important suggestions were presented from President Eliot, Professor J. W. Mallett, Dr. W. W. Keen, and others. Dr. Daniel C. Gilman, chairman of a committee appointed by the American Association for the Advancement of Science, presided, and Dr. Stuart Paton acted as secretary. Among those who took part in the conference were Dr. W. H. Welch, of Baltimore; Dr. Janeway, of New York; Dr. Abbott, of Philadelphia; Dr. Herter, of New York; Dr. Barker, of Chicago; Dr. Putnam, of Buffalo; Dr. Fremont Smith, of Bar Harbor; and Dr. Sajous, of Philadelphia; and beside these medical gentlemen, Bishop Lawrence, of Massachusetts, and Messrs. Morris K. Jesup, president of the New York Chamber of Commerce; John S. Kennedy, president of the Presbyterian Hospital of New York, and Wm. J. Schieffelin, of New York. The following conclusions were reached: That an effort should be made to raise a memorial fund of $25,000 or more, the income to be given to the widow and daughter of Dr. Reed, and after their decease the principal to be appropriated either to the promotion of researches in Dr. Reed's special field, or to the erection of a memorial in his honor at Washington. Arrangements were made for the publication of circulars explaining this movement, and asking cooperation not only from the medical profession, but from all liberally-disposed individuals who appreciate the value of Dr. Reed's services to mankind.

EASTERN STATES.

Jersey City Hospital.—The Jersey City Board of Finance has appropriated $200,000 for the erection of a new city hospital which will be on the site of the present building at Baldwin avenue and Montgomery street, with an additional plot on the south side. The new building will be 40x121 feet, 3 stories high. There will also be additional buildings for insane and alcoholic patients and the tuberculous.

Trained Nurses in New Jersey.—According to a strict interpretation of the new State law enacted for the protection of graduate trained nurses in New Jersey, a large number of nurses who have obtained diplomas in other countries, principally Canada, will be obliged to return the certificates issued to them and take the regular examination provided in such cases. An effort will be made at the next session of the Legislature to have the law changed so that an examination will not be necessary for those coming to New Jersey from foreign countries.

NEW YORK.

Small Infant.—A male infant weighing 13 ounces was recently admitted to the New York Post-Graduate Hospital.

Woman's Hospital.—The plans for the new building to be erected for the Woman's Hospital, in West One Hundred and Tenth street to replace the old hospital at Lexington avenue and Fiftieth street, have been filed. The building will be 6 stories, with basement and attic, and will have facades of granite, limestone, and terra cotta. It will be 188 feet front and 40 feet deep, with 2 wings, each 40 feet wide and 60 feet deep. The cost is estimated at $610,000.

Influenza as a Cause of Death.—The bulletin of the New York State Department of Health for June, 1903, contains the following suggestive statements: Influenza as a reported cause of death is interesting in its associations and relationships. During February, March, April and May 600 certificates, coming from the smaller cities, rural towns and villages throughout the State, came to hand upon which influenza or grip (the more common term employed) was reported as the direct or contributory cause of death. These represent but a small part of the estimated mortality from this cause, but they include all of the deaths the certificates of which are sent to the State Department of Health for filing, that is, all except of deaths occurring in New York City, Albany, Yonkers, and Buffalo, and upon which in any way whatever the term has appeared in connection with the reported cause of death. The first decade of life, and in fact the first 20 years, seems to be almost immune to the effects of the disease; and the middle period of life, to the age of 45 or 50, is resistant to it so far as reported fatality is an indication. The susceptible age of infancy is an apparent exception, as more deaths are ascribed to it in the first year than in the next 20. Prior to the age of 50 only a fourth of these deaths occurred; after which there is a marked increase in each decade, the greatest number falling between 70 and 80. The months of December, January, February and March, during which influenza is prevalent, have much larger mortality at 70 years of age and over than the remainder of the year. There are considerably fewer deaths of males than females, and this is true of every decade except during the first year of life, and especially true in old age.

PHILADELPHIA, PENNSYLVANIA, ETC.

Filtered Water above Standard.—Chief Hill, of the Philadelphia Filtration Bureau, reports the best results ever attained by slow sand filtration. A recently completed bed in the upper Roxborough plant reduced the bacteria in Schuykill water from 42,000 to 12 per cubic centimeter. The highest number retained by any of the beds is 68.

SOUTHERN STATES.

Heavy Infant.—Newspapers report the birth of a 25-pound female child to a woman in Lexington, Ky.

Medical Society of Virginia.—The thirty-fourth annual meeting will be held in Roanoke, Va., September 15-17, 1903. J. Newton Lewis is chairman of the local committee of arrangements.

Age Limit for Chauffeurs.—The Automobile Board of the District of Columbia has placed itself on record as opposed to the issue of permits to persons less than 18 years old to operate motor vehicles. This board was created under the regulations recently framed by the district commissioners to regulate the use of motor machines in the streets of Washington.

WESTERN STATES.

Trypanosomes in California Rats.—The public health reports contain the announcement that trypanosomes have been found in the blood of 5 rats examined for plague at San Francisco.

Health of Chicago.—The deathrate for the week ended August 15 was again remarkably low, representing an annual rate of only 13.36 per 1,000 of population. Of 760 samples of milk and cream analyzed during the week 60 were found to be below grade. Of 112 samples taken at the train before they came into possession of the city dealer, 4 were found below the standard of butter-fat and 40 below the standard of total solids. Health Commissioner Reynolds says that if the State Pure Food Commission will take care of the farmers, the Bureau of Milk Inspection will continue its care of the city dealers.

No Food Preservatives Good.—The National Convention of Dairy and Food Commissioners closed July 24 at St. Paul. Officers were elected as follows: President, J. W. Bailey, Oregon; secretary and treasurer, R. M. Allen, Kentucky. A number of resolutions were adopted, the most important being those regarding preservatives. Preservatives in food were condemned, and coloring matter was also condemned, except that known to be harmless. The bottling in bond of liquor was approved, and a recommendation was added for the extension of the law to facilitate the distribution of pure whisky from manufacturer to consumer.

FOREIGN NEWS AND NOTES

GENERAL.

The high infantile mortality in Bombay and Bengal is attracting the attention of the sanitary authorities. A sudden increase began in Bengal in 1899. There is also a large mortality among women of childbearing age, and a large percentage of still-births. In 62% of the towns the deaths exceeded the births.

Use of Cocain in India.—The present unfettered sale of this drug is to be stopped by the reversal of the curious magisterial decision which some time ago declared, after a legal quibble, that cocain was not an intoxicating drug. The use of cocain is widespread in India.

Hospital Ship for India.—It is proposed to fit out a transport as a hospital ship for conveying invalid soldiers from India to England. The ship will be fitted with 100 beds for serious cases, and will make 3 trips yearly. Invalids able to care for themselves will go by ordinary transport. More than 2,000 men are invalided home yearly, more than 4,000 are constantly sick, and 750 deaths occur annually in the Indian service.

Crime in Egypt.—The report of the Prisons Department for 1902 shows an enormous number of prisoners. Changes have been made which will put many of these prisoners in reformatories. During the year the prisoners numbered 1,036 for each 100,000 population. In England the number was 621 and in Bombay, where the conditions of life are practically the same as in Egypt the number was 411. The propensity of the Egyptian to homicide is very marked.

Medical Practice in Hong Kong.—It is stated that the practice of medicine in Hong Kong is a singular combination of Chinese and British institutions. Two medical concerns do nearly all the business, on annual contract. Each head of a family, or of a business house, contracts for medical attendance at so much a year. Heads of business houses explain that it is a matter of policy with them to have their clerical force feel that medical advice and attendance are free; the warfare against tropical diseases must be so constant that any symptoms, no matter how slight, should receive early attention. The physicians who serve these firms do so under term-contracts, each signing an agreement not to practise within 20 miles of the firm's headquarters on the expiration of the contract period.

GREAT BRITAIN.

A Healthy Town.—Official returns show that during last year no fewer than 260 persons died in Stepney, Eng., from old age.

Fined for Selling Spurious Blaud's Pills.—An English pharmacist was recently fined £50 ($250) and costs as the result of a suit brought against him for selling "Blaud's pills" that contained only a small fraction of the usual amount of ferrous carbonate. The defense was that the label on the bottles stated that the pills were not made by the formula in the British Pharmacopeia. The prosecution contended that the sale of the article as "Blaud's pills," even with the statement made, was a fraud.

Camp Life at the British Medical Association Meeting.—The Wales correspondent of the *Lancet* states that the camp which was organized at Swansea during the recent meeting of the British Medical Association was such a pronounced success that this method of supplementing hotel accomodation will no doubt be a feature of future meetings. Twenty bell tents and a mess tent were pitched in a 2-acre field. Within 100 yards were bathing facilities. The catering was looked after by one of the Swansea hotels.

The appellation of "lunatic" is objectionable to a correspondent of the *Lancet*, who takes exception to its use by the Houses of Parliament in a bill recently passed. Originally used to designate a person under the influence of the moon's phases, etc., it was finally made to include "every person of unsound mind and every person being an idiot." The writer believes that this term, even if legal, should be substituted by a word better indicating facts and more generally appropriate. He believes that outpatients will turn away from institutions for their benefit because of this name.

New Phase of Hospital Abuse.—A correspondent of the *Lancet* furnishes an instance of hospital abuse that should receive the medal. We quote from his report: "A poor patient of mine attended a throat and ear hospital and in relating her experiences there said that next to her in the waiting-room was 'quite a lady' who had brought her child to have the tonsils excised, and that this lady told her that she had brought her own medical attendant with her 'to see that it was done properly' and that she was going to pay him 3 guineas for coming. I wonder what the operator would have said if he knew that? If medical men themselves help in such imposition they cannot be surprised if their well-to-do patients go to the hospitals on their own account."

CONTINENTAL EUROPE.

Deaths from Mountain Climbing.—The death-toll of the Alps has this year been very large. Already more than 300 accidents have occurred and 150 lives have been lost.

Donation for Sanatorium at Rome.—Pietro Cartoni, a wellknown land owner, has given 1,000,000 lire ($200,000) to found a sanatorium for tuberculous patients at Rome, in memory of his 2 sons, who died of tuberculosis.

Pasteur System Attacked.—Press reports say that Dr. Duata, professor of hygiene at the Perugia (Italy) University, has strongly condemned the Pasteur system of treating hydrophobia. He claims that the number of deaths from rabies has risen since this treatment was adopted. Recently 10 persons at Novara were bitten by a rabid dog, and it is stated that the four of them treated by this system died. Papers demand an inquiry into the affair.

Cerebral Morphology.—The autopsy on the late Dr. Laborde, of Paris, disclosed an interesting fact regarding the brain. Dr. Laborde was an exceedingly fluent speaker and it was desired to ascertain if the speech center was unusually developed. The left inferior frontal convolution was found to be much larger than the right. Its volume was the more remarkable because the brain as a whole was small, weighing 1,234 gm. (41 ounces) and the convolutions in general were but little complicated.

OBITUARIES.

Charles F. Hildreth, in Manchester, N. H, August 18, aged 71. He was graduated from the Harvard Medical School, and first practised in Concord, N. H. He was for several years surgeon at the State prison. During the Civil war he was assistant surgeon in the navy and afterward surgeon of the Fortieth Massachusetts regiment. He served two terms as member of the New Hampshire Legislature and treasurer of Merrimac county.

Phanetta C. Barker, of Morristown, N. J., August 21, aged 68. He was graduated from the College of Physicians and Surgeons, New York City, in 1860. He founded the Morristown Memorial Hospital Association which built the Morristown Hospital, the finest institution of its kind in northern New Jersey. He was a Fellow and ex-president of the New Jersey Medical Society and ex-president of the Board of Health.

Joseph Griffiths Swayne, in Clifton, England, August 1, aged 85. He received his medical education at Bristol Medical College and Guy's Hospital. Dr. Swayne was a recognized authority on obstetrics, and was at one time professor of midwifery at his alma mater. He was also an artist of no mean ability.

F. M. Powell, in Chicago, Ill., August 15. He was graduated from the Starling Medical College in 1875, and was for 22 years superintendent of the State Institution for Feeble Minded Children at Glenwood, Ia. He was the author of several medical textbooks.

Frederick Lord, at Southsea, England, August 5, aged 53. He graduated from Edinburgh in 1876, and for a time was ship's surgeon on an Indian vessel. In 1895 he founded the Portsmouth Medical Union. He was an enthusiastic photographer and athlete.

William H. Amiss, at Sperryville, Va., August 8, aged 73. He was graduated from the medical department of the University of Pennsylvania, Philadelphia, in 1853, and served as surgeon during the Civil war.

William Burns Macdonald, at Dunbar, England, August 2, aged 45. He was a graduate of Edinburgh. Death was a remote result of concussion due to a fall from a bicycle.

John H. Martin, near Aberdeen, Harford county, Md., August 20, aged 70. He was graduated from the Maryland University School of Medicine in Baltimore, in 1860.

J. W. Shaw, in Long Beach, Cal., August 1, aged 87. He was graduated from the Saginaw Valley Medical College, Saginaw, Mich., in 1901.

John N. Wheat, at Austin, Minn., July 25, aged 86. He was graduated from the Western College of Homeopathic Medicine, Cleveland, in 1852.

John M. Trembly, at his home in Butler county, Ohio, July 24, aged 73. He was graduated from the Miami Medical College, Cincinnati.

Samuel W. Skinner, in Toledo, Ohio, August 17, aged 83. He was graduated from the medical department of the Yale University, in 1846

William P. Sharkey, of Philadelphia, August 18. He was graduated from the Hahnemann Medical College, Philadelphia, in 1875.

A. R. Thompson, of Troy, N. Y., suddenly on August 22, aged 48. He was graduated from the Albany Medical College.

John H. Kinyoun, in Centerview, Mo., July 27, aged 78. He was graduated from the New York University, in 1859.

SOCIETY REPORTS

AMERICAN LARYNGOLOGICAL, RHINOLOGICAL AND OTOLOGICAL SOCIETY.

Ninth Annual Meeting Held in Lexington, Ky., April 30, May 1 and 2, 1903.

[By courtesy of Dr. Thomas J. Harris, chairman of Publication Committee.]

President's Address.—J. A. STUCKY (Lexington, Ky.) said that the society had good reason to be proud of its rapid growth and great achievements in the few brief years of its existence. It had been organized on a broad foundation, and there should be no fence put up to prevent the entrance of those who were loyal to the code and had won their spurs. The existence of this society had shown the wisdom of following the broad principles laid down at its very inception, and at the present day its members recognized no east or west, north or south, but one brotherhood and one purpose.

Foreign Body in Nose for Thirty Years.—W. L. BALLENGER (Chicago) presented a specimen removed from the nose. At the time it was supposed to be a rhinolith. The case was one of foul-smelling suppuration of the nose. According to the history, 30 years ago the patient's eye was destroyed by the explosion of a gun. On cutting open the mass removed from the nose it was found that the core of the foreign body was the breech-pin of a musket.

A Case of Lipoma of the Tonsil.—CLEMENT F. THEISEN (Albany) reported the case of a girl aged 8 years, seen December, 1902. She had suffered several years from a severe paroxysmal cough. Examination showed a smooth-surfaced yellow tumor about the size of a marble, which was attached to the center of the right tonsil by a long thin pedicle. GEORGE W. BLUMER reported that the tumor was a lipoma. The speaker said that he had been able to find only six other cases of true lipoma of the tonsil on record. They were the rarest of the benign tumors of this part. It was rather remarkable that the majority of the cases had been found in adults, one being in a person 90 years old. As a clinical feature the yellow color of the fatty tumor was important, though not pathognomonic. Practically the only way that a positive diagnosis could be made was by histologic examination. Removal of the growth by the hot or cold snare, or by the scissors was the only treatment.

Retropharyngeal Abscess: Report of 3 Cases.—L. C. CLINE (Indianapolis) said that from the fact that these abscesses were associated with, or followed nasofaucial inflammation it was reasonable to suppose that these abscesses were dependent upon infection in that way. The first case reported was that of a child of 5½ years, seen in consultation. She was greatly emaciated, had a temperature of 101° F., and suffered from attacks of dyspnea. The neck was greatly distended, especially on the right side, and there was a peculiar croaking cough. An incision was made and pus evacuated. She did well for 5 days, when she suddenly had a choking attack, and was so near death that the attending physician did an emergency tracheotomy. Subsequently, better drainage was established, and the child made a good recovery. The second case was that of a man with a troublesome spasmodic cough. There was a large swelling involving the whole of the posterior pharyngeal wall. A long and deep incision was made in the median line from below upward, but there was only a scanty discharge of pus and connective tissue. The patient was relieved, but continued in poor condition because of the general sepsis, and died in a choking fit 2 weeks later. The case was apparently of tuberculous origin. The third case was that of a child of 2½ years, seen in March, 1903. After recovering from measles the child developed a croupy condition, and for a few days before being seen by him had had a peculiar severe paroxysmal cough. There was a large swelling on the posterior wall of the pharynx, and this was freely incised and a large quantity of pus evacuated. Recovery was rapid.

A Case of Tuberculous Laryngeal Stenosis Treated by Tracheotomy.—PRICE BROWN (Toronto). The patient was a man of 31, who had been referred to him on April 2, 1901. He was suffering from night-sweats and a frequent racking cough. Tubercle bacilli were not found in the sputum at the time. The left side of the epiglottis was decidedly infiltrated, and the whole larynx was bathed in mucopus. An alkaline spray was used daily, followed by menthol and lanolin, and at intervals of a few days an application of a 50% solution of lactic acid was made. By May 12 the patient had improved considerably, both in the local and general condition. On May 13 there was a chill and a rise of temperature to 103° F. The lungs showed fairly advanced tuberculosis. The patient then began living outdoors in a tent. Eleven months later his condition had improved so much that he was admitted to a sanitarium for incipient tuberculosis, although he had been refused admission at the time of commencing the tent life. Nevertheless tubercle bacilli were found in the sputum. On November 10, 1902, the larynx became so edematous that he felt justified in doing tracheotomy, and high tracheotomy was performed. From the time of the operation the laryngeal symptoms slowly improved. For many weeks now the temperature had remained normal

and the patient had regained his full normal weight. No tubercle bacilli were found at present in the sputum. The tube was still worn, and when the opening was closed with the finger the patient could speak in guttural tones. There were no visible ulcerations in the larynx. After another summer of tent life it was purposed to attempt the cure of the laryngeal stenosis by the use of graduated tubes.

The Pathology of Ethmoiditis Reconsidered.—EDWARD WOAKES (London, England) sent a communication on this subject, which was ordered read. The author stated that there was certainly a specific character to this disease. In the first stage morbid changes were found only in the mucous membrane. Sometimes some myxedematous tissue would be in evidence. The glands embedded in the newly-formed fibrous tissue were not only compressed, but were often absorbed and assimilated. In the second stage the small arteries of the submucous stratum were invaded and coincidentally myxoma developed from within, and the bone itself became thinner by absorption. Later on sharp spicules of earthy matter projected from the surface, and by this time, or perhaps long before, the fibrosis itself tended to atrophy. The author then raised the question as to whether fibrosis was due to the preexistence of a constitutional diathesis, and expressed the opinion that the answer would probably be found by future research in the field of the rhinologist.

The Import of the Salivary and Nasal Secretions in Hay-fever.—D. BRADEN KYLE (Philadelphia) said that he had first become interested in this subject 8 years ago. There could be no doubt that with the variations of reaction from alkaline to acid and *vice versa*, the secretion must undergo decided changes in its chemic composition. It was a wellknown physiologic and therapeutic fact that certain drugs exerted a selective action upon certain parts of the body. He had become convinced that by studying the saliva one could determine important changes in the chemic processes going on in the body. Hyperacidity was said to favor chemic change in the tissue with an increase in the proportion of organic acids. The chemic action of the saliva depended upon its ferments, the most important of which was ptyalin. A great many morbid processes had been traced to uric acid, but he believed that many equally important substances were deposited and eliminated. In this way might be explained many of the reflex neuroses, as, for instance, hay-fever. After a series of examinations of the saliva of certain individuals afflicted with hay-fever, and of those not so afflicted, he had become convinced that the irritation often arose from a chemic change in the saliva. There was apparently a field for investigation in this direction. He had known a teaspoonful of common table salt swallowed at one dose to cut short more than one attack of hay-fever, thus showing the relation between the chemistry of the secretions and such irritative conditions. Hay-fever rarely if ever manifested itself in atrophic rhinitis, a condition which involved the mucous secretions. Certain attacks of socalled hay-fever often come on suddenly without apparent exposure to cold or other common source of irritation. In such cases he believed that, owing to some alteration in the chemic composition of the saliva, substances were formed which, on exposure to the air, became decomposed and gave rise to irritants. Such an attack was comparable to the condition resulting in some individuals from the inhalation of ammonia. Normally, the sulfocyanids and ammonia salts in the saliva were present in about equal proportions, whereas in many of these cases these compounds had been found to be in excess. In cases of hyperacidity the sulfocyanids were in greater proportion than the ammonia salts, and the secretion was less irritating; in cases of diminished acidity the reverse was true.

A Case of Bilateral Abscess of the Septum with Well-marked Symptoms of Septicemia.—W. L. CULBERT (New York). The patient was a man of 31, a cigaret smoker, and a moderate drinker. Five days previous to coming under observation he had contracted a severe "cold." His temperature was 104° F. and his pulse 132, and the skin was clammy. There was intense throbbing pain; the nose was completely occluded; the mucous membrane was loose and there was a boggy and fluctuating tumor. Both abscesses were opened by a vertical and horizontal incision, and the relief was immediate. The cavities were irrigated first with hydrogen dioxid and then with weak carbolic acid solution, and were then lightly packed. By the next day all of the septic symptoms had disappeared. Five days later the septum appeared normal. The patient brought with him a quadrangular piece of necrosed bone that had been discharged from the nose. The occurrence of septicemia in such a case was not usual, and the etiology of these abscesses was somewhat obscure. The fact that the abscess was bilateral and involved both the cartilaginous and bony septum was also of interest.

A Case of Epiglottic Abscess with Secondary Involvement of the Cervical Glands.—Dr. CULBERT also reported this case. The patient was a merchant, 34 years of age, who had consulted him last summer because of painful and difficult deglutition and a sense of swelling in the throat. He was undoubtedly gouty, and had suffered previously from several attacks of quinsy. The anterior chain of lymphatic glands of the neck was swollen and tender. His temperature was 100.5° F. and his pulse 90. The mirror showed a mass at the base of the anterior surface of the epiglottis a little to the left of the median line. There was no tumor or involvement of the larynx. The abscess was opened by the use of a sharp, curved aneurysm needle. Relief was immediate and the enlargement of the lymphatic glands disappeared within a few days. The extensive involvement of these glands was a point of some interest.

The Relations of the Upper Air Passages to Diseases of the Gastrointestinal Tract.—L. A. COFFIN (New York) said that he had been struck by the large number of his clinic patients who complained only of postnasal catarrh. The disease *per se* was local. The stoppage of the nose at night on the side next the pillow was a common complaint, and was due to hypertrophy of the posterior ends of the inferior turbinate. The pathology was that of a cirrhotic membrane. The commonest basic principle in the etiology was irritation, and this resulted in hyperemia. The circumscribed area affected was against the view that the condition was the result of general toxemia. As the anterior nares frequently escaped the disease altogether it was evident that one must look elsewhere than to the inspired air. Children, who seldom had great structural deformity of the nose, were quite as frequently affected with postnasal catarrh as were adults. The author believed the chief cause of the pathologic condition under discussion was the irritation resulting from the eructations of gases from the stomach. He believed that in considering chronic follicular pharyngitis and nasopharyngitis as frequently secondary to chronic indigestion one took a logical position, and that better results would follow from treatment founded upon this assumption. Hyperacidity was a common cause, and the reason it was overlooked was that the great majority of these persons gave no symptoms pointing to gastric disorder. A series of cases had been examined by modern methods for stomach disorder, and the results noted and compared with the examinations made of the upper air passages.

SECOND DAY.

Symposium: Otitis Media Suppurativa.—NORVAL H. PIERCE (Chicago) opened this symposium with a paper on the **etiology and pathology**. He said that whether the type were catarrhal or suppurative pathogenic microorganisms played an important part. The microorganisms most commonly met were the streptococcus, the staphylococcus, and *Diplococcus pneumoniæ*. Pure infection was the exception rather than the rule; *Staphylococcus pyogenes* was the organism most often found in pure culture. It was said that infection might reach the ear through the *fissura petrosa squamosa*. The same organism under different circumstances might give rise to different types of inflammation depending upon the virulence of the organism and their number, the resistance of the tissues, and the rapidity of invasion. In considering the patholgy one should remember that the mucous membrane of the ear served the double purpose of mucous membrane and periosteum, that the glandular element was scanty as compared with mucous membrane elsewhere in the body, and that the mucous was largely liberated by the pavement epithelium. This explained the tendency of inflammation of this part to result in necrosis, there being a rapid multiplication of white cells, thus impairing the nutrition of the bone derived from the mucoperiosteum.

Etiology, Symptomatology and Pathology of Otitis Media Suppurativa Chronica.—CHARLES W. RICHARDSON (Washington, D. C.) said that the most frequent causes of the chronic variety were: 1. Improper treatment of the first stage. 2. Certain types of constitutional invasion, such as scrofula, tuberculosis, syphilis, anemia and marasmus. 3. The occurrence of an acute suppurative otitis in the invasion of certain acute infectious diseases. 4. Differences in the virulence of the bacilli present. 5. Local changes excited at the time of invasion or during the progress of the case, *e. g.*, the development of granulation tissue, caries of the ossicles or tympanic wall and retention of the discharge. 7. Local changes in nasal and nasopharyngeal cavities. Caries, with necrosis of the ossicles, was the most common bone lesion in this disease. The stapes was rarely affected. The carious process might extend to the walls of the tympanic cavity, especially that portion formed by the auditory plate of the temporal bone. The membrane was almost always destroyed to a greater or less extent. The mucous membrane of the eustachian tube, like that of the tympanic cavity, became infiltrated. The changes in the mastoid during chronic suppuration were: 1. Congestion, swelling and polypoid degeneration of the lining of the antrum and mastoid cells. 2. Complete obliteration of the mastoid cells. 3. Osteosclerosis of the mastoid. 4. Accumulation of mucopurulent or purulent secretion in the antrum and mastoid cells. 5. The formation of choleasteatoma. The most characteristic symptom of chronic suppuration of the middle ear was the presence of a discharge. Pain was infrequent in this variety, though it might result from interference with free escape of pus. There was often a feeling of pressure or headache. Subjective noises were occasionally present, but were seldom continuous. Patients frequently heard fairly well so long as there was a free discharge, and they frequently became quite deaf when the discharge became scanty or ceased altogether. One perforation of the drum membrane was the rule, although occasionally multiple perforations were seen. The membrane might be dull white or yellowish-red. The border of the perforation was usually more highly colored than the rest of the membrane. The periphery of the perforation might be adherent at one or more points to the tympanic wall. Granu-

lations or polypi sometimes developed upon the tympanic wall. When the discharge was so limited as to form hard blackish crusts, due care should be exercised in the removal of the crusts as their base might bleed and obscure the view.

The Inefficiency of the Wilde's Incision.—J. M. RAY (Louisville) made citations from various authors to show the revulsion against the use of the Wilde's incision because of its inefficiency in the great majority of cases, and this fact was emphasized because, as the author said, many of these cases were operated upon by general practitioners or general surgeons who were not aware of the change of opinion that had taken place among otologists regarding this procedure. Any operation which did not open up a communication with the middle ear and give free exit to the pus was an unsurgical procedure. The prolonged use of hot applications often resulted in an external otitis or masked the symptoms and led to an operation in cases in which no surgical interference was necessary. The large majority of cases of acute suppuration in children were treated by the socalled internal Wilde's incision, but the fact could not be too strongly emphasized that the antrum was involved in almost every case of acute suppuration of the middle ear. The opening up of the one cell communicating with the tympanic cavity was absolutely necessary.

Treatment of the Complications of Otitis Media Suppurativa.—JAMES F. MCKERNON (New York) said that in aural surgery, as in other departments of surgery, success depended very largely upon the employment of asepsis. A careful examination of the nose and nasopharynx should be made and any obstructions present removed. For the lesions found in the drum membrane the cardinal principle was to maintain cleanliness of the parts and apply an astringent solution, such as nitrate of silver solution in varying strength, following this by insufflation of powders. Still later catheterization and vaporization of the eustachian tube were useful in adults, whereas in children the Politzer bag should be used. It was found very useful to temporarily close the opening in the drum by means of collodion or a bit of thin paper held in place by vaselin. Thickened and edematous mucous membrane could be reduced by the use of warm saline solution or the application of astringents. If the mastoid were diseased the radical Schwartze-Stacke operation should be done. It was rarely necessary to remove the stapes, and care should be taken not to disturb its relations to the oval window. The incus was the ossicle which was usually first attacked because of its limited blood-supply. After the removal of the ossicles the tympanic walls and vault should be carefully cureted so as to remove all diseased tissue, particularly in and around the orifice of the eustachian tube. This having been done, the cavity should be wiped dry and packed with a wick of iodoform gauze. The latter should be removed after 24 hours, and then the parts manipulated thereafter as little as possible. Diffuse external otitis frequently occurred in the course of an inflammation of the middle ear. Free incision followed by curetage and drainage would give relief more quickly than palliative treatment. This condition was prone to occur in groups rather than singly, and repeated incisions were sometimes required. When there was tenderness over the mastoid an ice coil should be used for 24 hours, and the auditory canal should be irrigated with warm bichlorid solution of a strength of 1 to 8,000. If at the end of 24 hours there was no diminution in mastoid tenderness the ice coil should not be persisted in; but if the tenderness had diminished it was justifiable to continue the ice coil for 12 hours more. Sometimes the application of dry heat answered the same purpose, but neither cold nor heat should be applied to the mastoid if the case were of several days' standing, or if edema were already present. If it became necessary to do the radical mastoid operation it should be remembered that a softening of the bone at the root of the zygoma often demanded attention. If any areas of the dura were exposed they should be separated by packing, to guard against the possibility of subsequent infection. To make the primary dressing comfortable to the patient and easy of removal a piece of sterile rubber tissue, button-holed in places, should be first introduced, and then the gauze dressing over this rubber tissue. Ordinarily the first dressing should not be removed for five or six days. **Subperiosteal abscess** was often met in neglected cases in children, and occasionally also in adults. Not only should the abscess be evacuated, but the mastoid process should be opened up. **Adenitis** occurred very frequently following suppuration of the middle ear. It was often relieved by hot applications or the use of some such ointment as the ammoniated mercury. If the glands appeared to be breaking down they should be removed under anesthesia. **Pachymeningitis** was the most common among the intracranial affections arising in chronic middle-ear suppuration, and usually accompanied mastoiditis, sinus thrombosis or brain abscess. In cases of **epidural abscess**, a piece of gauze should be placed over the dura at operation, and removed on the third or fourth day. **In sinus thrombosis** the lateral or sigmoid sinus was most frequently affected in connection with pachymeningitis around the sinus. Each individual case was a law unto itself. There must be complete and thorough exposure of the sinus, followed by flushing of the field with alcohol before opening the vessel. The part usually opened was that above the bend, the anterior wall being incised with the scalpel. The use of the aspirating needle had been discarded because it often gave a wrong impression of the condition existing within. If a large clot were present, it should be removed with the curet and the hemorrhage allowed to continue for a few seconds to remove septic material. The hemorrhage was then controlled by a packing of gauze. In about one-half of the uncomplicated cases the circulation could be restored at the bulb. If much time were consumed in efforts to restore the circulation it was better to desist. If the sinus did not contain pus, and there was no evidence of jugular involvement, the operative field should be cleansed and the sinus packed at the bulb without making further efforts to restore the circulation. The lower end of the sinus at the bulb should be exposed. **In thrombosis of internal jugular vein**, if on opening the sinus, there was a disintegrating clot, the vein should be resected, and the same should be done if other veins were found to be similarly affected. The pneumogastric nerve should be carefully separated from the vessel. The wound in the neck should be sutured to within a small distance of the bulb and a wick drain inserted for the first 48 hours. It should be remembered that time was necessary to overcome the general infection, even though the source of this infection had been eradicated. The inferior petrosal sinus was frequently thrombosed in connection with the bulbous portion of the sigmoid sinus. A thrombosis of the cavernous sinus was almost invariably fatal. About 37% of all cases of **brain abscess** were otitic in origin. The most common site for subdural accumulation of pus was the inferior and posterior portion of the temporosphenoidal lobe. The roof of the mastoid antrum and the floor of the middle fossa were removed. A sufficient exposure of the dura was essential, and all bleeding points should be controlled. When there was a collection of pus just below the dura, the latter should be incised sufficiently for exploration, care being taken not to cut any large dural vessel. A silk suture should be passed through each flap for the purposes of retraction. An aspirating needle of large size could be used for exploration of the brain. When pus was found, a sufficiently large opening was made to admit of the removal of the pus. The cavity could be cleansed by gentle irrigation with warm saline solution or by gentle mopping with gauze. The less the manipulation and the more rapid the operation the better the chances of success. Drainage could be secured by tubes or gauze wicks. The latter he preferred, using a wick covered over with equal parts of a powder of boric acid and iodoform. When it was desired to explore the temporosphenoidal region first the bone should be removed at a point 1½ inches above, and the same distance behind the bony meatus. In all of the cases in which the pus was not definitely localized before operation it was best to make use of the flap operation devised by Dr. E. B. Dench. The skull should be entered rapidly by the trephine or chisel, a free opening being secured. The utmost care should be exercised in searching for multiple abscess cavities. The principal point to bear in mind was that the skull should be entered at a point as nearly as possible to the floor of the lobe to be explored in order to secure free drainage. Another point was to limit the injury of the dura as closely as possible. The cerebellar lobe could be opened in the same manner as described for other regions of the brain; ordinarily the opening should be made at a point 1½ inches behind the bony meatus and one-third inch below this level. When **meningitis** was present, and it could not be localized, little could be gained by a surgical procedure. An ice cap should be applied and large doses of potassium iodid given internally. A meningeal complication was almost always fatal. Leptomeningitis was almost invariably fatal, yet it would seem rational, when recognized early, to explore and drain the region. Metastatic abscesses in different parts of the body should be treated according to general surgical principles. Metastases of the intestinal tract should be treated by the internal administration of large doses of bichlorid of mercury. He had seen this treatment successfully employed in several cases. **Facial paralysis** following middle-ear suppuration was not uncommon. The pressure should be removed by incision and warm irrigations, the patient being kept completely at rest, on a fluid diet and subjected to purgation. The use of the interrupted galvanic current would hasten the restoration of function of the nerve. When paralysis occurred several days after an operation for the removal of dead bone, it could be explained either by concussion at the time of operation and inflammation arising later, or by destruction of the facial branch of the chorda tympani. When the paralysis occurred immediately after an operation on the middle ear the presumption was that the nerve had been severed, and one should not expect such rapid restoration of function. Of course, if the divided nerve could be found it should be repaired by suture. The surgical part of the treatment of **labyrinthian affections** should consist in the removal of all pressure. The local treatment consisted in placing the patient in bed and administering pilocarpin hypodermically in full doses for a period of 6 weeks or more. If the patient could not be kept in bed the drug should be given by mouth. Potassium bromid should be given in full doses for the relief of the very annoying subjective signs. The upper respiratory tract should receive attention if needed. If both sides were affected, very little benefit would follow any method of treatment. He had met with little if any success from the vibratory treatment in such cases. The treatment of **cholesteatomas** consisted in the entire

removal of the mass. The safest method was to do a typical Stacke operation, which allowed of the complete removal of the disease.

The Technic of the Radical Operation for Otitis Media Suppurativa Chronica.—EDWARD B. DENCH (New York) said that it was imperative to shave the head for 3 inches around the ear. Women objected strongly to this, but it should be done nevertheless. The field of operation should be sterilized in the ordinary way and an antiseptic dressing applied until the time of operation. The initial incision began a quarter of an inch behind the insertion of the lobule and ran upward and backward in a curved line, and was then carried upward and backward behind the line of auricular attachment to a point just above the apex of the auricle. It was then carried forward and downward. The incision must extend well forward in a horizontal direction in order to make a complete exposure of the upper portion of the bony canal and thoroughly remove the outer wall of the tympanic vault. The anterior flap should be pushed so as to expose the posterior and inferior margins of the bony meatus. With a narrow blunt dissector the fibrocartilaginous canal was then carefully dissected out. Ordinarily the fibrous meatus could be preserved for an eighth or a third of an inch. The surgeon should then enter the mastoid antrum. When it lay deeply, and this was usually the case, the funnel-shaped opening should be enlarged by removing the cortex from below and even by invading the posterior portion of the bony canal. This allowed of better inspection of the apex of the canal. It was incised to broaden the funnel above. When the probe entered the antrum and passed through the cell into the tympanic vault one could judge of the size of the antrum. The opening in the antrum should then be enlarged with the gouge so that the inner wall could be seen. The fibrous meatus should then be divided posteriorly close to the tympanic ring. A strip of sterile gauze should be inserted through the meatus and brought out through the incision in the posterior portion of the canal and the two ends tied together and used as a retractor. This would pull the funnel-shaped external meatus and detach the auricle well forward. The next step was to break down the partition between the mastoid antrum and the external auditory meatus. This was best done by chiseling upward. As the wound was deepened above, the portion of the external wall of the attic formed by the junction of the posterior and superior walls of the meatus, would come into view. This should then be removed with the gouge, exposing the aditus and antrum. As soon as the prominence in the horizontal semicircular canal came into view, the operation should make one large cavity of the parts exposed. The posterior meatal wall must be cut down until it lies on a level with the tympanic cavity, then the niche of the round window could be easily seen. All diseased bone should be removed, but only such pneumatic spaces should be obliterated as were diseased. After the bony cavity had been thoroughly cureted attention should be paid to the eustachian tube. A small curet should be passed into its tympanic orifice and any softened bone removed. The walls of the cavity should then be smoothed off with a burr, and then a firm packing of sterile gauze inserted. The posterior wall of the fibrocartilaginous meatus should be split so as to form 2 triangular flaps for covering the exposed parts above and below. The process of repair could be materially hastened by the application of Thiersch grafts taken from the patient's left thigh. These grafts should be 1½ by 2 inches and as thin as possible. A sponge should be held in such a way as to prevent any oozing of blood into the bony cavity during the application of the grafts. Sometimes it was necessary to make use of hot saline solution. The application of the graft should be made rather quickly in order to secure complete and deep adaptation of the graft to the bony wound; if done slowly the deeper part of the wound would fill up with blood. The grafts were held in place by judicious packing with pledgets of cotton dusted with aristol. These pledgets held the grafts firmly against the bony walls, and thus allowed of the use of the needle to smooth out the curled-up edges of the grafts. Experience had taught him that no harm was done if the edges of the graft happened to overlap each other, or even the cotton pledget. A strip of sterile gauze was applied over the pledgets and brought out through the meatus. The posterior wound should then be closed by suture. The first dressing should be changed on the eighth day unless there were special indications for an earlier dressing. The whole cutaneous wound would usually be found united at this dressing. At this time the strip of gauze and one or two of the cotton pledgets should be removed. A foul odor was often present, due to the sloughing of the overlapping portions of the grafts, but this did not indicate any failure of the operation. The pledgets were gradually removed at the subsequent dressings. At the time of the operation the number of pledgets introduced must be recorded with the history of the case. Out of 28 such operations, 16 of primary and 12 of secondary grafting, 26 had been cured and 2 cases were still under treatment.

Some Unusual Mastoid Cases.—H. BERT ELLIS (Los Angeles). The first case reported was one entering the hospital on September 14, 1902. At the time the patient was more or less irrational, talkative and semicomatose. The mastoid antrum and cells were opened up and within a week the patient was rational, and she ultimately recovered with perfect hearing. The case was remarkable because of the degree of mental disturbance and the small amount of disease. The second case was that of a woman of 48, seen last October. She came to him because of a right-sided facial paralysis which had suddenly developed one week previously. The mastoid antrum and cells were opened up but no pus found. A few days later acute suppuration of the other ear developed, but was checked very quickly. In 16 days the patient returned home without any paralysis. The third patient was a Chinese boy of 7 months. The disease had been rapid in its onset although there was no history of previous middle-ear disease. Extensive bony destruction was found. In the next case a girl of 4 years was operated upon under difficulties, a double mastoid operation being done in a greatly enfeebled child, who became almost pulseless before leaving the table. Nevertheless recovery was satisfactory. The next case, one of paralysis, occurred in a woman of 30. At the operation the cells and antrum were apparently healthy. They were converted into one cavity. The paralysis disappeared, but he was disposed to think there was no direct connection between the two. In the next case the external swelling was marked, and there was decided acute periostitis with necrosis, and yet no involvement of the antrum and cells.

Two Cases of Thrombosis of the Jugular Bulb; Ligation of Internal Jugular.—NORVAL H. PIERCE (Chicago) reported these cases. The first case was one of isolated primary thrombosis of the jugular bulb. The patient was a woman of 37, with a chronic discharge from the left ear. On admission, on January 3, 1903, there was pain in the ear; the temperature was 101° F. and the pulse 112. The next day the temperature was 103° and the pulse 130. The discharge was profuse and the pain very severe, and there was infiltration and marked tenderness over the mastoid. A radical operation was done, and the mastoid cells were found necrotic and full of pus. Necrosis of the bone on a level with the floor of the middle ear was found extending inward toward the bulb. The patient's condition was such that no further operative interference was done at that time. Her condition grew worse, and on January 6 the sigmoid sinus was explored with negative result. The common jugular was tied on the following day as grave septic symptoms continued. Afterward there was marked amelioration of these symptoms, but they again reappeared with exophthalmos and edema of both supraorbital and infraorbital regions. Death occurred on January 14. The specimen was exhibited and showed that the thrombus had extended up the inferior petrosal sinus to the circle of Ridley and thence to the ophthalmic veins. The second case occurred in a man who had been operated upon a month previously for acute mastoid trouble without external evidence. The most prominent symptom was severe pain, especially over the occiput. He had had a chill the evening before, and on admission, had a temperature of 103° F. On exploration, it was found that the antrum had been thoroughly opened up previously. On chiseling away the mastoid he suddenly came upon a perisinus abscess, but as there were no external evidences of sinus thrombosis the sinus was not opened at this time. The next day there were chill and a rise in temperature, and the sinus was then opened. It was exposed backward and then downward toward the bulb. The common jugular vein was tied. The temperature continued more or less elevated for the next 3 weeks, and during this time the pain persisted. The retinal changes which had been present before operation persisted, and when seen many months later, one eye was still unchanged. He was confident that the thrombosis had extended up the inferior petrosal sinus, causing secondary thrombosis of the jugular bulb. In his opinion, it was not at all necessary to approach the jugular bulb itself through a bony passage.

The Technic of Maxillary Antrum Operations.—H. HOLBROOK CURTIS said that the first thing was to determine whether a second bicuspid tooth or molar tooth was the cause of the disease, and whether the discharge was acute or chronic. Irrigations through the natural orifice should be given a trial. If the natural orifice could not be used, and a tooth were suspected as the cause, then a tooth should be sacrificed, and the opening utilized for the irrigation. It was quite easy to make obturators of varying shapes out of guttapercha. A sheet of guttapercha was dipped in boiling water, wrapped around a pencil, and, after having been properly shaped, held in cold water until hard. An excellent irrigating fluid was composed of iodin 1 dram, pyrogallic acid ½ dram, and a saturated solution of boric acid sufficient to make a quart. The alveolar puncture was made for inspection, not for drainage. If the tooth were not suspected other modes of entrance should be sought. Too many specialists were content with making an opening in the canine fossa, and then employing irrigation. In acute cases this might prove sufficient, but in the more chronic ones it was absolutely necessary to inspect and explore thoroughly with the object of determining the exact pathologic condition present. When a radical operation had been decided upon the patient should be told that the length of time consumed in effecting a cure was very problematic, but after a short time he would be comfortable and could attend to much of the treatment himself. The periosteum should be divided and turned back, and a chised used to enter the antrum. The opening should be made sufficiently large to allow of the entrance of the bone forceps, and with the latter instrument the fenestration was completed. Strong carbolic acid and alcohol should be successively applied. The cavity could be still further cleansed by means of hydrogen dioxid followed by normal saline solution. A gauze packing was then employed. After the granulation process had become well established

worsted should be substituted for the gauze because it could be introduced through a smaller opening. After from 2 to 4 weeks the worsted packing could be stopped and the peg could be inserted. This method was capable of giving good results, but often failed. A better operation was that in which, after making the fenestration as already described, an opening was made into the nasal fossa. The larger the nasal orifice the better would be the result. After the bleeding had been arrested the antrum should be lightly packed with gauze or wool, and the wound in the canine fossa closed by two or three sutures. The packing should be removed, preferably under anesthesia, and if there was a foul discharge the antrum should be washed out. The opening in the canine fossa need not be so large in this as in the preceding operation. The operation through the inferior meatus was advantageous because it required no anesthesia. It was, therefore, particularly applicable to patients who were not good subjects for anesthesia. With the electric trephine the anterior third of the inferior turbinate should be removed. The perforation should be made about a quarter of an inch above the nasal floor. The fenestration should be made very smoothly.

The Report of an Unusual Case of Frontal Sinusitis.—CORNELIUS G. COAKLEY (New York) reported this case, one in which there was an absence of septum in a frontal sinus. The patient was a woman of 62, who had previously enjoyed good health except for an attack of grip in 1898. In July, 1899, she began to suffer considerably from frontal headache, which ceased in a few weeks. In January, 1900, there was a swelling noticed about the right eye, and the eye was displaced downward. On January 28 it ruptured spontaneously, and discharged thick and slightly offensive pus. There was no discharge in the posterior nares. In October of that year she consulted the late Dr. W. B. Noyes, who advised her to return home for a radical operation on the frontal sinus. The fistulous opening was enlarged, and a portion of the right frontal sinus was removed and the cavity cureted. No drainage tube was inserted in the nasofrontal duct. After some months packing was discontinued, and simple irrigation employed. The irrigation treatment was continued daily for about 1 year. She then came under Dr. Coakley's care, *i. e.*, in January, 1903. The fistula was still present, and a probe passed between the outer wall and the middle turbinate encountered a small polypoid mass, which bled freely. The mucous membrane of the left nasal cavity was normal. Transillumination of the antrum gave perfect illumination on each side. Both frontal sinuses gave practically no illumination. The right middle turbinate was removed under cocain. The underlying ethmoid cells were found filled with pus and granulations. These were all cleaned out and the catheter was passed into the right frontal sinus. The patient was advised to have the left frontal sinus explored first, and this was done. On January 4, 1903, under chloroform, an incision was made and the sinus opened. Thick pus escaped. The opening was enlarged until all parts could be explored by direct illumination. A similar opening was made in the anterior wall of the right frontal sinus. No trace whatever of a septum between the two sinuses could be found. Every trace of mucous membrane was removed from the frontal sinus cavity. There was a median posterior offshoot, and this gave no little concern. The entire cavity was packed with strips of iodoform gauze, and this packing was not removed for 2 weeks, there being no discharge and no elevation of temperature. The probe then detected no dead bone. Irrigation showed the nasofrontal duct to be occluded. The cavity was wiped dry and repacked, and thereafter at intervals of about a week the packing was changed without irrigation. A remarkable feature was the fact that the total quantity of discharge did not amount to 3 drams. The interesting features, aside from the abscess of the septum, were the very large size of the sinus and its healing without any osteoplastic operation.

THIRD DAY.

The Eustachian Bougie: Its Use and Abuse.—M. A. GOLDSTEIN (St. Louis) said that in 1865 rubber had been substituted for catgut, and the bougie was passed entirely by the sense of touch. Today, the celluloid, whalebone or electrolytic cold bougie was employed. It was often impossible without a bougie to accurately determine to what extent the catarrhal process in the middle ear had progressed. With the bougie one was enabled to outline the entire track of the tubal canal, and by the educated tactile sense determine the exact location of any constriction of the tube, and even ascertain the character and consistency of the tubal stricture. He believed the bougie should be used as regularly in every case of otitis media chronica as ocular inspection of the membrane tympani and inflation. He had used the bougie liberally during the past 10 years, and it had been his experience that the technique was not more objectionable to the average patient than the use of the catheter and inflation. He made use of the cold polished whalebone bougie in various sizes. By means of graduated olive-tips one could determine the caliber of the tube. As the normal average diameter of the isthmus tubii was 1½ mm. it was not necessary to use a bougie of larger caliber than that designated as a five-thirds bougie. When the catheter ring at the funnel end was moved perceptibly upward or downward during the passage of the bougie, it was evidence that the bougie was passing in a wrong direction. If the bougie were not in proper position deglutition would cause it to shift. If, on withdrawal, a decided kink was noted at the distal end of the bougie, it was an indication that the bougie was passing between the tip of the catheter and pharyngeal wall, and had not entered the tubal canal. If the patient complained of a scratching or sticking in the pharynx, going more deeply as the bougie was pushed forward, it was evident that the bougie was not entering the canal. As the bougie passed the isthmus tubii the patient often complained of a sudden unpleasant sensation in the ear. Force should never be used in passing the bougie. If the tip of the instrument becomes engaged in one of the folds, it was easy to produce a false passage if any force were employed. When such a break took place, a local emphysema was liable to be produced by subsequent inflation. The value of the use of the bougie was generally increased by immediate inflation of the tympanic cavity upon the withdrawal of the bougie, although in individual cases it caused increased discomfort. In such cases it should be omitted. The author was of the opinion that the bougie was of inestimable value, not only when there was a decided stricture of the tube, but when the caliber was diminished to less than 1½ mm. The bougie here should be passed the full length of the eustachian tube and left for a time varying from 1 to 10 minutes. The first application was usually the most uncomfortable to the patient. The introduction of the bougie should be repeated every second or third day unless there was some unpleasant reaction, and the size of the bougie should be gradually increased up to No. 5. Perhaps the most frequent contraindications to the use of the bougie were a feeling of fullness and dulness in the ear and an increase in the subjective symptoms. The period of treatment was not usually over 6 weeks. Marked improvement was sometimes noticed after the first or second passage of the bougie. He had found the bougie occasionally of value in chronic suppurative otitis media. It was reasonable to believe that the use of the eustachian bougie would prove of value in cases of subacute catarrhal affections characterized by the presence of thick or stringy mucus. With regard to the use of the electrolytic bougie the speaker said that one of the advantages of this instrument was the effect of galvanism, and another was the ease with which the instrument could be made to pass certain strictures which were impassable without such aid. He had used this bougie with from 3 to 5 milliamperes in 50 cases, and had obtained no better results than could be secured by the use of the ordinary whalebone bougie. Undoubtedly the instrument could be made to pass more easily, but there was apt to be a tendency for the stricture to return. The action of the current in such cases was not, in his opinion, true electrolysis, but rather a mild surface cauterization of the mucosa of the eustachian tube.

The Possibilities and Limitations of the Electrolytic Bougie in the Treatment of Chronic Hypertrophic Catarrhal Deafness.—ARTHUR B. DUEL (New York) was the author of this paper, which, in his absence, was read by the secretary. He had sent a circular letter to the members of the society asking for their experience with this mode of treatment. Of the 25 replies, two stated that the method had been found of no value, 17 were of the opinion that the tubes could be more quickly opened, nine reported the breaking of the bougie in the tube. The replies seemed to indicate that there had been a lack of care in attending to the original source of the trouble, and a lack of judgment in the selection of the cases suitable for this treatment. Experience had shown that the tube could be opened more quickly and more permanently than by any other method. Injury to the chorda tympani nerve had occurred in three of his own cases, and so far as he knew in no others. The wires should be made with great care, and should be inspected each time before use. Many of the diverse criticisms were thought to be founded on purely theoretic considerations. The galvanic current exerted a powerful resorptive effect. The author said he had found it of the greatest value only when it had been used but a few times. Dobell's solution should be used to wash out the nose and nasopharynx, and again, cocainization of the parts should be resorted to before employing the electrolytic bougie. Bubbling sounds indicated that the bougie was rapidly passing through the stricture. Then a second or third obstruction would be encountered. The bougie should invariably be passed on into the tympanum. At intervals of a minute an additional milliampere of current might be turned on up to 5 minutes, and if then the obstruction could not be overcome, further treatment should be postponed for about a week. Having passed into the tympanum, gentle inflation might be practised at the end of 2 days. Sometimes the tube would be so blocked by swelling that inflation could not be practised, and, of course, while this condition lasted the patient's symptoms would all be aggravated. The author cautioned against using the method hurriedly and too often, and suggested that this treatment should not be taken up in connection with a busy practice unless special appointments were made with the patients. So confident was he of the benefit of the treatment that he would feel compelled to continue its use even though all the other members abandoned it.

The Value of Exploratory Puncture of the Membrana Tympani.—DUNBAR ROY (Atlanta) reported the histories of 2 cases. The first case was that of a lady of 40 who had always been nervous, and had been treated previously for what had been diagnosed as "hysteric insanity." When seen by him she was fairly vigorous and there was nothing abnormal in the nasopharynx. The right ear had normal hearing. The left

drum appeared thickened and opaque. The eustachian tube was open and there was no mastoid tenderness. Bone conduction was much prolonged. She complained of much pain in the front of the ear. She was put upon increasing doses of iodid of potassium, iodin was used externally, and she was given galvanic treatment. The patient complained of such severe and persistent pain that, a few days later, the left drum membrane was punctured, and this gave vent to some glairy mucus and gave decided relief. The following day a mucous polyp appeared at the opening, and was removed, and from that time on recovery of hearing and relief from pain were satisfactory. The case was narrated to emphasize the importance of a more general use of exploratory puncture of the drum membrane, a procedure which, if rightly performed, carried with it no risk. Many a mastoid abscess had been prevented by early incision of the drum membrane. The second case was one of mastoid involvement following acute otitis media, and without the usual symptoms. The trouble had suddenly begun 4 weeks previously with severe pain in the right ear, and in vertex and occipital region. There was no mastoid tenderness, and the drum membrane on the right side appeared perfectly normal and free from moisture or congestion. Nevertheless, the membrane was freely punctured and there escaped a small quantity of blood and mucopus, and accordingly an immediate mastoid operation was done. Considerable healthy bone was passed through, and only a drop of pus was found in the antrum. However, several of the cells were filled with pus, and all of the mastoid was removed to the tip. During the operation there was a profuse mucopurulent discharge from the auditory canal. The next day the patient was very comfortable, and he made an uninterrupted recovery. This case illustrated the value of exploratory puncture, particularly in view of the fact that none of the usual indications for this procedure were present.

Cases of Pyogenic Brain Diseases Associated with or Caused by Acute or Chronic Nasal Suppuration.—THOMAS HUBBARD (Toledo) presented this paper. The first case was one of ozena with ulceration, osteosclerosis, leptomeningitis and death. The patient was a man of 21 with chronic suppuration of the left ear for over 10 years. He developed a meningitis of the subacute type with no unusual ear symptoms. He had been using instruments freely for the removal of crusts from the ear. Only a hasty autopsy was possible. This showed the meninges bathed in pus. There was no infection of the temporal region, but the evidence pointed to infection from the nares. The second case was one of suppurative mastoiditis with a cerebral abscess. The patient was a woman of 25, who had earache for many years and had been in the habit of picking the nose with hairpins. She suffered excruciating occipital pain. The autopsy showed the under side of the frontal lobe thickened and adherent by organized plastic lymph. There was an abscess in the center of the frontal lobe. The patient died from morphin narcosis, but this was not unusual from morphin used in proper doses in such cases. The third case was one of ozena with acute accessory sinus infection and fatal meningitis. The patient was a girl of 16. The autopsy showed a purulent meningitis, probably arising from the nares. The fourth case was one of chronic intermittent purulent catarrh with operations on the septum and for adenoids. There was a latent empyema and a fatal meningitis. The patient was a girl of 10. Commenting upon these cases, the speaker said that he was convinced that ozena was a very important factor in such cases, particularly when operations were called for. The prognosis must necessarily be bad. The nares and accessory sinuses should be studied quite as carefully as the temporal bone.

Further Observations of Tic Douleureux and Cranial Neuralgia from Intranasal and Sinus Pressures.—SARGENT F. SNOW (Syracuse) said that in the 20 cases he had observed and treated he had seen none which required excision of the nerve to obtain relief. Each one showed marked intracranial pressure or a collection in some of the accessory sinuses. The acute forms he had seen accompanied cold or sinus accumulations. The subacute form might present an equal degree of pain but did not clear up with the removal of nasal obstruction. A pain shooting outward and upward pointed to involvement of the anterior ethmoid, while a pain radiating around the lower jaw was commonly relieved by opening the sphenoid. The author was of the opinion that at least 80% of these cases were dependent upon intracranial pressure.

Life Insurance and Diseases of the Ear.—WENDELL C. PHILLIPS (New York) said that he had originally intended to submit statistics from the medical examiners of the various life insurance companies, but the results of communications addressed to about 30 of these companies had been very disappointing, with regard to obtaining the desired statistics. It became apparent that whatever the rules of any company, the final action taken was not dependent upon any statistical data. The replies indicated that the companies were anxious to obtain such statistics. Regarding the penalization of applicants who had suffered from acute or chronic otitis media no very definite information could be obtained further than the existence of such penalization. Nearly all of the companies refused or postponed such applicants, while two or three companies accepted such applicants on an extra premium. One company had a substandard class in which they accepted applicants having ear discharges. Some of the companies accepted these applicants except when the discharge was bloody or gritty, pointing to involvement of the bone. The writer then said that Schwarze's statistics pointed to 13.05% of all cases of aural disease being of the chronic suppurative variety. In three of the large London hospitals there were 8,028 deaths, in 45 of which death was due to aural suppuration, giving 1 death to 128 from this cause. Randall, out of 5,000 aural cases reported 15 deaths due to aural suppuration, or 1 in every 133. In a period of 8 years at the Manhattan Eye and Ear Hospital there were 64,858 aural cases out of which there were 218 presenting serious intracranial complications. Statistics seemed to indicate that the dangerous consequences from suppurative disease of the ear were most frequent between the ages of 20 and 30. The writer was of the opinion that continuous discharge with foul odor should be looked upon as evidence that the person was a bad life insurance risk. Large perforations and apparently free drainage, while militating somewhat in favor of the patient, should not be considered as a guarantee against the extension of the necrotic process. Radical operative interference was destined to become an important factor from a life insurance standpoint.

Teratoma of the Ear.—WILLIAM C. BRAISLIN (Brooklyn) sent a report of this case, which was read by the secretary. The auditory canal was completely blocked by the tumor. A Wilde's incision was made and the entire ear was carried forward with the external auditory canal, and the tumor then removed. The tumor was attached to the periosteum of the bony canal, and was enclosed in a capsule. On gross section it appeared to be studded with particles of cartilage. Examination showed it to be a teratoma.

Swiss Medical Universities.—During the season of 1902-1903 there were 1,696 medical students attending the Swiss universities, this being an increase over the previous year of 203. The increase is principally in female students, they having increased in 2 years from 665 to 840. The male students at Bern have petitioned the government for new buildings, as the females are crowding them out of their places.

Civilian Surgeons as Naval Examiners.—As the result of an accidental discovery at the New York navy yard, it is probable that a special medical board will be appointed by the department in Washington to investigate the work that is being done by civilian surgeons in examining applicants for places in the service, and that the practice of employing such surgeons may be adandoned. Two men who had been examined for the marine corps and passed by a surgeon in a city in Michigan after reporting to the New York navy yard, were put in the hands of a marine, who was instructed to keep them at the equipment bureau for uniforms and other parts of their outfits. By mistake the recruits were taken before a surgeon, who, after a short examination, rejected them as being totally unfit for duty. Medical Director Price has recommended investigation of the system by a special board.

Deterioration of English Poorer Classes.—The physical unfitness of a large proportion of the men offering themselves as recruits for the army in England is strikingly brought out by the recent report of the Director-General, Army Medical Service. During the 10 years past, no less than 35% of those medically examined were rejected on various grounds, but many that were evidently unfit on reporting were not examined at all, so that it is believed that the total of the rejections amounted to 60%. It is, therefore, an undoubted fact that at the present time a very considerable proportion of the young men of the country, especially in the towns, are physically defective and unfit for military service. The *Army and Navy Gazette*, in commenting on this state of affairs, says: "Fortunately this is not the case as regards the entire population, but only those of the poorer classes. It is from the latter, however, that the bulk of the men desiring to be soldiers, come. Owing to the advance of sanitary science, and to the encouragement of athletic sports, the general physique of the upper and middle classes is improving rather than deteriorating."—[*N. Y. Sun.*]

Health of the British Army.—From the report of the medical department of the British Army for 1901, which has recently been published, it appears that health conditions in the force during that year were generally satisfactory. The number of Europeans serving in the army at home and abroad, exclusive of South Africa, was 196,796 warrant officers, noncommissioned officers, and men. The total number of admissions to hospital was 172,908, and the total deaths 1,762. The admissions represent a ratio of 878.5 per 1,000 of strength as above; the deaths, one of 7.70 per 1,000, on a strength of 228,816, which includes detached men not shown in the returns received. Among the troops serving in the United Kingdom, the admission and constantly sick rates were higher, and the mortality rate lower than in 1900. Excellent conditions prevailed in India, Mauritius, Ceylon, and the Straits Settlements. The admission rate in India for enteric fever was the lowest since 1887, and the deathrate was the lowest since 1884. In Egypt the admission rate and the deathrate were somewhat higher than in 1900. As regards South Africa, returns of sick leave have not been submitted and statistics for comparative purposes cannot be prepared.

CLINICAL NOTES AND CORRESPONDENCE

[Communications are invited for this Department. The Editor is not responsible for the views advanced by any contributor.]

WHAT CAN WE DO TO RELIEVE DEAFNESS DUE TO CHRONIC MIDDLE-EAR CATARRH?[1]

BY

C. P. LINHART, M.D.,
of Columbus, Ohio.

Deafness due to chronic middle-ear catarrh is one of the common afflictions that the physician is asked to relieve. There is at best not a very encouraging outlook for this class of cases, but if we can do anything to stop the progress of the disease we may receive the commendation of the grateful patient.

Before starting with the routine treatment the primary cause of the difficulty should be removed. Very often there will be found a spur extending out from the septum blocking the way to the free passage of air through the nose, and interfering with the drainage; accompanying this deformity is sometimes found a deflection of the septum. The spur if sufficient to cause trouble should be removed and the deflection corrected. When there is hypertrophy of the turbinals they should be reduced by surgical or medical treatment.

In examining the nose and ears I have noticed that there was a congestion of the drum membrane corresponding to the side of the nose that was occluded, even when the occlusion was only temporary from a congested turbinal. At times when the nose is occluded on one side the opposite ear will be found affected. In the latter case it would seem that the current of air passing freely through the unaffected side makes a whirlpool of air in the vault of the pharynx which cools and dries off one part and causes a congestion in another eventually leading to a chronic thickening of the mucous membrane and underlying tissue. When the way is made clear through the nose the mucous membrane covering the turbinals should be cleaned with some spray or douche every day until the secretion of the mucous glands becomes normal. This the patient can do at his home, coming to the physician two or three times a week, as is necessary, to receive applications of some medicated lotion, such as silver nitrate .65 gm. or 1.3 gm. to 30 cc., (10 or 20 grs. to the ounce), or menthol and camphor each, a dram to the ounce of iodin to stimulate the parts to their normal functions. It will be found that this preliminary treatment will greatly aid in clearing up the congestion in the eustachian tube and middle-ear, even if no other treatment is used.

Usually one ear becomes affected first, then after a time the other begins, and the progress of the disease in the second ear is much more rapid than in the first. This is presumably on account of the nerve disturbance. This disturbance of the equilibrium of the auditory nerve facilitates the progress of the disease in the second ear. Often the patient does not know of his progressing deafness until the second ear becomes affected, and he complains of deafness on this side when, on examination, the other ear will be found in a worse condition. When one ear is so deaf that it is of no practical use, it should be treated the same as the other, for it is hard to improve one ear without improving the other.

For the treatment of the eustachian tube and middle-ear there is, perhaps, no better medication than an application by means of the air douche of a stimulating vapor from the combination mentioned above, the menthol, camphor, and iodin. This when done through the eustachian catheter and Dench vaporizer, not only medicates the parts by the stimulating vapor, but acts as a massage, particularly in the middle-ear, loosening the adhesions and tending to cause an absorption of the thickening of the mucous membrane in the tube and middle-ear. When there is difficulty in introducing the air through the eustachian tube it has been my custom after a month's treatment to open the tube by means of the electrolytic bougie as devised by Duel. Sometimes one application of the bougie will be found adequate to make the tube sufficiently patulous for the free entrance of air. It does more than this; it stimulates absorption and tones up the mucous membrane and surrounding tissues of the ear.

The progress in these cases is usually slow. Patients will need encouragement, tests with mechanical instruments ought to be made once a month, and the improvement noted, so that the patient can see by the examination that he is making a gain or at least is not losing anything. His friends, who expect a great deal of a physician in a short time, will tell him that he is not hearing any better, and he will require constant watching and encouragement. You all know that we who hear well, hear much better than we need to for ordinary conversation and that our hearing varies much from day to day; but hearing so well we do not notice this daily variation. These unfortunates are susceptible to every atmospheric change. When the air is damp and heavy the mucous membrane of the nose, eustachian tubes, and ears becomes thickened, it is then that their hearing is duller than usual, for at best they must give close attention to hear ordinary conversation. Then it is fair to presume that people do not talk with the same degree of loudness every day of their lives, so that if the speaker happens to be feeling indisposed his voice weakens and the unfortunate listener is blamed for not hearing so well when it is not his fault at all.

When the eustachian tube is patulous and there is much thickening of the drum membrane, external massage by means of the Delstanche masseur may be used with benefit.

In some cases I have found, after six months' or a year's constant treatment, that there comes a lull in the improvement. I then advise the patient to quit for three or six months and then return, and usually find that after this rest the ears are susceptible of further improvement.

By sticking to these patients and encouraging them, it is surprising how much benefit can be got out of some such routine work as described above. Even when the hearing cannot be materially improved, if the progress of the disease can be stopped, a great deal of good will have been accomplished.

You all know that in deafness due to chronic middle-ear catarrh there comes a time with some people when without any treatment on the part of the physician the progress of the disease ceases. At times there is even an improvement in hearing. If this occurs without any special treatment on the part of the physician, surely it is reasonable to presume that the medication and treatment of this disease will stop its progress and hasten the period of improvement.

[1] Read at the Annual Meeting of the Ohio State Medical Society in Dayton, June 3, 4, 5, 1903.

TWO CENTRAL RETINAL ARTERIES.

BY

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Assistant to the Ophthalmological Department of the Medico-Chirurgical College of Philadelphia.

A. B., aged 14, was brought to my office July 10, suffering from severe headache and twitching of the eyelids. I was informed that this troublesome condition began about 10 months ago. The headache, while paroxysmal in character, has been continuous for the last 2 weeks, and the twitching has become very annoying. The boy was fairly well nourished, had a good family history, and had no diseases of childhood. Vision in right eye, 6/15; in left eye, 6/21. I suggested to the father that the boy be refracted, as in my opinion the underlying cause of his trouble was an error of refraction. The father yielded. Accordingly I placed the boy under the influence of a mydriatic and prescribed the following lenses:

$$\begin{array}{ll} \text{OD} + .50 \text{ Sph.} \bigcirc + .75 \text{ cyl. ax } 90 & V = 6/6. \\ \text{OS} + 1.25 \text{ Sph.} \bigcirc + 1.00 \text{ cyl. ax } 90 & \end{array}$$

While examining the eye-ground of the boy, I found the following vascular anomaly: Two central retinal arteries in each optic disc, more clearly seen in the left eye; 1 emerging from the optic papillæ in the upper half and subdividing into 4 branches; and the other emerging from the lower half of the optic disc and subdividing into 5 branches and markedly tortuous. With an exception of an exaggeration of the physiologic cupping of the disc, there was nothing abnormal in either disc or retinal ground. I have searched the literature and found no record of any report of such condition. It is evident from the result of my examination that the symptoms of which the boy complained were due to an error of refraction, and not to the anomaly, as the symptoms all subsided within a week after the correction of the error of refraction.

I think the foregoing case is interesting enough to be reported.

ORIGINAL ARTICLES

ON THE DESTRUCTION OF BACTERIA IN VACCINE PULP WITH POTASSIUM CYANID.

BY

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AND

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The work of Loeb on the fertilization of sea-urchins' eggs, in which he employed solutions of potassium cyanid to prevent disintegration, and the work of Gorham, which appears to indicate that the diminution of the bacteria in the sea-water as the result of exposure to the action of the potassium cyanid, was the essential factor in these experiments, suggested to us the possibility of employing this agent as a differential germicide in vaccinia. The fact that the delicate protoplasm of the sea-urchin's eggs could withstand the action of a $\frac{n}{100}$ KCN solution, as shown by Loeb, and still develop into swimming larvæ, suggested to us the possibility that the essential factor of vaccine, which with L. Pfeiffer, Wasielewski and others, we had held to be a protozoon, might likewise be unaffected when thus treated. The bactericidal



Fig. 1.—F. G., ten days after vaccination. Vaccine used: Pulp from test-tube No. 1, treated with control sterile physiologic salt solution for four days. After three days this solution was plated on neutral agar-agar. Plate I, overgrown (first dilution). Plate II, overgrown (second dilution). Plate III, 142 colonies (third dilution).

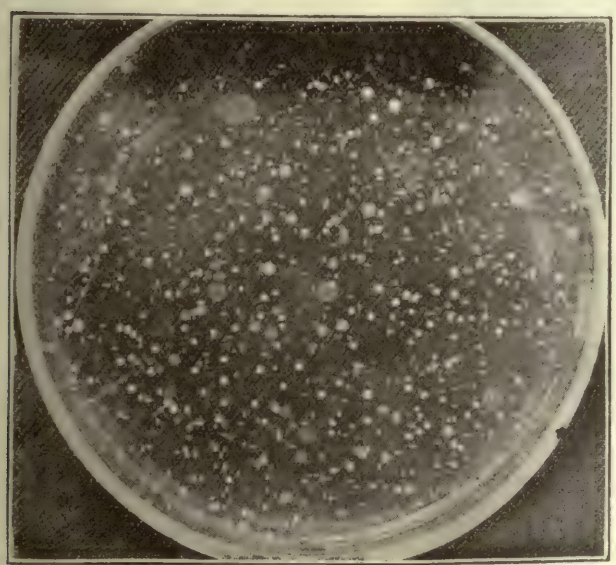


Fig. 2.—Salt solution pulp treated three days. Plate II, overgrown (second dilution).

properties of potassium cyanid and the demonstration by Gorham than a $\frac{n}{400}$ solution of this agent was sufficient to inhibit greatly if not entirely prevent the growth of bacteria in sea-water, led us to hope that a strength of potassium cyanid might be found which would destroy the bacteria in vaccine without injuring the essential organism.

With this point in view, we obtained fresh vaccine



Fig. 3.—Plate III, 43 large colonies (third dilution). Inoculated from pulp treated three days with control salt solution. Plate I was covered solid and not photographed (first dilution).

and allowing it to become sufficiently contaminated with organisms (in many cases to a state of putrefaction), it was treated with varying strengths of potassium cyanid, beginning with $\frac{n}{}$, and extending to $\frac{n}{}$. It was first determined that in every case the efficiency of the vaccine was undisturbed. Having established this point,

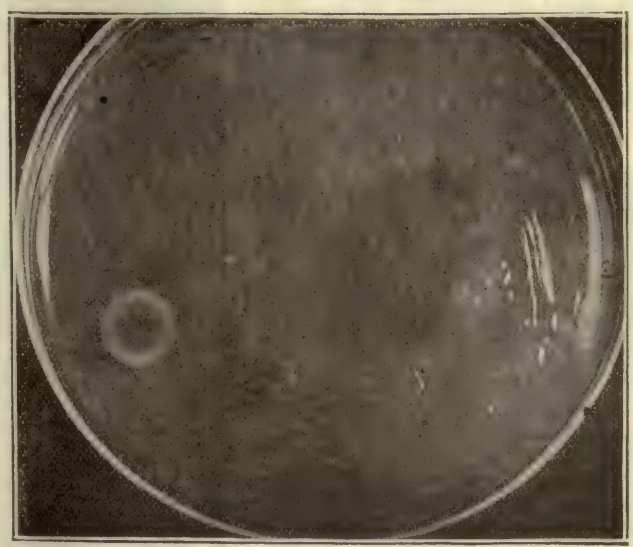


Fig. 4.—Plate I, inoculated with three loopfuls of the solution used to vaccinate N. P. (Figs. 6, 7, 8) on the day of his vaccination. Shows 65 small colonies and one large mould colony. $\frac{n}{}$, No. 2. Pulp treated July 7–10. Plated July 10.

portions of the fresh vaccine were introduced into test-tubes containing solutions of potassium cyanid of determined strength. In each case a control with normal salt solution was made, and at the end of 3 days to 45 days the control and the cyanid solution containing the

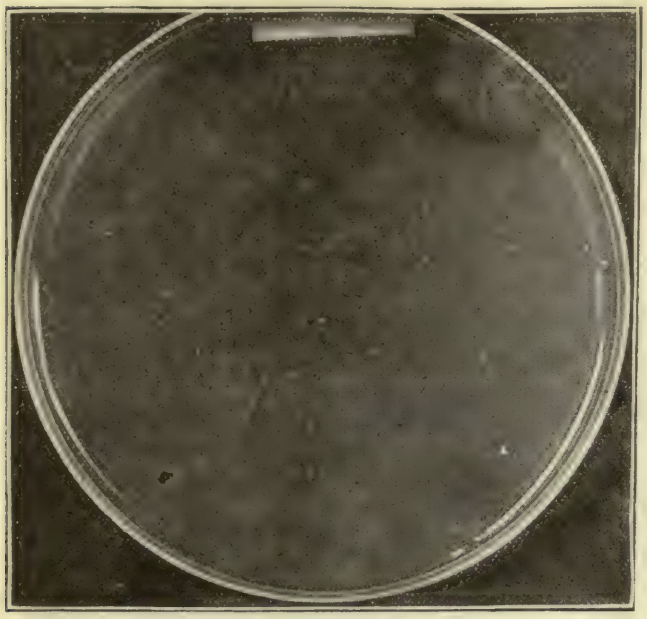


Fig. 5.—Plate I, inoculated with three loopfuls of the solution used to vaccinate N. P. (Figs. 6, 7, 8). Shows 153 small colonies. $\frac{n}{500}$, No. 2. Pulp treated July 7-15. Plated July 15. Photo. July 21.

vaccine were plated out in the usual way. In each case children were vaccinated with the vaccine pulp so treated. The results are shown in the accompanying table. From this table it will be seen that a solution of $\frac{n}{200}$ potassium cyanid exerts a complete bactericidal action upon the vaccine without in any way injuring the specific organism. Although potassium cyanid is an active poison it is so volatile that after from five to six days no trace can be found in solutions which have been kept in test-tubes plugged with cotton in the usual way. It is perfectly feasible to remove immediately all traces of potassium cyanid by placing the solution in a vacuum pan at 36° C.

It would appear from these experiments that in potassium cyanid we have a differential germicide capable of killing bacteria without injuring delicate protoplasmic structures, as shown by the experiments of Loeb and Gorham, and its application to vaccine strongly

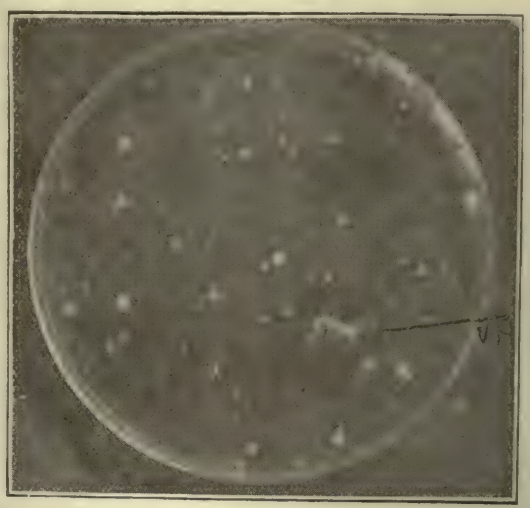


Fig. 9.—Plate I (overgrown), inoculated with pulp from test-tube No. 11. Treated for five days with control physiologic salt solution. V. P. shows the piece of pulp used to inoculate agar covered with mould.



Fig. 6.



Fig. 7.



Fig. 8.

Figs. 6, 7, 8.—N. P., twelve days after vaccination. Vaccine used: Pulp treated with KCN $\frac{n}{500}$ in test-tube No. 6, for three days. On the day of vaccination this solution was plated on neutral agar-agar. Plate I, 65 colonies (see Fig. 4) (first dilution). Plate II, sterile (second dilution). Plate III, sterile (third dilution). After eight days this solution was again plated on neutral agar-agar. Plate I, 153 colonies (see Fig. 5) (first dilution). Plate II, three colonies (second dilution). Plate III, two colonies (third dilution).

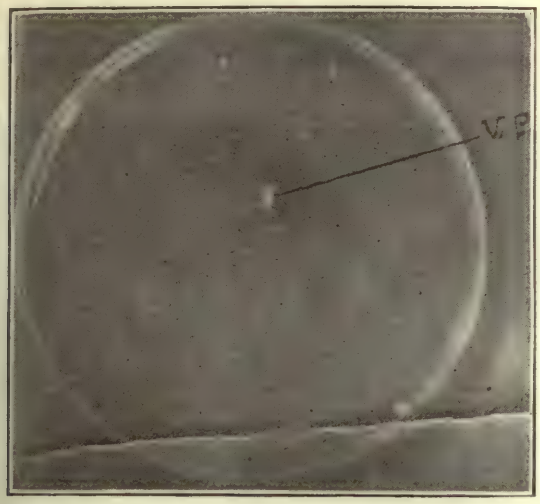


Fig. 10.—Plate I, inoculated with pulp from test-tube No. 12. Treated for five days with KCN $\frac{n}{400}$. Three colonies. V. P. shows piece of pulp used to inoculate agar.

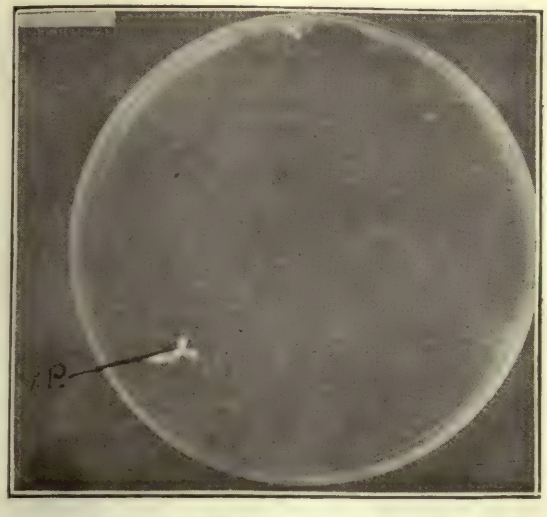


Fig. 11.—Plate I, inoculated with pulp from test-tube No. 13. Treated for five days with KCN $\frac{n}{200}$. Sterile. V. P. shows piece of pulp used to inoculate agar.

Series No.	Test-tube No.	Solution in which vaccine pulp was immersed.	Vaccine pulp used.	Test-tube plugged with	Number of days pulp immersed in solution before plating.	Result of plating. Number of colonies to a plate. Plate I. (Inoculated with 3 loopfuls of solution.	Plate II. (Inoculated with 3 loopfuls from Plate I.	Plate III. (Inoculated with 3 loopfuls from Plate II.	Number of days pulp immersed in solut'n before vaccinating.	Number of children vaccinated.	Number of children successfully vaccinated.
I.	1	Physiologic salt sol.	Parke, Davis (partially decomposed).	Cotton.	3	Overgrown.	Overgrown.	142	4	1	1 (Fig. 1.)
	2	KCN $\frac{n}{1000}$ (dissolved in phys. salt sol.)	" "	"	3	71	9	4	4	1	1
					6	Overgrown.	355	76			
	3	KCN $\frac{n}{500}$ (dissolved in phys. salt sol.)	" "	"	3	52	Sterile.	1	4	1	1
					6	Overgrown.	55	4	8	1	1
II.	4	Physiologic salt sol.	Parke, Davis (far advanced in decomposition).	Cork.	3	"	Overgrown. (Fig. 2.)	43 (Fig. 3.)		1	.....
	5	KCN $\frac{n}{1000}$ (dissolved in phys. salt sol.)	"	"	3	23	Sterile.	Sterile.	3	1	.....
					8	89	"	"	9	1	.....
	6	KCN $\frac{n}{500}$ (dissolved in phys salt sol.)	"	"	3	65 (Fig. 4.)	"	"	3	1	1 (Figs.6,7,8.)
					8	153 (Fig. 5.)	3	2	9	2	.....
III.	7	Physiologic salt sol.	Parke, Davis (fresh).	"	9	Overgrown.	2,414	3			
					45	"	Overgrown.	178			
	8	KCN $\frac{n}{2000}$ (dissolved in phys. salt sol.)	"	"	9	"	484	Sterile.	34	1	1
					45	"	723	72			
	9	KCN $\frac{n}{1000}$ (dissolved in phys. salt sol.)	"	"	9	"	110	Sterile.	34	2	2
					45	"	196	22			
	10	KCN $\frac{n}{500}$ (dissolved in phys. salt sol.)	"	"	9	"	6	1	34	2	2
					45	"	42	5			
						Plate I.—(Inoculated with pulp after treatment with solutions.)					
IV.	11	Physiologic salt solution.	"	Cotton covered with rubber cap.	5	Overgrown. (See Fig. 9.)					
	12	KCN $\frac{n}{400}$ (dissolved in phys. salt sol.)	"	"	5	3 colonies. (See Fig. 10.)			21	1*	1 (Figs.13,14)
	13	KCN $\frac{n}{200}$ (dissolved in phys. salt sol.)	"	"	5	Sterile. (See Fig. 11.)			21	1*	1 (Figs.15,16)
	14	KCN $\frac{n}{200}$ (dissolved in distilled water.)	"	"	6	" (" 12.)			22	1†	1 (Figs.17,18)

NOTES ON TABLE.—The experiments summarized in this table are divided into four series. For each series a separate normal potassium cyanid solution was prepared. This was necessary because of the rapid evaporation of potassium cyanid, as the experiments covered a period of several months. In each series fragments of pulp were introduced into test-tubes of varying strength of cyanid solution. Care was taken to employ for vaccination and for the culture experiments fragments of pulp which were removed from the same test-tube. In the first three series the neutral agar for Plate I was inoculated with the solution covering the pulp after the test-tube had been well shaken; in the fourth a piece of the pulp itself was used. Plate II was inoculated from the agar for Plate I just before it was poured into the plate and Plate III was inoculated from Plate II. In the fourth series the second and third plates were dispensed with.

It will be noted that in every case fewer organisms developed on the plates when the pulp was treated with potassium cyanid than when it was treated with the control physiologic salt solution and that the stronger the cyanid, the fewer the colonies. Sterile plates were obtained only when the pulp was treated with potassium cyanid $\frac{n}{200}$.

All the vaccinations "took" except some of those in the second series. For this series pulp which had undergone extreme decomposition was used. The pulp treated with control physiologic salt solution in this series failed to produce vaccinia. The one case in this series in which a take was obtained showed a general eruption.

* Vaccinated in two places with the same pulp. Both vaccinations successful.

† Vaccinated in two places with the same pulp. One vaccination succesful; one unsuccessful.

suggests that the organism of vaccine partakes of the nature of animal protoplasm and is a protozoon. From a practical standpoint potassium cyanid may prove a ready and accurate means of freeing vaccine from bacteria.

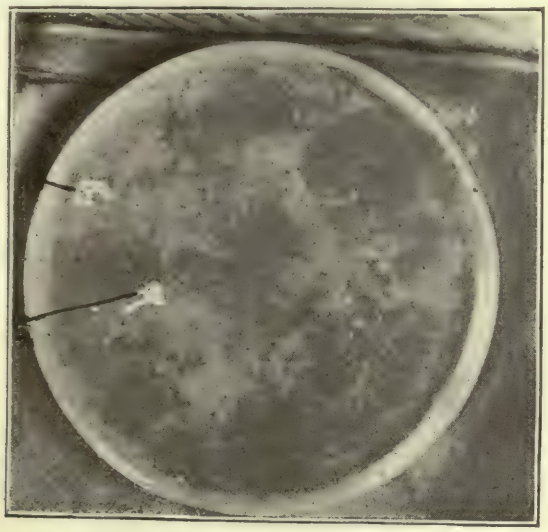


Fig. 12.—Plate I, inoculated with pulp from test-tube No 14. Treated for five days with KCN $\frac{n}{200}$. Sterile. V. P. shows pieces of pulp used to inoculate agar.



Fig. 13. Fig. 14.

Fig. 13.—H. R., six days after vaccination. Fig. 14.—H. R., nine days after vaccination. Vaccine used: Pulp treated with KCN $\frac{n}{200}$ (in test-tube No. 12) 21 days. After five days pulp from this solution was plated on neutral agar-agar. Plate I, three colonies (see Fig. 10).



Fig. 15. Fig. 16.

Fig. 15.—J. L., six days after vaccination. Fig. 16.—J. L., nine days after vaccination. Vaccine used: Pulp treated with KCN $\frac{n}{200}$ (in test-tube No. 13) 21 days. After five days pulp from this solution was plated on neutral agar-agar. Plate I, sterile (see Fig. 11).

Thanks are due Drs. Frye and Snow, visiting physicians at the Erie County Hospital, and Drs. Steinlein,



Fig. 17. Fig. 18.

Fig. 17.—M. H., six days after vaccination. Fig. 18.—M. H., nine days after vaccination. Vaccine used: Pulp treated with KCN $\frac{n}{200}$ 21 days. After five days pulp from this solution was placed on neutral agar-agar. Plate I, sterile (see Fig. 12). M. H. was vaccinated in two places with the same pulp. The lower vaccination only was successful.

Seitz, Kane and Kellogg, residents in the same institution, for supplying the children on whom these preparations of vaccine pulp were tested.

THE TREATMENT OF CONGENITAL LUXATION OF THE HIPS.

BY

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In considering this subject we will first discuss the anatomopathologic conditions which present themselves; second, the methods of treatment; and third, the results achieved.

Anatomopathologic Conditions.—These are to be viewed mainly from the utilitarian standpoint of their influence on treatment. In traumatic luxations of normal joints it is obvious that one has to deal with a normal well-developed head, neck and upper end of the femur which has been displaced from a normal well-developed acetabulum. In the treatment of these it has been found that by certain definite manipulations (circumduction) the head can be restored to the socket and the integrity of the joint practically restored to nearly its normal condition. The subsequent disability is usually not marked and there is no tendency for the luxation to recur.

In cases of pathologic luxations, such as occur from coxalgia and other diseases, the results achieved will depend on the amount and character of the anatomic changes present in the individual case. In the case of congenital luxations we find a marked variation in the anatomic conditions present in different cases. In some both the head and upper portion of the femur and the acetabulum are fully developed and depart but little from the normal condition, and this in spite of having been in a state of luxation for many years. The soft parts become more altered than do the bones, yet if the bones are replaced the functions of the soft parts become restored. Therefore in those cases of congenital luxations with normal femurs and well-developed sockets we have much the same condition to deal with as exists in trau-

matic luxations. They are capable of being replaced by similar manipulations and when replaced are readily kept in place. These are the cases in which, if in any, one is justified in speaking of cures, because in many of them function seems to be absolutely normal. The bulk of the cases, however, are not of this character. Changes are present both in the femur and acetabulum as well as the ligaments and muscles. These changes are usually more marked as the age of the patient increases. The acetabulum is shallow, flat and elongated. Its rim is less marked than normal and its cavity is more or less filled with fibrous and fatty material.

The head of the bone is smaller than normal and more or less deformed and misplaced. The neck of the bone may be twisted on the shaft anteriorly or may come off from it at more nearly a right angle producing a coxa vara condition. The whole femur is less developed than is the case with the normal bone. The ligaments and muscles are likewise altered. The capsular ligament becomes stretched and more or less adherent to the deformed acetabulum and constricted like an hour-glass so as to resist the passage of the head back to its original site. The ligamentum teres while sometimes thickened is usually atrophied or even entirely gone. The muscles are some of them lengthened and others shortened. It is perfectly obvious that when such changes are present not only may they hinder or even prevent a reduction but if a socalled reduction is achieved the results are far from perfect.

To obtain a perfect result it is necessary, first, that a well-formed acetabulum be present and that the femoral head be likewise well formed and set on the neck and shaft in its proper position and direction. Also that the ligaments be so placed as to allow of the proper replacement of the head back into the acetabulum. The obstacles offered by the muscles are much less than was formerly thought to be the case. In addition to these anatomic necessities the reposition of the head must be accomplished without serious injury either to the soft parts or the bones and the head must be retained in its replaced position until the new joint becomes established and its functions restored. These requirements are not always fulfilled, hence imperfect results and even failures occur in the hands of the most experienced. There are no means by which one can positively determine previous to trial whether or not a good result is to be obtained in a given case although the Röntgen rays may give some information on this point.

The difficulties of obtaining a perfect cure were appreciated perfectly by Professor Agostino Paci, of Pisa, when he modestly refrained from claiming to cure by his method but stated that he placed the head, as near as it was possible to do so in its normal position. Kirmisson went even farther and claimed it was practically impossible to obtain what could truly be called a perfect cure.

Treatment.—The curative treatment of congenital luxation of the hip at present is divided into two stages, viz.: that of reposition and that of fixation and restoration of function. In some patients, too advanced in age to justify attempts at complete reposition, palliative treatment by belts, corsets, apparatus, etc., alone is adopted. In order to understand and appreciate the various procedures employed in the treatment of congenital luxations of the hip it is well to recall and review what has been done by the earlier workers in this subject. The modern treatment dates from about the year 1826, when Dupuytren discussed the affection and advocated the use of a pelvic girdle or waist and hip band. Palletta, of Milan, in 1820 had studied the affection from a pathologic standpoint, but to Dupuytren is due the credit of originating a method of treatment which, more or less modified in individual cases, still continues to be of service.

Dupuytren used a broad pelvic band with depressions for the trochanters and with perineal straps attached. The idea of the band was to make pressure on the trochanter and fix the head as firmly as possible against the ilium. St. Germain later used an elastic bandage in the same manner. In its earliest stages the head of the femur is located more anteriorly than it is afterward. The weight of the body tends to fall forward thus causing the head to go more upward and backward. This causes the pelvis to tilt forward, carrying with it the lumbar spine. To balance this forward lumbar curve a secondary backward dorsal one is formed and we have resulting a lordosis or hollow or saddle back. This is more marked in double than single luxations. To counteract this lordosis resort was had by Landerer to the use of corsets of plaster-of-paris and various other materials.

Combinations of the two forms of apparatus in the shape of a pelvic girdle attached to crutch supports beneath the arms also were devised. Langgaard,[1] desiring to make more efficient pressure over the trochanter, carried the brace down the thigh, to which it was fastened by a circular band. Screw pressure was then made on a pad over the trochanter. As the screw pressure on the trochanter was increased it tended to throw the femur outward in a position of abduction. As abduction, if applied to both limbs, renders walking impossible, the various forms of apparatus became divided into two groups. Those of one group are applicable to bilateral luxations. They consist of either a pelvic girdle alone with hip-pads, or a combination of pelvic girdle and body jacket or support for the lordosis. The pelvic girdle recently described by Max Schede,[2] and the corset figured by Hoffa[3] are modern types of these apparatuses. The use of the position of abduction of the femur is intimately associated with treatment by extension, but it is to Max Schede, formerly of Hamburg and now of Bonn, that we are indebted for the means of applying it to cases mainly of single luxations by means of his abduction splint since 1880. In 1894[4] he reported 29 cases: 4 patients were cured, 11 almost cured, 14 improved, and 8 were without improvement. Schede's apparatus was fastened to the pelvis by a plaster-of-paris bandage and thence extended down to the shoe.* These results are certainly excellent, and show how valuable the use of apparatus can be in this affection. Sometimes, on account of the age, circumstances or inclination of the patient, it is the only mode of treatment available, and a knowledge of its capabilities is worth acquiring. Personally, I have found both plaster jackets and those made of sodium silicate, firmly fashioned around the hips, of service. In one case great relief was afforded by large sole-leather plates padded and molded while moist over the trochanters. These were firmly fastened on by straps passing across the front and back and under the perineum. Another simpler form was made of a 3-inch (7.5 cm.) wide band of thick elastic webbing fastened by buckles just above the trochanters and prevented from slipping up by perineal straps. A modified but very effective form of Max Schede's apparatus is readily made by fastening a single, jointed side iron above to the plaster-of-paris body and below to the shoe; by means of wrenches this can be bent to give any desired amount of abduction and twisted to give any desired amount of rotation.

The next advance in treatment was the introduction of traction or extension to bring the head of the femur down from its position above, or above and behind, the acetabulum to opposite to it. This traction was gradual in contradistinction to the rapid traction of Humbert. C. G. Pravaz, of Lyons, in 1847 applied strong traction for four to eight months, and then by means of extension, abduction, and strong pressure on a large roll under the trochanter replaced the head. The subsequent treatment extended over a period of five or six months or longer. When the head would again leave its new socket

*One form is shown in Hoffa's Lehrbuch der Orthop. Chirg., Fig. 427.

he would replace it; this, if necessary, he repeated frequently.

In order to deepen the socket he devised a coach or apparatus in which the patient used the limbs, and the head was encouraged to bore into the acetabulum and so deepen the socket.

Pravaz reported 15 cases, and his work attracted widespread attention. It was bitterly decried by Bouvier, who claimed that the results were not satisfactory, and that the head was not properly replaced. A commission appointed to examine Pravaz's cases did not support his claims, and his method for a time fell into disuse. It was revived in 1885 by Buckminster Brown,[5] who, after a course of treatment extending over 2¼ years, claimed to have cured a girl of 4. This case attracted attention the world over, and the plan was used in a more or less modified form by Bradford, of Boston; Adams, of London, and others. It was during this period (from 1887 on) that Paci, of Pisa, was perfecting his method of forcible reposition.

The value of traction in treatment having been demonstrated by Buckminster Brown and Bradford, and accepted by the profession, it has since been retained as one of the procedures in the modern treatment of this affection at some stage in certain selected cases, particularly the difficult ones.

The treatment by extension was brought to its greatest perfection by von Mikulicz and Max Schede. Von Mikulicz, of Breslau, presented his apparatus at the International Congress in Rome, 1894, and stated he had been using it for three years. It consisted in a trough-like frame in which the limbs were held in an extended, abducted and rotated out position.

Max Schede[6] used extension at night, and allowed the patient to walk around with his abduction splint during the day. This method he had been using since 1880. Later he used screw extension. The results both of Max Schede and von Mikulicz, by their nonoperative orthopedic treatment, were excellent. Both of these surgeons have since taken up the method of forcible reposition at a single sitting.

The methods of both Schede and von Mikulicz were based on the importance of placing and holding the limb in an abducted position, a point already appreciated by Roser and Volkmann, who had treated these patients by abduction and plaster-of-paris splints or dressing.

A third phase of the treatment of congenital luxation of the hip has to deal with the operative attempts made to improve and cure it.

Guerin, of Paris, was among the first to operate for this affection. He tenotomized the muscles attached to the greater trochanter and scarified the head of the femur to promote the formation of adhesions. It is particularly to Brodhurst, of London, that credit for furthering the operative treatment is due. He operated in 1865 by dividing the muscles attached to the greater trochanter and then pulling the head down by weight extension ("Deformities of the Human Body, 1871"). Bouvier, Barwell, Pravaz, Jr., Coolidge, and others also operated on the muscles. Resection of the head done by Rose in 1874, was done in Italy by Margary, 1882, and many other Italian surgeons. In Germany, Reyher, Heusner, Schüssler, and Lücke performed it. In France, Vincent and Mollière, and in Scotland, Ogston. According to Hoffa it was done 27 times up to 1900, but the results were not very satisfactory and it has been discontinued.

January 29, 1888, Alfonzo Poggi, of Bologna, replaced the unresected head as nearly as possible in a newly scooped out acetabulum by open incision. Two years later Hoffa, then of Würzburg, now of Berlin, brought out his well-known method of replacing the head by first detaching the muscles about the greater trochanter and making a new acetabulum.[7] The wide and repeated publications of his work, with the large number of his operated cases, attracted widespread attention, and these patients began to be operated on in various parts of the world.

In 1892 Lorenz[8] modified Hoffa's procedure by adopting the anterior incision which Karewski had employed in reducing paralytic luxations and omitted the loosening of the muscles attached to the trochanters. In 1895 Hoffa, at the German Surgical Congress, stated that Trendelenburg had shown that the loosening of the gluteal muscles impaired the functional results and he submitted his new operation in which the incision was made parallel to the femur along the anterior edge of the greater trochanter downward. In 1898 the writer devised some special instruments for scooping out a new acetabulum.[9]

The operative method of reduction had become so prevalent that T. Halsted Myers,[10] in reviewing the subject, said that "both Hoffa and Lorenz advise now against any attempt to reduce the dislocation without opening the capsule and deepening the acetabulum; such cases were found to relapse." While the open incision method of replacement was being perfected in Germany, Agostino Paci, of Pisa, was working on the method of forcible reposition without incision. His first publication was in 1888; this was succeeded by subsequent contributions in the *Archivio di Ortopedia* in 1890, 1891, 1892, and 1893, reporting in detail his cases with the method employed and results achieved. In 1894, when the International Congress was held in Rome, Hoffa and Lorenz were there advocating their operative procedures and von Mikulicz presented his extension and abduction treatment. Kirmisson, in view of the serious results of his operative procedures, advocated a trial of the Paci method. The operative treatment was at the height of its fame and Lorenz had brought two of his patients from Vienna to exhibit before the congress. At this juncture Paci presented an elaborate report of his forcible bloodless reposition method, stating he had practised it in 28 cases, 23 of congenital luxation, 3 of pathologic, and 2 of old traumatic, and that it had given good results in patients from 3 to 21 years.

He continued by giving details of the experiences of ten other surgeons; von Mikulicz himself stated he had used the method in one case with satisfaction. He demonstrated his method on a patient before Lorenz and the other surgeons and clinched matters by presenting the hips and pelvis of a child of 7 whose hips had been reduced by his method, 4 months previous to death by A. Nota, of Turin. This was examined by those present and Lorenz later (his book 1895) stated that "the newly-formed joints, at least on the left side, appear to be so well formed that one is justified in concluding that it was capable of subsequently sustaining the body weight." The position of the bulk of the profession at this time is well shown by the words of Lorenz himself. To quote, he says (p. 160): "I cannot deny that up to this time I was unable to banish a great distrust of Paci's method, especially because my numerous operations revealed so many difficulties in the way of a bloodless reposition. I shared fully the standpoint of Lovett[11] who, in reference to the method of Paci, said: 'It seems impossible to believe that so serious a deformity can be corrected by so simple and rapid a treatment.'" At this time there was one surgeon, Max Schede, of Hamburg, who was doing good work by forced screw extension, aided by weight extension and pressure on the trochanter in an abducted position followed by allowing the patient to walk about in an apparatus with the limb in an abducted position. Von Mikulicz also was using extension in bed with the limb markedly abducted.

From this time on no more was heard of the operation by open incision. It was reserved for rare cases. Paci's bloodless method attracted universal attention. It consisted, as he stated, practically in applying the circumduction method of reducing traumatic luxations to the treatment of congenital luxations. It was as follows:

(1) Flex the thigh well on the abdomen and press downward on the knee to bring the head beneath the acetabulum; (2) slightly abduct the femur; (3) rotate outward while increasing the abduction and bringing the limb slowly into (4) extension, stopping short of the point at which reluxation occurs. In attempting this method Lorenz, not being satisfied with his results, resorted (contrary to Paci's teachings) to extreme force. In 1895, the year following the congress, he advocated powerful screw extension, internal rotation, and fixation in abduction. Later in the same year he advocated flexion at a right angle; forced abduction, supplemented at times by powerful manual extension (he abandoned instrumental extension) and fixation in a markedly abducted position in plaster, and allowed the patients to walk about instead of confining them to bed for four months, as did Paci. This he called his "belastungs," or functional weight-bearing method, and Royal Whitman [12] states that the utilizing of the weight of the body to form a new socket is the essential and vital distinction from the forcible correction of Paci, with which it is often confounded. It is but just to Max Schede to state that he had been using for 15 years the weight of the body for this very purpose. Lorenz claims to be the originator of a new method of reposition as well as of retention. He modified Paci's procedures, whether advantageously or not remains to be seen. His most marked departure was the use of great force. Finding he did not obtain immediately by Paci's manipulations the result he desired he proceeded to force its accomplishment. When the abductors prevented abduction he deliberately tore them by over-stretching; when the head would not come down he put on screw extension or manual pulling by two or three assistants; when the head would not come forward he put the trochanter on König's block to increase the effectiveness of the abduction and extension.

Outside of the use of excessive violence, extension, increasing the abduction and tearing of the muscles, the method remains one of circumduction like Paci's. Of these four modifications, the excessive violence has already and is still giving such deplorable results that it is certain to be modified or abandoned. Lorenz himself has given up his screw extension. Extension in many cases is unnecessary, and need never be violent. Its place is not under chloroform narcosis, but when the patient is in bed by means of weights. I fail to see the advantage of tearing over tenotomy. The formation of hematomas, from the middle of the thigh to the umbilicus, sloughs, and abscesses which have accompanied the practice do not commend it to me.

In using König's block beneath the trochanter it is a simple substitution for the hard roll of Pravaz and the edge of the table as used by Paci for the same purpose. In many cases the use of the hand alone suffices. Paci himself apparently used such forcible abduction and extension as to fracture the thigh in one case, and this shows that he abducted and extended as forcibly as was justifiable. For these reasons I cannot see anything peculiar to Lorenz's method of reposition except violence, and if only a moderate and justifiable amount of force is used the bloodless reposition is that of Paci, and should be so called. The papers of Paci at Rome in 1894 were followed by Lorenz's book in 1895, and the method of forcible reposition was taken up and practised more or less all over the world.

In America, Whitman, of New York; Bradford, of Boston; Sherman, of San Francisco; Ridlon, of Chicago; Willard and myself, of Philadelphia, and also others have all used it. The deplorable results of using extreme force in attempting reposition has caused many to restrict forcible reposition to not beyond five to eight years.

In many cases, particularly in the very young, there is no difficulty in replacing the hips even without division of the abductors. Brodhurst recognized this over 20 years ago. In others it may be advisable to tenotomize the adductors and use a certain amount of force in performing abduction, extension and rotation. When this fails, instead of resorting to extreme violence it is better either to put the patient to bed with extension in an abducted position for several weeks, and then attempt reposition again, or else open the joint and clear a passage for the entrance of the head into the acetabulum. Gouging out the acetabulum is not often practised at present because it has been found to be followed by increased stiffness or ankylosis, and because the manner of subsequent treatment is becoming better understood, and we are now able to retain the head in position better than was formerly the case.

The head having been replaced as nearly as possible, it must be retained there by subsequent treatment. Paci applied a plaster dressing and kept the patient in bed with a weight on the leg for four months, and then allowed walking on crutches. Lorenz fixed the limb in plaster in marked abduction and allowed the child to walk at once; he wished to have the body weight aid in forming the new acetabulum, hence he named his method the "belastungs" method. He stated that he does not bring the limbs parallel until two years have elapsed. The utilizing of the body pressure while the patient is walking, as practised by Max Schede with the use of an abduction splint, has already been alluded to. When the limb is placed in plaster it is allowed to remain there four to six or more months. A certain number of cases have a tendency to reluxate, and as yet we have no means of knowing positively whether or not the head has remained in place except by removing the plaster and making an examination. Lorenz has stated that when the thigh is abducted at 90° to the body and the hip is *out* of place the leg can be extended; and when the hip is *in*, the tension on the hamstrings prevents full extension. This is no proof that the head is in its proper position, for if it is in the neighborhood of the acetabulum the same phenomena may occur. Also in a few weeks the stretching of the hamstring muscles may cause the sign to disappear. The Röntgen rays also are not reliable, because they give no information as regards the anteroposterior position of the head. For these reasons Paci took off his plaster at the end of a month and substituted fixation by weight extension in bed for the next three months. Personally I am not content to allow the patient to remain uninspected for several months, but remove the plaster and reinspect once a month, or else keep the patient in bed as did Paci.

Results.—There have been sufficient experiences recorded to show what can now be done for these patients. In young children under 7 or 8 for single and for double luxations nearly all can be reduced to the extent that the head is placed in or near the site of the original acetabulum.

In nearly or quite half the cases there is practically but little difference between the replaced and a normal joint. In perhaps another 40% the head will show a distinct departure from the region of its normal position and will occupy a position somewhat higher and usually anterior. This is called an anterior or anterior and upward transposition. The head becomes firmly fixed and the amount of shortening is variable. In these cases the functional result is usually good. The fixation of the head is commonly obtained only by long and careful treatment for two years succeeding the first efforts at reposition. This may embrace the use of various forms of apparatus, plaster, corsets, braces, belts and the like. Fixation once accomplished abolishes the up and down movement of the head of the femur on the ilium and prevents the increase of the disabilities which usually become more distressing as age advances.

The shifting of the head of the femur from a backward to a forward position tilts the pelvis backward and thus removes the lordosis or hollow back as well as the objectionable protrusion of the buttocks and the wad-

dling gait. In these transposition cases flexion and extension are usually good but there is some restriction of abduction. The patient can usually use the joint with perfect comfort but still retains a certain amount of limp due to the shortening.

The percentage of total failures is certainly very small. The longer the patient walks on the dislocated hip before treatment the greater are the changes both in the soft structures and particularly in the bones. These may force operation by an open incision to clear a way for the head or to aid in its fixation, or an osteotomy may be subsequently required to correct the twisting of the head and neck on the shaft of the femur, or a coxa vara condition. The general availability of the Röntgen rays has rendered the treatment of these patients much easier and more intelligent than was the case formerly.

The treatment of the older patients has as yet not been worked out as thoroughly as has that of younger children, but more can now be done even for the older patients than was formerly possible, and it is probably only a question of a comparatively short time until these, too, will give quite satisfactory results.

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THE DANGER THAT MAY LURK IN BLIND EYES.[1]

BY

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At the meeting of the Western Ophthalmological Society in April of last year the senior author made an informal report of three or four cases, illustrating the danger that may accompany the retention of some single blind eyes. The results of a further study of one of these cases and the very great importance of the subject would seem to warrant a more elaborate presentation before this more general audience at this time.

By the use of the term "single," we would eliminate from this discussion such eyes as those which are blinded by optic atrophy accompanying cerebral or spinal disease, by retinitis pigmentosa, or by primary glaucoma—conditions which, as a rule, affect both eyes. We must also eliminate those single blind eyes which are rendered blind by detachment of the retina, which, for want of a better understanding of the conditions, we speak of as idiopathic.

The motive for the original communication was supplied by the following:

CASE I.—In September, 1899, J. M. H., aged 20, a medical student, consulted us, complaining of symptoms of eyestrain, headache in the left temporal region and some vague symptoms of discomfort in the use of his eyes, particularly in reading. He stated that the right eye was struck by a flying nail nine years before, since which time it had been blind.

Upon examination it was found that the right eye was a shrunken, hard and misshapen globe, slightly tender on pressure, but free from redness. The left eye was perfectly normal, but under complete cycloplegia with homatropin and cocain, the patient accepted a +0.50 D. spheric lens, which gave him vision equal to 6/5. In accordance with our invariable custom in such cases, we advised enucleation of the useless globe as the surest way of preventing future trouble; but, as it was possible for this patient to have the benefit of the opinion of several ophthalmologists, he was recommended to consult four or five representative men in this city to see if they would agree with our advice to have the blind eye removed. Much to our surprise, he returned with the statement that he had been told by the men whom he had seen that it would not be necessary to remove the blind eye, but that if any symptoms of sympathetic trouble appeared it should then be removed immediately. One consultant varied the advice by the statement that it was not necessary to remove the globe, but that were he the patient he would have the deformed stump removed, because a glass eye would look much better. The patient yielded to our advice and the eye was removed. A +0.25 D. sphere was prescribed for the left eye, which he has continued to wear. The symptoms of which he had complained were promptly and permanently relieved, and he has worn his glass eye with comfort.

Examination of the Enucleated Globe.—The eyeball measured 20 mm. in the horizontal and 21 mm. in the vertical diameter. It was divided in the anteroposterior diameter. In making the section it was noticed that the globe contained much chalky material. The remains of the cornea, iris, and lens were bunched up in a mass of connective tissue. The retina was completely detached, and formed a funnel-shaped arrangement. The choroid was also somewhat detached from the sclera, and was largely replaced by plates of bony material.

Calcification of the choroid is a well-recognized cause of sympathetic disease, and it is also well known that when sympathetic inflammation once begins, it is usually too late to influence it by the removal of the offending eye. Premonitory symptoms, in the form of socalled sympathetic irritation, are often wanting or are unrecognized until too late.

That there is still a difference of opinion and practice in these cases is indicated by the following experience:

In March, 1903, H. G., a blacksmith, was referred to us for an opinion as to the removal of a blind eye. He gave the following history: Twenty years ago the left eye was perforated by a piece of steel. He did not know whether it was still retained or not. The eye had been much inflamed for a long time after the injury, and had been blind ever since.

The right eye was apparently normal, but vision equaled 6/22, not improved by lenses. The patient stated that the vision had recently failed rapidly. Left eye: The globe was much shrunken; the cornea quite opaque and shrunken, and contained abundant chalky deposits. The eye was not tender nor red, but imparted to the fingers that sense of resistance characteristic of calcareous degeneration of the contents of the globe. He had consulted two wellknown ophthalmologists in a neighboring large city, who had advised against enucleation as being unnecessary. He had been referred to us by his family doctor, who thought the eye should come out. We, of course, advised enucleation, and explained the dangers of retaining such an eye, but the patient has not returned.

Ophthalmologists are practically united in the belief that when an eye long blind from injury becomes red and tender it should be removed. That conservative methods have no place in the treatment of such eyes not presenting clinical evidences of active inflammation, is shown, we think, by the following case:

CASE II.—A man aged 40, in good general health, complained of soreness and weakness of the left eye. He stated that the right eye was struck 11 years ago by a piece of iron, which caused a penetrating wound. As a result of the injury, the right eye was inflamed for a long time, but finally became quiet. Since the injury the eye has occasionally, but only at long intervals, been tender to the touch.

When first seen the left eye had been inflamed for a few days only. The *right eye* was of normal size, the conjunctiva normal, the bulbar vessels normal. The central portion of the cornea was a mass of thickened, opaque scar tissue, but around the margin it was transparent in spots; the iris was caught in the corneal scar—anterior adherent leukoma. Vision was reduced to zero. The tension was normal, and the eye not tender on pressure. In the *left eye* there was lacrimation and ciliary injection; the pupil was contracted and the iris swollen and lusterless. There was slight pain in and around the eye, and it was tender on pressure. The vision was blurred and there was slight photophobia.

The diagnosis of sympathetic iridocyclitis was plain, and the right eye—the useless eye that he had been carrying for 11 years—was immediately enucleated. Everything possible was done for the left eye—the patient was well cared for in a hospital—but the eye went from bad to worse, and 30 days after the patient was first seen our record of his case states: "Eye is quieting, but is shrinking and is blind."

Examination of the Enucleated Globe.—The globe, which was of normal dimensions, was fixed and hardened in formalin and alcohol. It was divided in the anteroposterior diameter, one-half being mounted in glycerin jelly, and the other imbedded in celloidin and sectioned.

There was nothing unusual in the gross appearance of the

[1] Read before the Illinois State Medical Society, April 30, 1903.

posterior part of the eye; anteriorly, it was seen that the cornea was greatly thickened, particularly in its center, and the entire pupillary edge of the iris was adherent to this thickened mass. The lens had disappeared.

Histologically, sections of the posterior portions of the globe show nothing of unusual interest; anteriorly, the part of particular interest is the cornea, and the interesting feature of the cornea is the evidence of the existence of a chronic inflammatory process. This evidence consists of regions of cellular exudate, which are found in the cornea, particularly along and just under Bowman's membrane—where this membrane exists. The cells of these regions are rather large, round and oval cells, apparently mononuclear; the nuclei being very regular in size and eccentrically placed in the cells. In preparations stained with hematoxylin-eosin the nucleus takes the hematoxylin fairly well, and the cytoplasm also shows a slightly bluish tint. On account of the method of fixing the tissue, we did not get results with some of the specific staining methods. In the use of the polychrome methylene-blue solution and differentiation with glycerin-ether mixture (Unna's method), we did find an unusual number of mast-cells; these cells were found principally in the looser connective tissue of the cornea in the region of the limbus. Although we are unable to speak definitely as to the type of the cells making up the cellular accumulations, we think it safe to say that, in all probability, most of these cells are plasma cells. At all events, these cells are abnormal, and are there as the result of some abnormal condition—probably some sort of an irritant—and they are a part of the process which is called inflammation—in this case inflammation of a chronic character. Sections were stained and examined for microorganisms, but none was found. In the light of our present knowledge, such an inflammatory process in one eye is quite sufficient to cause a sympathetic inflammation in the fellow eye. At this point, let us again call attention to the fact that, clinically, there was no evidence that this blind eye was otherwise than in a quiet condition.

At the meeting of the British Medical Association in 1899 Mr. F. Richardson Cross, ophthalmic surgeon to the Bristol Royal Infirmary, read before the ophthalmologic section a paper entitled "The Pathologic Significance of Sympathetic Irritation and its Connection with Sympathetic Ophthalmitis.[1]" He called attention to the fact that our knowledge of the real nature of sympathetic irritation is still imperfect and its relation to socalled sympathetic inflammation uncertain; but emphasized the fact that a "shrunken eyeball seems to be able to excite sympathetic inflammation when it is quite quiet and apparently devoid of any microscopic evidence of inflammation." He quoted Brailey, who has seen many cases of undoubted ophthalmitis, when the first eye, possibly a mere stump at the time of its outbreak, was neither painful nor tender, having long been quiet. He also calls attention to the fact that Brailey has reported 29 cases in which enucleation was performed for sympathetic irritation, only 16 of which were cured, 13 being uninfluenced or made worse. Mr. Cross raises the significant questions: If sympathetic irritation is a pure neurosis, why were not all of these cases cured? Can we always differentiate between sympathetic irritation and sympathetic inflammation? He closes his paper as follows:

"I have no doubt that a seriously damaged eyeball is prejudicial, more or less, to its fellow, and may predispose it to various kinds of discomforts if not diseases, and that those which possess no useful sight should be removed or eviscerated, while a shrunken globe interferes with the safe wearing of a glass eye and may at any time become a source of danger. A degenerate, inflamed eye seems likely to make an excellent incubator for microorganisms, and it is certainly damaging to the general health, which I have often seen materially benefited by its removal."

The discussion of the subject was participated in by representative ophthalmologists from France and America, as well as by resident members of the Association. Professor Landolt, of Paris, made the following statement: "A lost eye which may become a source of danger to the fellow eye should be removed," and added that 20 to 30 years ago such a statement would have been superfluous, as everybody agreed; but since the many proposals have been made to save the healthy eye without enucleation of the damaged one, by such means as the resection of the optic nerve and the ciliary nerves, or by subconjunctival injections of antiseptics, there existed a difference of opinion. Mr. M. M. McHardy, professor of ophthalmology in King's College, London, fully agreed with Mr. Cross and Professor Landolt, and stated that he never eviscerates or does any of the other operations which have been offered as substitutes for enucleation. He said: "Our opinion and advice may, it seems, be briefly and comprehensively summed up in the speech I have to repeat only too often, but happily seldom or never without carrying the desired conviction to the patient: 'My friend, you know that no tenant is better than a bad tenant; I know that your injured eye is the worst tenant you could have. It was an eye while it could see; it may at any moment cause the gravest danger to the sight of your only remaining organ of sight. It is good business to cut a first loss at once, part with the injured, bad tenant, and have peace of mind as to the security of your only seeing eye.'" Professor de Schweinitz, of Philadelphia, who ably represented the eye surgeons of America in this discussion, took a similar view. The published report of this discussion would lead one to think that no difference of opinion existed among those present in regard to the proper treatment of eyes made blind as a result of injury.

At the meeting of the American Ophthalmological Society in 1900, Dr. S. C. Ayres read a paper entitled, "Observations on Some Blind but Quiet and Apparently Inoffensive Eyes: Do They Produce a Pseudosympathetic Inflammation?" Dr. Ayres opens his paper as follows:

"We are all disposed to treat blind but quiet and apparently inoffensive eyes kindly. We naturally consider a blind eye, which is free from inflammation and tenderness, not the probable source of trouble to the good eye, and it is better for the majority of our clients than an artificial eye. But are those blind eyes as inoffensive and free from danger as we are disposed to think? May they not exert some subtle influence which we, in our clemency, have overlooked? That in many cases blind eyes remain in the orbit for an indefinite number of years, and are not a source of irritation to the fellow eye, is a wellknown fact. But are they all so harmless? Are they all innocent because some have not been proved guilty of exciting trouble in the good eye? I will leave this an open question."

The following abstracts of some of his cases are of great interest:

CASE I.—Right eye blind from incised wound, quiet and free from irritation for a period of 14 years. Left eye very marked failure of vision; extensive exudations into the vitreous. Enucleation of the blind eye and recovery of vision.

CASE II.—Loss of right eye; globe shrunken, but free from tenderness or irritation. Twenty-three years afterward, left eye attacked by bullous keratitis, and later on there were exudations into the vitreous. Enucleation of the shrunken stump was followed by complete recovery of the right eye and restoration of former vision.

CASE III.—Trauma of the right eye and loss of vision; globe not sensitive or irritable. Two years later left eye suffered from intraocular hemorrhages and exudations, with impairment of vision. Enucleation of blind eye and prompt improvement of vision.

CASE IV.—Injury of the right eye in childhood. Lens calcareous and resting in the bottom of the vitreous chamber. Eye free from tenderness. Thirty-five years later, exudations and hemorrhages in the left eye. Enucleation of blind eye and improvement in vision.

CASE V.—Loss of left eye from ophthalmia neonatorum; globe shrunken but quiet. Right eye had partial vision through an iridectomy made for visual purposes. Seventeen years later the right eye was attacked by secondary glaucoma. Partially relieved by the use of eserin, but completely relieved by enucleation of the shrunken globe.

CASE VI.—Sight of right eye lost from detachment of the retina. Submitted to operation for relief. Eye quiet and not sensitive. Two years later, exudations into the vitreous of the left eye. Recovery of vision under treatment.

The eye enucleated in the first of these cases, which was apparently quiet and had been free from irritation

[1] British Medical Journal, September 23, 1899, p. 761.

for a period of 14 years, was studied histologically by Dr. Adolph Alt, of St. Louis. He found the iris adherent throughout to the anterior capsule of the lens, a dense cyclitic membrane stretching across the anterior part of the eyeball and attached to the posterior surface of the lens, which was cataractous. There was complete detachment of the retina and bone formation in the choroid. The iris and ciliary body were infiltrated with round cells, there were calcareous deposits in the lens with enormous proliferation of its epithelium. There were abundant round-cell infiltrations in the cyclitic membrane, the choroid and the detached retina, which, from the avidity with which they took the hematoxylin stain, were judged to be recent. The optic nerve and its coverings and the posterior ciliary nerves also showed round-cell foci, denoting a recent inflammatory process. Dr. Alt closes his report as follows:

"In general, then, it seems clear that while this eye clinically appeared to be quiet and apparently inoffensive (compare our case No. 1, clinical and histologic reports), it had all the qualities in it which seem necessary to induce sympathetic inflammation in the other eye—the pathologic condition really is of a sympathetic nature and not pseudosympathetic."

CASE III.—The patient was a man aged 38, a miner, in good general health. He said he had been injured in an explosion some months before consulting us, and that as a result of this accident the right eye had become blind.

The right globe was shrunken and deformed, the cornea a mass of scar-tissue, and the bulbar vessels slightly injected; there was slight tenderness on pressure. Vision was reduced to zero. He said that he had seen several oculists, and that only one of these gentlemen had suggested the removal of the eye. The blind stump was immediately enucleated, and the unexpected finding of a piece of iron imbedded in the vitreous chamber in the ciliary region demonstrated without question the wisdom of the operation.

Examination of the Enucleated Globe.—The shrunken and deformed globe was fixed and hardened in 10% formalin solution and alcohol. It was divided in the anteroposterior diameter and one half imbedded in celloidin and sectioned. The interesting feature of the anatomic investigation of this globe was the discovery of a piece of iron, which made itself apparent by nicking the microtome knife when cutting the sections. The iron was imbedded in an exudate just posterior to the lens. That the hard substance which nicked the knife was iron was demonstrated by incinerating, in a porcelain dish, a few of the sections cut from the region of the foreign body, dissolving the residue in hydrochloric acid, diluting with distilled water and testing the solution for iron with potassium sulfocyanate. The characteristic iron reaction was obtained. A very beautiful reaction was also obtained in sections soaked in potassium ferrocyanid and afterward treated with a dilute solution of hydrochloric acid, when the Prussian-blue reaction was shown, the center of the exudate taking on a blue color. Sections of the tissue were stained by various staining reagents, but microscopically, nothing of unusual interest was shown. It is generally admitted, however, that an eye which contains a foreign body which cannot be removed, is a dangerous eye, and no one hesitates to remove such an eye if it is blind and the presence of the foreign body is known.

That there is another class of single blind eyes demanding prompt removal is shown by the following cases:

CASE IV.—A man, aged 56, in fair health only, came in September, 1894, for glasses. With correction, vision in the left eye was normal; but in the right, 6/22 only. The use of a mydriatic was declined, and through the small pupil no cause could be detected for the lowered vision. In March, 1897, he returned for stronger reading glasses. The vision in the right eye was reduced to counting fingers, the nerve head was swollen, and there were some choroidal changes which were not well made out through the small pupil (a mydriatic was again declined). The patient was referred to his family physician for constitutional treatment, and not seen again until February, 1899, when the right eye was quite blind. A cataract had developed, the tension was increasd, the eye was a little red, and at times painful. He was asked to come in often for observation, but did not return until December, 1899. At this time the cataract was mature, the pupil dilated, the anterior chamber almost obliterated, the episcleral vessels large, and tension +2. The diagnosis of probable tumor was made, and enucleation advised and accepted.

Examination of the Enucleated Globe.—The newgrowth had penetrated the sclera, and a small tumor was found to the inner side of the optic nerve. This growth and the globe were divided in the anteroposterior diameter. The greater part of the choroid was found to be substituted by a pigmented growth, which formed a mass about 1 mm. thick, and extended anteriorly almost to the ora serrata; the posterior part of the choroid was all taken up by the newgrowth. Microscopically, the neoplasm was found to be a pigmented, spindle-cell sarcoma, one of those rare diffuse sarcomas—the Flächensarkom of the Germans. The extension through the sclera was found to have taken place along the course of one of the long ciliary nerves.

There was no recurrence in the orbit, but the patient died one year later. Examination of the liver showed multiple tumors of similar histologic structure to that found in the eye.

CASE V.[1]—The patient is a young child. The parents—people of great prominence in the northwest and whose statements can be relied upon—said that they had noticed some months before that there was something queer about the child's eye, and fearing it was blind, had taken the child for consultation to a homeopathic oculist of this city, a man of considerable local reputation. The parents stated that the doctor told them to let the eye alone and that the new formation within the globe "would be absorbed." The eye remained quiet for some weeks, but finally became painful—the formation did not absorb—and the child was taken to Dr. Wood, who immediately made a diagnosis of glioma of the retina and enucleated the globe. The patient died a few months later of metastasis in the brain.

Examination of the Enucleated Globe.—Examination of the globe showed the presence of a typical glioma of the retina in the later stages of its development, with degenerative changes, including calcareous infiltration, which almost filled the cavity of the globe.

CASE VI.—The patient, a girl, aged 4½ years, was taken to Dr. F. C. Honnold, of Riverside, Ill., by the parents because of the accidental discovery that the child's left eye was blind. Dr. Honnold brought the child to us the next day for consultation.

In the *left eye* there was slight lacrimation; the pericorneal vessels were slightly injected; the cornea clear; the anterior chamber shallow; the iris adherent to the lens and the pupil dilated irregularly after the use of atropin; the lens was cloudy and behind it in the vitreous chamber an opaque body was seen. The eye was blind, a little tender, and the tension below normal. The *right eye* was highly myopic—at least 8 diopters. The diagnosis given was guarded, but we feared glioma of the retina. Instructions were given to have the patient brought in frequently for observation. Two months later there had been no change in the conditions, and as the eye was blind, we advised enucleation. The parents refused to have the operation and we did not see the patient again for five months, when she was brought in because the eye had become red a few days before, after having been quiet for some weeks. Enucleation was again urged and accepted.

Examination of the Enucleated Eye.—The examination of the globe showed a glioma of the retina in the early stages of its development, but with several points of interest. A full description of the tumor may be found in the *Johns Hopkins Hospital Bulletin*, Vol. xiii, No. 139, October, 1902.

The child is living and well now—four years after the excision—and this period is long enough in the history of such tumors to warrant the conclusion that there is practically no danger of recurrence.

We have in the foregoing the histories of several interesting cases. There was too great delay in the removal of four of the six blind eyes. As a result of this delay, the patient in Case II is stone blind; the patient of Case III was permitted to retain for months an eye with a piece of iron in it, and which, in all probability, would have ultimately destroyed the fellow eye; the patient of Case IV for two years carried around a sarcoma, and he is now dead from metastases; the patient of Case V for months was allowed to retain a blind eye, which was gliomatous, and the child is now dead. *Such results are awful.* At any time in a period of 11 years the patient of Case II could have been made absolutely safe from sympathetic trouble by the removal of the useless blind eye; during months there is no question of the fact that the steel-containing eye of Case III should have been removed; in Cases IV and V there might have been early metastases, but there might also not have been; certainly, the longer such eyes are left alone, the greater is the danger of metastases and death; in Case VI enucleation was done early enough, and the patient is now well.

In spite of the fact that the foregoing paragraph would be a very appropriate one with which to close such a paper, we venture to continue it for the purpose

[1] This case is from the practice of Dr. Casey Wood, to whom we are indebted for the privilege of reporting it. Dr. Wood gave the enucleated globe to Dr. Pusey for histologic examination, and we mention the case as an awful contrast to the next case, which we shall report from our own experience.

of calling attention to some recent important work bearing on one of the operations which has been proposed as a substitute for enucleation—evisceration.

From the clinical point of view, the question of the relative value of simple excision of the eyeball and the operations which have been substituted for it, has recently been gone over most thoroughly by a committee of the Ophthalmological Society of the United Kingdom.[1]

Among the conclusions of their report one finds the statements: "We have not found a record of any case of sympathetic ophthalmitis following evisceration without the insertion of an artificial globe;" and "We have collected records of five cases of sympathetic ophthalmitis after the operation of evisceration, and the introduction of an artificial globe into the emptied sclerotic" (Mules' operation); and further on, "Whether evisceration is as efficacious as excision can only be definitely determined by statistics gathered from a larger number of cases than we have been able to collect."

The clinical side, however, is not the only one from which this subject has been approached. Very recently, S. Ruge has investigated the question from the standpoint of the pathologic anatomist. From the clinic of Professor Schirmer he obtained a globe on which the operation of evisceration had been thoroughly and carefully done some weeks before it was enucleated. Microscopic examination of this globe showed the presence of spots of retained uveal pigment. Examination of similar globes have been made by Schmidt-Rimpler, and by Pflüger and Deutschman, with like results. From his own results, and those of Schmidt-Rimpler, and Pflüger and Deutschmann, which he cites, Ruge says that he believes that all of the uvea cannot be removed even by a thorough evisceration, and this being the case, the microorganisms which may cause sympathetic ophthalmitis may also be left in the stump. He closes his article with the statement that exenteration of the bulb does not offer the same protection against sympathetic ophthalmia as does enucleation.[2]

When a person has only one useful eye, it becomes of inestimable value to him, and *everything possible must be done to retain that eye in good condition*—there can be no compromise. Evisceration has not been proved to be as safe as enucleation. It has long been held that enucleation of the eyeball of a child interferes with the development of the orbit, thus causing greater deformity; and we hear the opinion expressed that it is not good practise to enucleate the injured blind eyes occurring in children, except in urgent cases. Our first comment would be that a child has as much right to have an assurance of one good eye, if the other is blind, as a grown person, and that the question of the possible failure of development of the orbit, and, therefore, some asymmetry in the appearance would have no influence when the safety of the other eye, or possibly the life of the patient is in question. But there is good evidence that the development of the orbit is not materially interfered with by the enucleation of the eyeball in childhood. Gordon Byers has reported the examination of 10 patients in which the globes were removed during childhood, and in which he examined the orbits in adult life. He estimated by means of compasses the transverse and vertical diameters of the external orifices of the orbits of the two sides. The differences found between those of the empty orbits and those of the unaffected sides were so slight that they could readily be accounted for by the difficulty in obtaining exactly the same fixed points. His observations showed that no arrest of development had occurred, at any rate, so far as the external orifices of the bony walls of the orbit were concerned.

"If thine eye offend thee, pluck it out."

[1] Trans. of the Ophthalmological Society of the United Kingdom, 1898, xviii, 233.

[2] Ruge, S.: Anatomische Untersuchung über Exenteratio bulbi, etc. Graefe's Arch., 1901, lii, 2, 228-232.

ENTEROPTOSIS: ITS ETIOLOGY, SYMPTOMATOLOGY, TREATMENT AND PROGNOSIS.

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[*Concluded from page 315.*]

DESCENT OF THE SPLEEN, PANCREAS AND INTESTINES.

Movable spleen is most frequently seen in patients with enteroptosis, although, as we have said before, the condition is often not recognized partly because slight displacements of the spleen are difficult if not impossible to diagnose, partly because frequently no symptoms are met in this condition, According to Osler, it is occasionally met without signs of displacement of other organs; in those cases with symptoms the patients complain of dragging, uneasy sensations in the back and side. All grades of splenic displacement have been described, in fact, in one case the floating spleen was met in an inguinal sac. Trauma may account for some of the cases, while the fact that several cases have been described in members of the same family suggest that in some cases at least there is a congenital relaxation of the splenic ligament. The organ is usually enlarged, while if torsion of the pedicle occurs we may meet great swelling of the organ associated with rise of temperature, as in a case operated upon by Halsted.

The diagnosis of the condition is usually easy, as by palpation the organ with its characteristic shape, sharp edges and notch may be easily made out. On the other hand, if the organ is fixed in an abnormal position and is deformed by adhesions the diagnosis is much more difficult.

As to the displacement of the pancreas practically nothing of importance has been done. A segment of the body of this organ is situated in the fork between the celiac axis and the superior mesenteric artery firmly bound to the radix mesenterica, and whatever displacement may happen to the rest of the abdominal viscera this portion of the pancreas, as well as the duodenojejunal flexure, which is fixed in a similar manner, remain in position.

We have also mentioned that Glénard's "corde colique transverse," which he regarded as the contracted transverse colon, Ewald believes to be the partly displaced pancreas.

As we have already said, Virchow in 1853 called attention to changes in the position of the intestine which he had noted in many cases at autopsy and which he ascribed to partial peritonitis due to various causes. He suggested that these changes of position and their mechanical effects might be the cause and starting point of a number of symptoms of dyspepsia and indigestion.

Of course, the intestinal symptoms in enteroptosis are many and diversified, chiefly among which may be mentioned constipation, fermentative dyspepsia, the presence of a large amount of gas in the intestines, and mucous colitis. Of the last condition Drummond met 10 cases among 31 cases of enteroptosis, and we feel from our observations during the past 2 years that mucous colitis is a frequent accompaniment of enteroptosis, especially if the displacement of the organs is present in a marked degree.

Ewald believes that when a disturbance of the function of the intestine is associated with enteroptosis it is due to the dragging of the bands on which the sections of intestine are hung. Through this dragging there arises reflex irritation of the intestine, disturbances of the circulation of the intestinal vessels, and disturbances in the motor function of the intestinal musculature and in the secretory function of the intestinal mucous membrane, these phenomena being mainly called forth in a

reflex way. Another factor of importance in the production of the gastrointestinal symptoms is the sinking of the transverse colon, on account of which the stomach is dragged upon by the gastrocolic ligament and the horizontal portion of the duodenum is pulled downward. The constipation so frequently met is due to the low position of the colon, the dislocation and kinking of the intestine, atony of the intestinal walls, and the flabbiness of the abdominal muscles, while the effect of these changes upon the intestinal secretions may also play a part in the production of this symptom.

Glénard, as we have said before, has especially insisted that when the suspensory ligaments of the stomach and intestines are relaxed with a descent of these viscera stenosis will occur, and as the result of the stenosis of the intestines a diminution of the tension of the abdominal wall will follow. Glénard believes that the wearing of corsets tends to increase the tendency toward constipation. He also insists that the cecum will retain its normal shape in enteroptosis because it has no suspensory ligaments, while Fuhs calls attention to the place interchange of the cecum and sigmoid flexure with no evil results.

In diagnosing displacements of the intestine we have various means at our disposal. Inspection, especially in those patients with flabby abdominal walls, will often give us a knowledge of the position of the intestinal coils by observing the peristaltic movements, while palpation and the feeling of the constricted colon will help in other cases. The most satisfactory method of determining the exact position of the colon is by means of distention with air through a rectal tube; by this means in enteroptosis the transverse colon instead of being situated between the ensiform and the umbilicus is found at or below the umbilicus, generally in close relationship to the greater curvature of the displaced stomach.

Boas has followed a metallic capsule as it passed through the intestinal tract by means of the Röntgen rays, and demonstrated intestinal displacements thereby.

O'Connell insists that one of the most important symptoms of displacement of the intestines is pain and fatigue at those hours which correspond to the periods of duodenal digestion, which he thinks are three in the afternoon, and two in the morning in the majority of cases.

PROPHYLAXIS AND TREATMENT.

The most practical and perhaps the most important division of our subject is that devoted to the prevention and treatment of the condition. We will take this up in order, first discussing prevention of the condition, if possible, and second, the means of bringing about a cure if such a consummation can be reached.

The condition is so difficult to treat with satisfaction, if it has reached a high degree that it is imperative so far as it lies in our power to prevent or at least minimize the displacement of organs. Most of those who have done much work upon this subject feel, we think, that in the vast majority of cases two great factors must be taken into consideration. (1) A congenital or inherited factor, a preformed weakness or fragility of the tissues of the mesentery, ligaments, peritoneum, etc., which is frequently associated with a characteristic body form, and also often associated with a tendency towards neurasthenic manifestations, although, as we have said before, it is impossible to say whether these two conditions are interdependent or independent of each other, and (2) various factors which either by trauma, by increasing the pressure above or diminishing the pressure below, bring about the conditions likely to produce descent of the organs in those predisposed.

Thus, in discussing the prophylaxis of the condition we should, it seems to us, keep in mind both these factors, and we should devote especial attention to lessening the effects of either. It is important that children with the characteristic body form we have already described, or with displacement of any of the abdominal viscera, should be treated with the utmost care. They should be made to lie down during many hours of the day; they should in some cases be given abdominal supports or bandages, while in every case the greatest care should be paid to the diet and general hygiene of the children so that their weight should be increased; in fact, in many cases systematic overfeeding should be carried out, while in other cases a rigorous rest cure is productive of brilliant results. Attention should be paid to all persons, whether adults or children, during and after acute or chronic diseases associated with marked loss of weight or diminution of muscular tone, such as diphtheria, typhoid fever, whoopingcough, malaria, etc., and one should be most careful about allowing the patients to go back to active occupations after such diseases. The same measures for increasing weight, as mentioned before, should be carried out, while in some cases for some period after the disease is over artificial support should be furnished to the abdominal viscera in the shape of a properly applied binder. One should also remember that the condition may be brought about by too rapid obesity cures.

It is extremely important that during pregnancy and the puerperium great care should be taken, the patient should not be allowed to get up too soon after delivery, and when she does get up if the abdomen shows lack of tone, as it does in the great majority of cases, she should be provided with a snug abdominal support.

Practically the same precautions should be taken after the removal of large quantities of ascitic fluid, or of large abdominal tumors, for in all three of these conditions there is a sudden diminution of intraabdominal pressure, and subsequent enteroptosis in many cases.

Riegel makes some very valuable suggestions regarding the prophylaxis of the condition, especially as regards gastroptosis. All corsets that compress the thorax markedly are forbidden by him, and he recommends a reform corset, with shoulder-straps and buttons for attaching the skirts. He believes the abdomen should be tightly bandaged immediately after delivery, thus forcing the abdominal muscles to contract uniformly and the patient should not be allowed to get up before the tone of the abdominal muscles is completely restored.

It is essential that we as physicians should demonstrate to our patients the dangers from the use of tight corsets or tight belts, and if they insist upon continuing to wear these to try to persuade them to wear the less unhealthful kind, that is, the straight-front corset, where the pressure is exerted upon the lower half of the abdomen. Another point to remember is that the great majority of patients with enteroptosis are deficient in body fat, and we should try when such patients come to us, even when no symptoms are present, so to regulate their diet and mode of life that an increased deposition of fat will take place. Also in this class of patients there is often a woful lack of tone in the muscles of the abdominal wall, and we should try, by suggesting various exercises, to improve this condition.

Thus, in the prophylaxis of the condition, the essential thing is to recognize the condition early, and after the condition is recognized to try by every means within our power to improve the general condition of the patient, to increase the tone of all their muscles, especially those of the abdominal wall, to increase the amount of fat present, especially within the abdominal cavity, and to prevent them from indulging in anything which will tend to aggravate or bring out their tendencies in this direction.

As to the treatment proper for enteroptosis it may be divided into three groups: (1) Treatment by medicines, diet and general hygienic measures, including exercise, massage, etc.; (2) treatment by bandages, pads, plasters, belts, and supports of various kinds; (3) operative treatment.

Glénard's treatment is fourfold—an elastic abdominal bandage must be applied in all cases; the bowels must be kept in good condition, and for this he recommends daily laxatives, beginning usually with sodium sulfate (7 grams) and eventually aloes (5 to 10 centigrams); a careful diet, beginning with meat diet, and gradually increasing the dietary by adding such foods as green vegetables, stale bread, etc., but suppressing for a considerable time all acids, wines, cereals and fats; the use of alkaline waters or sodium bicarbonate, and sometimes the use of intestinal antiseptics. He also advises cold hydrotherapy, massage and static electricity. He especially insists upon the strict dietary, because of the characteristic symptom of this condition—a sensation of weakness or discomfort in the mesogastrium, attaining its maximum two or three hours after dinner, and aggravated by fats, starches, raw foods, wine and milk.

Einhorn believes that the principal part in the treatment of these patients consists in the application of a well-fitting abdominal supporter, ample nutrition and exercise. As to the value of ample nutrition we feel that this is one of the most important methods of bringing about amelioration of the condition, and we, unlike Glénard, have used milk to a great extent, sometimes, in fact, beginning with a strict milk diet for a certain length of time. Of course the dietary depends somewhat upon the condition of the gastric secretions, which we will discuss later, but in the majority of cases we have found that a simple mixed dietary, nutritious and concentrated, with very little fluids with meals; with food between meals, especially milk, malted milk, peptonized milk, raw egg or beef juice, will give the best result. In some cases, however, we have found that fluids cannot be taken and for a considerable period of time we have given only meat and stale bread, giving four to six meals daily. We have under observation at the present time four cases undergoing the mode of treatment we spoke of first, that is, a simple mixed dietary with raw eggs and milk between meals. Of these one has gained 10 pounds in six weeks, one 7 pounds in seven weeks, one 4½ pounds in seven weeks, and one 14 pounds in two months, and all have shown very marked improvement in their symptoms. As to exercise, we feel that it is essential that the patients should do something to improve the tone of their abdominal muscles. Outdoor exercises of various kinds, Swedish movements, especially those designed to strengthen the abdominal muscles, and abdominal massage are useful in this connection.

Einhorn uses massage only in cases of mild enteroptosis, as he believes that in anemic patients or in those with a marked descensus of the organs it may give rise to considerable irritation. For the anemia iron and arsenic should be given if possible, although the former drug must frequently be given with considerable care to prevent digestive disturbances and increased constipation. As to medicinal treatment we have found strychnia, especially if given in increasing doses, of considerable benefit, while for the constipation we have tried to depend as much as possible upon abdominal massage and electricity, the cannon-ball method of abdominal massage, cold abdominal packs and enemas of flaxseed, sweet oil, epsom salts, soap and water, etc. To give a sufficient quantity of fluid we have advised either pure water or some of the alkaline mineral waters, such as Celestin Vichy, one hour before meals and on retiring; this undoubtedly is of special use when the stomach shows various motor or chemic disturbances.

Fuhs uses hydrastis in those forms of enteroptosis associated with a spastic condition of the intestinal tract, and in this class of cases he recommends a fine and non-irritating dietary, while in the atonic form he prefers coarse granular foods.

As to treatment of gastroptosis proper we should consider under this category the mechanical, the medicinal, and the dietetic. Mild cases of gastroptosis are sometimes cured if the patient is forced by some intercurrent disease to remain on her back for several weeks or months, and occasionally pregnancy and the consequent pushing upward of the displaced stomach will bring about a cure. It is for the same reasons that a displaced stomach returns to its normal position after a rest cure, although, of course, we have added the favorable effects of a deposit of a large amount of fat. It is important that patients with gastroptosis should lie down as much as possible, especially after meals, while all pressure from clothing should be relieved while the digestion is in process. As to the diet in gastroptosis, a simple mixed diet, not too bulky, and so constituted that it is easily liquefied, and thus can be propelled into the duodenum in a short time should be chosen. Of course, the special dietetic rules depend upon the especial condition present; thus, if there is hyperchlorhydria alkalies are administered in association with the proper dietary, while if the hydrochloric acid is diminished or absent altogether hydrochloric acid is given in association with the diet suitable to the condition. If dilation of the stomach is present—that is, if the gastroptosis is associated with atony and ectasy lavage is indicated and sometimes massage and electricity, while in this class of cases strychnia is especially valuable. Two important rules should always be observed in gastroptosis—(1) never to give much food at one sitting, and (2) for the patient to occupy the horizonal position for some time after each meal. Massage, of course, is of little or no value in gastroptosis except in so far as it improves the general abdominal tone.

Lincoln and Einhorn advise bromids for the treatment of the nervousness so frequently met in these cases, while Meinert, Thompson, and others insist upon the value of Blaud's pills and nux vomica in the anemic type of the condition. Of course, practically all authors advise the discontinuance of tight clothing, corsets, belts and all other factors which tend to aggravate the descensus. McPhedran advises massage morning and evening after one or two glasses of water have been drunk, thus bringing about lavage of the stomach in a certain sense.

Of course, the essential thing as regards gastroptosis is to determine exactly which of the symptoms in the case are due to displaced stomach, to determine whether it is associated with atony, with dilation, with various gastric neuroses, and anomalies of secretion, and if such conditions be present to treat them along the appropriate lines.

In the treatment of nephroptosis it is essential that when the condition is associated with enteroptosis no operation should be performed unless it is evident that the more serious symptoms are due to the movable kidney alone. An operation should never be undertaken until after the dietetic and medicinal treatment of the gastric and intestinal disorders has been tried and a well-fitting abdominal support applied, except in the cases of movable kidney associated with Dietl's crises when, of course, operation should be performed at once.

Eccles reports in the *Lancet* of 1898 the result of his treatment of movable kidney by means of mechanotherapy. In all, 21 patients were treated; 5 of these were treated, and were greatly improved by abdominal massage, exercises, and the application of a pad and belt, and of these 5 one has been freed from discomfort 5 years, and another for 2 years since the treatment. The other 16 were given rest cures for periods ranging from 2 to 8 weeks, and of these, 7 were lost sight of within 4 months after treatment, one was a complete failure, while the other 8 showed either a cure or a marked improvement. The result of this treatment in the 21 cases, therefore, compares favorably with that of cases treated by operative means, and Eccles concludes that "early diagnosis, reposition, and the maintenance of the organ in its normal place by methods which also conduce to the improvement of the general health appear to go far toward the relief of the patient; at any rate, sufferers

from freely movable kidney should first be subjected to treatment by rest and massage followed by exercises devised for improving muscularity of the abdominal walls before they undergo operation. No harm arises from the delay, and if local surgery should afterward prove to be necessary, the sufferers will be rather better able to undergo the operation."

In displaced kidney it is especially important that there should be a reposition of fat and flesh in the abdominal wall, and this is best done, as we have said before, by massage, carefully regulated diet, overfeeding, gradually increased exercise, and precautionary measures, posture, rest, and mechanical support to counteract the tendency to displacement and undue mobility of the viscera.

Rosenthal, Richelot, and others strongly advise a certain form of massage, this being performed from 20 to 45 times according to a special technic, and they report many cures by this means.

Thure-Brandt and Bachmaier also strongly advise massage.

Of course, the important points in regard to the medical treatment of displaced kidney is to promote all means which tend to increase the tone of the abdominal muscles, to promote nutrition and the reposition of abdominal fat, while the gastric and intestinal disorders, which have formerly been ascribed to nephroptosis, should be treated by careful attention to the anomalies in position or function of the stomach and intestines, which in the vast majority of cases is the cause of the symptoms.

As regards the medicinal and dietic treatment of floating liver and floating spleen, the same rules apply as in the treatment of general enteroptosis and floating kidney.

According to Landau the employment of means to prevent the development of pendulous abdomen is especially important in the prevention of displaced liver.

In regard to displacement of the intestines and the associated symptoms we have already insisted that it is wise to treat the lack of tone and the associated constipation by massage, electricity, diet and enemas, rather than by catharsis. When cathartics are necessary, Ewald employs Epsom and rochelle salts, but pays little attention to the use of intestinal antiseptics. Undoubtedly much can be done by massage, hydrotherapy, particularly the Scottish douche, electricity and irrigation of the colon in improving the tone of the intestinal tract.

As to the value of bandages in enteroptosis there is some difference of opinion, but the great majority of clinicians lay great stress upon their use. Of the older physicians Rayer and Hare strongly recommended them, while Glénard used them in all cases of enteroptosis and had great faith in their efficacy.

Edebohls and Lewis, however, believe that the bandage is palliative at best, and neither believes the results obtained thereby are comparable to the results of operation.

Ewald and Kuttner use the bandage and pad constantly in movable kidney; Morris, on the other hand, believes that belts and bandages are only of value in general enteroptosis, while in cases of markedly movable kidney they increase the pain and otherwise do harm if not most carefully applied.

Riegel believes in bandages, although he thinks no one form of binder or bandage fits all cases. Occasionally he has found that a well-fitting rubber bandage will suffice, while in other cases especial apparatus must be constructed. In all cases of gastroptosis all pressure should be applied in the lower portion of the abdomen, and should act from below backward and upward. Riegel uses pads or bolsters wherever much pressure is brought to bear upon the stomach.

Landau, Bardenhauer and Rosenheim have each described useful forms of bandage.

Lincoln, Rose, and others, advise plaster applications in preference to bandages. In this the broader portions of the adhesive plaster are attached to the ventral surface and the narrow portions cross in the back, and by this means the binder remains fixed in one position and supports the lower portion of the abdomen.

In floating kidney the good results obtained in many cases by the use of the bandage are undoubtedly to be ascribed to the relief of the gastric and intestinal symptoms of the associated enteroptosis.

Riegel advises the straight front corset in some cases, while Edebohls and Einhorn oppose the use of kidney pads; in fact, Beyea insists they are not only useless but harmful. As to the proper form of bandage to be applied this differs in different cases, but the main point is to have one which encircles and sustains the lower two-thirds of the abdomen exerting its pressure backward and upward.

According to Einhorn, "the bandage is a very valuable resource if we expect no more from it than a relief of the symptoms which result from the abnormal mobility of the kidney and other prolapsed abdominal organs. If, however, we expect that this measure will at the same time remove all the existing disturbances we shall meet everywhere with disappointment."

In displacement of the liver Quincke and Hoppe-Seyler advise the use of an elastic abdominal bandage, while in displacement of the spleen success may occasionally follow the use of a properly adapted belt and a pad under the left costal margin.

Various forms of truss, pneumatic pads, and pads of other kinds have been recommended by different clinicians.

The storm center of enteroptosis is in connection with the advisability or nonadvisability of operation or surgical interference.

In descensus of the stomach and intestines much less surgical work has been done than in the descensus of other viscera.

Lambotte operated on 4 patients, each of whom had the usual symptoms of enteroptosis associated with attacks of intestinal colic. The patient was made to lie upon the back until after the abdomen was opened and the position of the intestines noted. The colon was then attached by suture at both splenic and hepatic flexures to the abdominal wall and the abdomen closed; the patient was kept on her back for 2 weeks, the sutures being removed about the eighth or tenth day. His 4 operations were performed from 2 to 4 years ago and all the patients are perfectly well.

Blecher and Bier operate as follows: Three or four sutures are passed just below the liver through the gastrohepatic ligament in such a manner as to produce folding with consequent shortening of the ligament when they are drawn upon and tied, and by this shortening the displaced stomach is brought back into its normal position. The first suture is placed close to the duodenohepatic ligament and includes serous and muscular coats of the pylorus and the capsule of the liver, while the remaining sutures are inserted in the direction toward the cardia. In descent of the colon the mesocolon may be shortened in a similar manner. Blecher and Bier report 5 cases operated on in this way.

Coffey describes a method of suspending the stomach in a hammock made of the great omentum. The operation suggested is that of suspending the stomach by giving it additional support through the posterior attachment of of the mesocolon and the anterior attachment of the great omentum to the abdominal wall, and by this means, according to Coffey, the dilation of the stomach will be relieved and the transverse colon will be prevented from downward displacement. If the abdominal wall is much relaxed and the recti muscles markedly displaced the drawing together of these muscles, as recommended by Webster, is advisable.

The stitching of the stomach to the diaphragm, as

performed by Beyea, is much too drastic a measure. In cases of marked dilation of the stomach gastroplication and gastroenterostomy may be necessary, while in those cases in which the stomach is dislocated by peritoneal adhesions or by scar tissue, surgical measures will often bring about a cure.

The surgical treatment of floating kidney is now devoted entirely either to suspension or fixation of the kidney by various methods. Nevertheless in the earlier days of the recognition of this condition nephrectomy was performed as originally recommended by Keppler. Broudeur reported 36 cases treated by this method with 8 deaths; Martin, 7 cases, with 3 deaths; de Jonge, 15 cases, with 7 deaths, and Hager, 1 case, with 1 death. In other words, out of 59 cases in which nephrectomy was performed for displaced kidney there were 19 deaths—a truly appalling percentage.

As Landau has said, "there is no more reason for extirpating a kidney because it is displaced than for amputating the leg because of a varicose ulcer;" and now various methods of nephropexy and nephrorrhaphy are exclusively used by surgeons in the treatment of this condition.

Fixation or suspension of the kidney was advised first in 1881 by Hahn. In his first series of cases he sutured the fatty capsule alone. Most of these relapsed. He next included both fatty and fibrous capsule in his stitches, and of 27 cases so treated 15 were cured, 4 were improved, 7 relapsed, 1 died.

Riedel, Tuffier, and Guyon stripped parts of the fibrous capsule after the removal of the fatty capsule, while most recent writers advocate suture of the parenchyma in addition to a free dissection of the fibrous and fatty capsule.

Jaboulay and Biondi avoided sutures and suspended the kidney by iodoform gauze packing, so that the organ becomes firmly fastened by granulation tissue, after which the gauze is removed, while Senn uses a slight modification of this method, passing one loop of the gauze packing around the lower pole of the kidney to insure its retention high up in the wound.

Beyea uses the operation first planned and practised by Dr. Penrose, of Philadelphia, the principal of which is the delivery of the kidney and the perforation of a point in its hilum, and the perirenal fascia by rubber drainage-tubes, the replacement of the organ, and the removal of the drainage-tubes in three weeks, when two connective tissue cords are formed to support the kidney.

Robert Morris fixes displaced kidneys by drawing a flap of capsule through a slit in the psoas or quadratus muscle, thus bringing the parenchyma in contact with the psoas or quadratus fascia, where it forms a firm connective-tissue attachment.

Andrews uses a reefing operation where the pressure on the fatty capsule, which is drawn through the incision is the important factor in keeping the kidney in position. As to the success of these various methods some figures may be of interest.

Frank reports 39 cases with 21 cures, none improved, 18 relapses, no deaths.
Keen reports 59 cases, with 39 cures, none improved, 20 relapses, no deaths.
Sulzer reports 93 cases, with 52 cures, 10 improved, 28 relapses, 3 deaths.
Devoie reports 215 cases, with 135 cures, 30 improved, 45 relapses, 5 deaths.
Biondi reports 13 cases, all either cured or improved.
Beyea reports 8 cases, with 8 cured.

As to the success of the various operations the following figures may be given:

Suture of fatty capsule, 4 cured, 3 improved, 7 relapsed or failed, none died.
Suture of fibrous capsule, 10 cured, 3 improved, 9 relapsed or failed, 2 died.
Suture of parenchyma, 75 cured, 14 improved, 19 relapsed or failed, 2 died.
Suture of parenchyma and capsule stripped, 9 cured, none improved, 1 relapsed or failed, 1 died.
Special methods, 37 cured, 10 improved, 9 relapsed or failed, 1 died.

Wehrmann believes that it is better not to stitch the kidney in as high a position as possible because the liver may again press upon the upper pole and cause a recurrence of the condition, while Harris also believes that the tendency has been to fix the kidney too high up.

Mallett calls attention to the fact that great care must be taken that the kidney is not fixed in malposition, and he reports four cases in which the function of the ureter and bloodvessels was interfered with by a wrong method of fixation.

Kelly in performing this operation always uses the Brödel stitch in suturing the parenchyma to the muscle as it has been shown experimentally that this stitch is capable of supporting from 2½ to 3 times as much as the ordinary stitch.

Of course, as we have said before in those cases in which the symptoms are referable to the kidney alone real success may be expected from operative procedures, and numberless cases have been reported of Dietl's crises, intermittent hydronephrosis, symptoms suggestive of renal or hepatic colic, etc., in which a complete cure has been brought about by fixation of the kidney, but in cases in which the symptoms are not directly referable to the displaced kidney and in which a general enteroptosis exists it is far from advisable to perform the operation as a routine procedure, and, of course, in those cases in which the displaced organ gives no symptoms operative treatment should not be thought of.

Stiller states that with the exception of those rare cases where periodic torsion of the ureters and the renal vessels lead to severe and dangerous attacks of hydronephrosis and stasis or where a displaced kidney causes symptoms of severe pressure upon other organs, displaced kidney is a medical and not a surgical disease. Perhaps this view is somewhat too radical, and the following conclusions, which Henry Morris gives, present a fair idea of the conservative treatment of this condition.

1. When movable kidney is associated with enteroptosis, no operation should be performed on the kidney unless it is evident that the more serious symptoms are due to the mobile kidney alone, and not until after the trial of a well-fitting abdominal support and the careful dietetic and medicinal treatment of the gastric and intestinal disorders. Should these means fail and the kidney evidently be most at fault, nephropexy, followed by the wearing of an abdominal belt, should be tried.

2. When a movable kidney is complicated by a movable liver, or when both kidneys move, the same rule should be followed as in general enteroptosis; in the case of both kidneys moving (when both organs have been giving trouble) they should be fixed one after the other at an interval of a week, so that convalescence from both operations may be taking place simultaneously. I have, in several instances, thus operated upon both organs with the most satisfactory results.

3. When the movable kidney occurs in an hysteric or neurasthenic patient, all palliative means should be tried before resorting to an operation, and the patient's friends should be informed of the uncertainty of the result from operation. The statistics show that a cure may be hoped for by nephropexy in about half of these cases.

4. For uncomplicated movable or floating kidney, in which the principal symptoms are pain and gastrointestinal troubles, the operation may be confidently advised and carried out without any previous trial of belts or of rest.

5. When renal crises are a feature of the case, nephropexy ought to be strongly urged because of the impossibility of keeping the kidney in its proper place by a belt, and because of the constant risk of hydronephrosis and recurring pain, even if the renal crises can be kept under control.

6. When a movable kidney gives rise to no inconvenience, an operation ought not to be thought of and a belt need not be worn.

As to the surgical treatment of floating liver, various operations have been devised and performed. Some have shortened the stretched abdominal wall by excising a wedge-shaped piece in the region of the linea alba and sewing the abdominal walls together.

Kispert proposed fixation of the liver by stitching, and tried it several times; Billroth, Tscerning, Marchant, and Richelot have sutured the liver to the abdominal walls, while Langenbuch has selected the lower

costal cartilages as the line of fixation. It has been suggested that the production of adhesions between the convexity of the liver and the dome of the diaphragm by irritation of their surfaces might be of value and also that the liver might be held in position by suturing the fundus of the gallbladder to the parietal peritoneum. Here, as in all other cases of enteroptosis, however, in the great majority of cases the surgical fixation of one organ plays but a small part in the cure of the symptoms which are due to the displacement of many viscera, and it is only in those cases in which all or practically all the symptoms are referable to one displaced organ that surgical interference can be tried with any confidence of success.

Beyea, however, who is a firm believer in the surgical treatment of enteroptosis, believes that the treatment of the future is nephropexy followed by the operative shortening of the gastrohepatic omentum and the gastrophrenic ligament.

In the majority of cases movable spleen requires no special treatment, but in those cases in which the organ is so much displaced that it may lead to pressure upon other organs or to marked torsion of its pedicle and symptoms of stasis, surgical treatment may be necessary. Removal of the displaced organ has been performed in several cases successfully, while in 2 patients operated upon by Halsted in whom the spleen was replaced and packed with gauze, in each the organ was found to be in perfect condition 18 months after the operation.

As regards prognosis we should be always extremely guarded in regard to what we tell the patient. In the young or in those in whom the symptoms are almost exclusively referable to one displaced organ we may look for real success from our treatment whether it is medical or surgical as the case may require, but in the majority of cases seen in adult life when the organs show considerable displacement and when the symptoms are marked and varied, while in many cases the condition may be markedly relieved and in a few all the symptoms may be gotten rid of, yet there will always remain a large number in whom treatment of any kind, medical or surgical, will be productive of no good result, and we should always remember such possibilities in giving our prognosis.

GENERAL CONCLUSIONS.

We have tried to give as complete a review as possible of the various views held in regard to enteroptosis —its etiology, its symptomatology, its prophylaxis and treatment. What general conclusions can we draw from the very diversified and very divergent views held regarding all the divisions of the subject? In the first place it seems to us that it is impossible to escape from the belief that in the great majority of cases there is an underlying cause to be found in a characteristic body form, that is, there is a congenital weakness or fragility of tissues which predisposes this condition; in the second place that in many cases, probably the majority, various accessory factors tend to bring about a marked displacement of the abdominal organs in those so predisposed, and of these factors most act either by increasing the pressure from above upon the abdominal viscera, as by the use of corsets, belts, etc., or by decreasing the pressure from below upward, as after severe illnesses, pregnancy, marked loss of weight and strength, etc., while in only a comparatively small proportion of the cases does injury or violent trauma form a part.

As to the symptomatology the undoubted tendency has been to ascribe far too many symptoms to the displacement of certain organs, notably the kidneys and the liver and far too few symptoms to other viscera, especially the stomach and intestines. The condition of the stomach and intestines should be carefully investigated in every case of displacement of any of the abdominal viscera and the treatment should be as carefully directed against the former as against the latter.

As to the proper treatment to be employed far too much reliance has been placed undoubtedly by some on surgical interference.

We should recognize that we are treating in the great majority of cases a displacement of several of the abdominal viscera, and surgical interference is only justifiable when the symptoms are referable to *an especial displaced* organ or when dietetic, medicinal, and mechanical treatment have been tried without success. Thus the general practitioner and pediatrist should recognize the frequency of this condition and should attempt by all means at his command to minimize its evil manifestations in those congenitally predisposed to this condition. The surgeon should realize that the condition is in the majority of cases a medical, not a surgical disorder, and that the stitching up of the kidney is a most irrational means of treating general displacement of the abdominal viscera and that he is frequently operating upon the kidney because of symptoms which are entirely referable to the displacement of the stomach and intestines.

The gynecologist should realize that in many cases a retroflexed uterus is but part of a general enteroptosis, and it is as irrational to expect a relief of symptoms by the suspension of this organ as by the suspension of the kidney.

In fine, we should all remember that the condition is a general displacement to a greater or less degree of several or all of the abdominal viscera, that various factors may bring it about in those predisposed, and that by care and watchfulness we may often do by prophylaxis in the young what treatment, neither medical nor surgical, can do in those in whom the condition has become pronounced.

THE MATAS TREATMENT OF ANEURYSMS, WITH REPORT OF A CASE.[1]

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The history of aneurysm and its treatment is one so replete with dismal pictures of failure and disaster that it is with more than a little apprehension that we welcome any method of treatment that promises a more encouraging outlook to the possessors of this affection. Aneurysm has always been justly regarded as a very serious condition, and before the fourth century its victims were left to their fate, no treatment being considered justifiable. From the fourth to the eighteenth century if any progress or improvement was made the record thereof has been destroyed or lies unread among some dusty archives. During the eighteenth century the first change since Antyllus was made by Anel ligating the vessel close above the sac. Hunter and Brasdor, each describing a distinct method familiar to all, followed later in the same century, and Wardrop, modifying the procedure of Brasdor, performed the operation that bears his name in 1825. The results obtained in following any of the methods mentioned were very frequently not the results aimed at, and the statistics of operators in the preantiseptic era presented such a discouraging prospect that it is no wonder that the great number of means and devices for applying compression were evolved and that patients were subjected to one or more of these before resort to the knife and ligature was considered justifiable. In the report of cases of traumatic aneurysms tabulated in the "Medical and Surgical History of the War of the Rebellion" there were 74 cases; of these 23 patients recovered and 51 died, a mortality of 68%. No mention is made of the failures and the possible few who survived amputation. Of the 74 cases 42 patients were treated by ligature with 29 deaths and 32 by other means with 22 deaths. As might naturally be inferred, a great

[1] Read before the Kentucky State Medical Society April 23, 1903.

improvement in the mortality of operative cases has been wrought since the advent of aseptic surgery (or I might have said, the aseptic ligature), and the specters hemorrhage, rupture, gangrene, embolism, pneumonia, and sepsis that once hovered so close to the bedside of the patient are now reduced in numbers and kept at greater distance. But even so recent statistics, while showing that the mortality has been brought within reasonable limits, show also a discouraging number of failures, 8% to 20%, and that in this respect at least there is still much to be desired from the means heretofore employed. Such a large percentage of failures makes us rightly guarded in prognosis and justifies us in attempting any method that is based on sound pathologic principles and a thorough understanding of the reparative process. Such a method is that proposed and carried out by Matas, of New Orleans. The method in its technical details is briefly described as follows:

Control circulation by compression on the proximal side of the tumor. Incise the sac longitudinally its entire length, avoiding dissection of the sac more than is necessary to expose and protect important overlying structures. Evacuate the blood and clots and examine carefully for openings of the vessels. There are two large openings in a fusiform, and one in a sacculated aneurysm. Look closely for mouths of collateral vessels, and close these at once by suture if there is hemorrhage. Scrub the interior of cavity gently with gauze soaked in sterile saline solution, close all visible openings of the sac by sutures with chromicized catgut on round full curved needles. The continued suture, as a rule, will do well in all cases. Eight or ten sutures to the inch are more than sufficient. In dealing with the larger openings the needle should penetrate ¼ inch or ½ inch beyond the margin of the orifice, and then after reappearing at the margin dip again into the floor of the artery and continue to the opposite margin as in the start. It is frequently advantageous to continue the line of suture from one orifice to the other; these sutures include the floor of the sac and are applied on the Lembert plan. The constrictor should now be removed, any oozing will usually be stopped by pressure, and the subsequent part of operation. A second row of Lembert sutures over the first is sometimes useful when the sac is very large. The skin flaps lined on their inner surface with smooth sac wall, can, as a rule, be made to touch the bottom of the cavity by one or two relaxation sutures on each side. The sutures are best applied with a large-size full-curve intestinal needle, which is made to grasp a considerable portion of the sac wall in its bight. The needle should penetrate the entire thickness of the sac. The ends of the loop thus formed are carried through the skin flaps by transfixion with a Reverdin needle and tied firmly over a loose pad of gauze. A few sutures through the skin complete the operation.

Such is the method of procedure in aneurysm of the fusiform type and those cases of traumatic aneurysm in which the communication between the sac and the vessel is by two openings separated to a greater or less extent. The operation has been further modified to restore the continuity of the artery in sacculated aneurysms where there is but a single opening of the vessel into the sac, and it has been proposed to bridge over the space between the two orifices in fusiform aneurysms, but of this modification of the operation I shall speak later. The case I have to report is one of a large diffuse aneurysm of the femoral artery of traumatic origin.

E. C., aged 35, is a short, muscular and well-nourished negro. He was admitted to St. Joseph's Hospital February 18, 1903, and gave the following history: While moving some household effects in September, 1902, a mattress fell from the wagon. He was thrown on the mattress and a wheel of the wagon passed over his thigh. Shortly after the accident he noticed a small lump, the size of a walnut, on the inner side of his thigh at the point of injury. The knot was painful but did not prevent the patient's working. It grew slowly, and a month ago was about the size of a goose egg. From this time on the growth was very rapid, increasing to its present dimensions. The increase in pain was correlative with its growth, rendering the patient unable to work at his occupation of laborer.

The present condition shows an otherwise healthy negro, presenting on the inner side of his right thigh a mass corresponding about to the middle two-fourths of the femur and about the size of a large cocoanut. The mass is firm, clearly circumscribed, and not perceptibly expansile, though pulsations in it can be made out. Pressure on the surface produces pitting, and the skin over the most prominent part is thin and blackened from stretching. A distinct bruit is heard over the tumor. Fluctuation is indefinite. There is some edema of the leg and foot, and pulsation of the dorsalis pedis artery is markedly weaker than on the opposite side. Pain over the tumor is intense, and the whole leg is painful. The pain is worse at night. The temperature is normal and pulse 110 to 120, and irregular. On account of the position of the original lump (over the femoral artery) more than anything else, together with the history of the increase in size, a diagnosis of probable aneurysm was made, though at the operation I was prepared to amputate should the tumor prove malignant. On February 23, under ether anesthesia, the circulation of the limb being completely controlled by an elastic tourniquet, a vertical incision seven to eight inches long was made over the prominence of the mass, and an aneurysmal sac was entered. The clots and some fluid blood were turned out; the contents measured at least a quart. On inspection of the cavity that had been filled by the clots, it was seen that over its most superficial part the intima was not complete, either it had been torn away in detaching the adherent laminated clot or the growth of the tumor had been so rapid that the wall of the cavity had not had time to assume an endothelial character. The openings of the femoral artery were seen in the bottom of the sac, separated by nearly an inch. The sac was washed out with normal saline solution, and the surface of the sac rubbed quite vigorously with gauze sponges. The openings of the artery were closed by sutures, No. 2 chromicized gut being used, the technic of the operation as advised by Matas carried out fully, folding a second layer of aneurysmal intima over the first. This reduced the size of the sac more than I could have believed possible. The tourniquet was now released, there was absolutely no bleeding from the sac and but little oozing from the cut edges superficial thereto. The floor of the sac was now brought into apposition by retention sutures, two on each side, and the skin wound closed by a continuous catgut suture. The operation took 45 minutes. The patient left the table in good condition, and was put to bed with an elastic tourniquet thrown loosely around his thigh above the wound.

The patient ran a little temperature, the highest, 100.4°, for three days, when it fell to normal and remained there. Relief from pain was prompt and continuous, circulation in the leg was good, but slight stinging was complained of for several days. Wound was dressed first on March 1. About two drams of bloody serum escaped from the lower end of incision, there was also some infection about the skin sutures. The wound continued to discharge a little seropurulent fluid from the lower angle for several weeks, when it finally ceased altogether. The patient was allowed to get up after three weeks, and after another week was assisting the orderly in his work about the ward. When I saw him last, on April 2, the wound was completely healed, a hard painless disc occupying part of the space that was formerly occupied by the tumor. The infection in this case came, I believe, from the skin which was tense and inflammatory over the prominence of the mass, and from each stitchhole at the time of the first dressing there exuded a drop of pus.

A single case, such as the one just described, can demonstrate but little, and yet in such a case if the patient was treated by any method that effects a cure by clot formation, months probably would lapse before the limb would be restored to usefulness. If treated by either of the open operations, that of Antyllus, an open wound would be left; if the sac were excised the operation would have been much more difficult and dangerous, and removal of the entire sac would have been almost impossible. So from the simplicity and ease of execution, and from the prospects of an immediate and radical cure, for aneurysms of this class at least, this operation should be one of choice.

Another thing demonstrated by the case reported is that the presence of a mild grade of infection is not necessarily fatal to the success of the operation, though it may and does delay the same.

In addition to the diminished danger of gangrene from not interfering with the collateral circulation, which as the author of the operation states is most free in the immediate vicinity of the sac, the operation presents another advantage in that it preserves every available inch of the artery that is capable of aiding in restoring the circulation in the part beyond.

The operation as modified to restore the continuity of the vessel in sacculated aneurysms by bringing the serous intima lining the opening of the vessel into the sac, in apposition by means of Lembert sutures is, it seems to me upon theoretic grounds, defective, and the same statement is doubly true when applied to the operation proposed for bridging over the gap between the orifices in a fusiform aneurysm by using the sac wall for that purpose.

Future investigation will be required to demonstrate

whether or no a complete restitution of the integrity of the media can take the place, such as occurs after enterotomy repaired by the Lembert suture. This would seem improbable, to say the least, because the parts of the serous intima apposed at the time of operation are not analogous to nor are they exposed to the same conditions as the corresponding parts in intestinal suture. The conditions necessary for sloughing, absorption and regeneration being absent, the parts between the sutures and adjacent thereto will undergo fibrous change and remain as an impenetrable barrier to perfect union of the muscular coat of the vessel. And so in any case treated by this method, for such an interval as exists between the proximal and distal openings of the vessel, if a fusiform aneurysm, and for a shorter distance, if a sacculated aneurysm, there will be a vessel whose walls are histologically defective, and unless the mass of fibrous tissue between the two layers of muscular tissue is sufficiently large and strong to compensate for the lack of media, recurrence of the condition previously existent would seem most probable.

THE MEDICAL TREATMENT OF DYSMENORRHEA.*

BY

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The satisfactory treatment of dysmenorrhea is certain to add materially to the success of the medical practitioner, as few women entirely escape from pain during the menstrual epoch. From the very nature of these cases their proper management is a matter of considerable difficulty.

In order to treat rationally a patient for dysmenorrhea, the cause should be first ascertained; but there is a large class of cases in which the causative pathologic condition cannot be definitely determined. In these cases dysmenorrhea may be said to be something more than a mere symptom, it conforms more closely to the type of pure neurosis. In such patients repeated careful physical examinations of the pelvic organs, even under anesthesia, fail to show any abnormalities. It is obvious that local treatment, such as is indicated in the congestive variety of dysmenorrhea, is practically useless in this class of cases; the treatment must of necessity be symptomatic.

The treatment of dysmenorrhea may be divided into (1) the prevention of the attack, (2) the treatment of the attack, and (3) the treatment between attacks.

1. The prevention of the attack. In the cases depending alone upon a congestion of the pelvic viscera, pain can be frequently prevented by free saline purgation the day of, or the day previous, to the appearance of the flow, especially when obstinate constipation is present.

There is one drug of value in the prevention of dysmenorrhea to which I desire to call especial attention, viz., the tincture of gelsemium. This is indicated in patients in whom a physical pelvic examination fails to find a demonstrable pathologic lesion. Many of these girls belong to the working class, and it is imperative that they should be at their post of duty. In this type of dysmenorrhea 10 drops of the tincture should be taken 3 times daily, begun each month, 7 to 10 days previous to the beginning of the flow. In a large proportion this plan of treatment will afford absolute or marked relief. During the past 6 years I recall 2 patients in whom there has been no return of the dysmenorrhea after taking the gelsemium 2 months in succession. In one case no return after taking it but one period. In one case only was an idiosyncrasy observed, stupor and vertigo being the symptoms noted. Apiol, cimicifuga and potassium permanganate are also worthy of trial for preventing dysmenorrhea; each is to be begun 7 to 10 days previous to the expected date of the flow.

2. The treatment of the attack. All cases are benefited by rest during the period, in bed if necessary. Hot vaginal or rectal douches, and a hot water bag over the abdomen afford a certain degree of relief.

The fixed violent boring pains due to small intramural myomas may be controlled by suppositories, belladonna, hyoscyamin or antipyrin.

When the pain is of a neuralgic character, phenacetin, antipyrin, gelsemium, cannabis indica, the bromids, caffein, sodium benzoate, and viburnum prunifolium alone or in suitable combinations are indicated. Diaphoresis should be encouraged.

When congestive, with or without malpositions of the uterus, and in all conditions that occasion a hyperemia of the uterus and its ligaments, warm clothing, especially over the abdomen, and hot sitzbaths should be ordered, free purgation with salines, and local depletion of the bloodvessels by copious hot vaginal douches in the recumbent posture. The medicinal treatment is the same as for the neuralgic and as detailed below.

When inflammatory, with endometritis, metritis, parametritis, and perimetritis the treatment of the attack is the same as for the congestive variety.

In addition to the drugs mentioned the tincture of piscidia erythrina may be used to advantage, also the tincture of hydrastis, 5 drops every 2 hours.

Antipyrin is preferable to the other coaltar products, such as acetanilid, because it does not produce the changes in the blood that follow the administration of acetanilid. Harrison[1] claims wonderful results from antipyrin administered hypodermically, in very severe cases using as much as 15 grains at a dose, which is not to be repeated.

Opium should be employed only as a *dernier ressort.* Its routine treatment, frequently in the form of chlorodyn, must be severely condemned. Alcohol is frequently of marked value, but is to be used with discretion, as a series of cases of chronic alcoholism have been reported, due to the routine administration of whisky for dysmenorrhea.

Large hot flaxseed poultices, sprinkled with a dessertspoonful of laudanum, may be applied to the abdomen every two hours. A liniment[2] composed of the fluid extracts of belladonna and hyoscyamus, of each 1 dram, and camphor liniment q.s. 3 ounces applied to the abdomen frequently affords relief. An emema[3] of 2 drams of the infusion of valerian to 1 pint of water may prove of value.

If the flow is not abundant, and difficult, hot sitzbaths[4] to which mustard has been added are useful; or mustard may be applied to the anterior abdominal wall in addition to the above medicinal treatment.

When the dysmenorrhea is due to a vasomotor spasm, nitroglycerin, gr. $\frac{1}{100}$, repeated in an hour if necessary, will usually afford immediate relief. This drug is useless if employed other than is here indicated.

Herman[5] has observed that guaiacum has afforded relief in some cases of dysmenorrhea; he does not know how it acts, or how to pick out the cases in which it cures.

Five years ago Fliess[6] published a monograph on the connection between nasal and menstrual conditions, the main thesis being that in the nose there are 2 "genital spots," one the tuberculum septi and the other on the inferior turbinated, which in many women show congestion and sensitiveness during menstruation. In some cases of severe dysmenorrhea Fliess found he was able to control the pain by applications of cocain to these "spots," and more rarely he permanently cured the menstrual difficulty by cauterization of the same region. The idea of relationship between the upper respiratory tract and the genital organs in woman is much older than the contribution by Fliess. Since the publication by Fliess of his findings the subject has been dis-

* Read before the North Branch of the Philadelphia County Medical Society, May 11, 1903. Part of a symposium on dysmenorrhea.

cussed at length in some continental medical societies and has been reported on by a number of clinicians, all of whom seem to find a certain percentage of cases amenable to this treatment. Schiff found cocain effective in 35 out of 41 cases, and concluded that it was of service in those cases in which the pain persists after the flow is well established. Koblanck, Ruge, Knorr, and Krönig have all reported series of cases favorably affected. More lately Ephraim has been successful in arresting the pain of intense dysmenorrhea in 18 out of 24 cases treated by cocain. In Amann's clinic Linder has been studying this subject for the past 2 years on a series of 30 cases. The relief from pain has been so marked that some of the patients have returned to have other painful disorders treated. The influence of suggestion in rendering this treatment effective has been discussed time and time again, and proves a difficult question to decide. Schiff carefully undertook to rule out this factor and found that applications of water were ineffective. Linder reports a special series of 16 cases, selected with great care in order to test more exactly this nasal therapy. In 10 of these cocain caused cessation of pain, sometimes lasting 24 hours. When the pain had returned Linder tried a second application, this time secretly substituting plain water for the cocain solution. Two of the 10 were again favorably affected. Repetition of the cocain treatment then proved effective in all cases. Linder is forced to think that in some instances suggestion is the strongest factor in the result, although it must be remembered that even water causes physiologic effect on the nasal mucous membrane. For him the question of a nasal dysmenorrhea remains in suspensio, but the striking number of cases which are relieved by nasal therapy, which is harmless whether or not it involves suggestion, recommends a method which ought to be equally welcome to physician and patient for the treatment of such an obstinate disorder. The cocain is applied on a pledget of cotton through a speculum, using 2 or 3 drops of a 10% to 20% solution, and is carefully limited to the "genital spots," so that there is no danger of intoxication. To be effective it may have to be repeated in 15 minutes. The cessation of pain even if for only over night, is extremely grateful to the patient. Cauterization, in the experience of several men, permanently cures far fewer cases of dysmenorrhea than cocain relieves.

When the ordinary methods employed to relieve dysmenorrhea prove unavailing and a careful physical examination shows a normal condition of the pelvic viscera, and the pain is localized in the lower right quadrant of the abdomen, similar to that of appendicitis, one must bear in mind the probability of an associated appendiceal condition, not a true appendicitis, but an appendiceal colic, caused no doubt by the pelvic congestion which always accompanies each menstruation. These patients are relieved only by removing the vermiform appendix. McLaren [7] reports 4 cases illustrative of this condition, and concludes that "in a patient where it is necessary to prescribe morphin regularly for the menstrual pain, and one whom local treatment will not relieve, and especially in one who has already been operated upon without relief, that an exploratory abdominal section done with every precaution, is justifiable." Several years ago I had the opportunity of assisting Dr. Wilmer Krusen in an operation upon a married woman in whom this menstrual appendiceal colic was the prevailing symptom, and who was cured by the removal of the vermiform appendix.

3. Treatment between the attacks. The general health should be promoted by tonics, proper exercise, baths, suitably adjusted clothing, and attention to the bowels. When a lack of tone of the uterine muscles exists strychnin sulf. gr. $\frac{1}{32}$ t. i. d. or tincture of hydrastis t. i. d. may be given in the free interval.

Pelvic congestion should be depleted by local treatment, by the use of the tampon, antiseptic and astringent applications, vaginal douching, high rectal injections, pelvic massage, local bloodletting, atmocausis and the pessary.

Lycette, of Wolverhampton, considers that in the absence of local cause it is important to investigate the past and family history of the patient.

In the rheumatic diathesis he has found the administration of black cohosh and allied remedies advantageous.

Intrauterine medication is not to be recommended, excepting for membranous dysmenorrhea, and should consist of the local applications of iodin and carbolic acid and the like, in addition to the internal administration of iodid of potassium or arsenic.

Electricity has its advocates and opponents.

In all cases in which there is a demonstrable pelvic lesion, medical treatment is only palliative; surgical measures are necessary to effect a cure.

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[4] Journal of the American Medical Association, Vol. xxxvi, p. 338.
[5] British Medical Journal, May 17, 1902.
[6] Editorial, Journal of the American Medical Association, Vol. xxxix, p. 776.
[7] American Gynecological and Obstretical Journal, July, 1900.

THE WORLD'S LATEST LITERATURE

Journal of the American Medical Association.

August 22, 1903. [Vol. xli, No. 8.]

1. The Apparent Immunizing Value of Attenuated Tubercle Bacilli. E. A. de Schweinitz.
2. New Physiologic Apparatus: The Frogboard Myograph and the Manometer Tambour. Winfield S. Hall.
3. Pathology and Clinical History of Amebic Dysentery. H. F. Harris.
4. A Study of the Cases of Amebic Dysentery Occurring at the Johns Hopkins Hospital. Thomas B. Futcher.
5. The Treatment of Acute Dysentery. J. M. Anders.
6. Recent Investigations Bearing on Infectious Diseases of Unknown Etiology. Ludvig Hektoen. (Concluded from p. 409.)
7. Trigeminal Neuralgia Treated by Intraneural Injections of Osmic Acid. John B. Murphy.

1.—Immunizing Value of Attenuated Tubercle Bacilli.—E. A. de Schweinitz refers to the previous publications by himself and others showing that it is possible to produce tuberculosis in cattle from bacilli from human sputum and intestinal lesions in children. Considering numerous cases of accidental infection with bovine tuberculosis, and also that monkeys, which are more closely allied to man than to other animals, are more readily infected with bovine than with human tuberculosis, the possibility of the intercommunicability of bovine and human tuberculosis has been well established. In 1894 he published a report of experiments showing that guineapigs were rendered immune to bovine material by large doses of attenuated human bacilli which had lost their power of producing disease. Experiments on cattle and other animals were made, and some of these are presented for the first time in this paper. These, together with the guineapig tests, by showing that it is possible to vaccinate against bovine tuberculosis with human bacilli, make it evident that the bacilli are not really different. The ease with which both may be attenuated and the ease with which the avian may be converted into those of a mammalian character also go to prove the intimate relationship of bacilli from various sources. [H.M.]

2.—See *American Medicine*, Vol. V, No. 21, p. 822.

3.—See *American Medicine*, Vol. V, No. 20, p. 771.

4.—See *American Medicine*, Vol. V, No. 20, p. 771.

5.—See *American Medicine*, Vol. V, No. 20, p. 770.

6.—Infectious Diseases of Unknown Etiology.—L. Hektoen reaches the following conclusions as a result of his studies: Clinical and experimental observations furnish strong evidence and in some cases absolute proof that certain transmissible human and animal diseases of unknown etiology are not toxic, but infectious. In the case of human diseases of this group knowledge is farthest advanced in regard to those communicable to animals—hydrophobia, vaccinia, and smallpox. The etiology of other strictly human diseases, as syphilis, measles,

scarlet fever, chicken-pox, typhus fever, remains unknown. The virus of many transmissible animal diseases (foot-and-mouth disease, peripneumonia, rinderpest, sheep-pox, chicken typhus, horse-sickness, epithelioma contagiosum of fowls) passes through various filters ordinarily regarded as impermeable to the smallest known bacteria, the filtrates being virulent, though giving no sign of containing visible corpuscular elements. There is much in favor of the view that these viruses (uncultivatable except in the case of peripneumonia) are invisible because ultramicroscopic in size. Further progress in this field may be expected from methods recently introduced by physicists in order to furnish ocular demonstration of the existence of particles too small to be seen directly. [H.M.]

7.—Trigeminal Neuralgia Treated by Osmic Acid.—J. B. Murphy reports a long-standing case in which operation, etc., had failed, relieved by intraneural injections made according to Bennett's technic. The *modus operandi* is not definitely understood. The acid may produce a degeneration on the proximal side toward the ganglion, or may cause local destruction of the nerve and its terminal filaments. The former seems more likely, as the pain does not usually subside completely for a week or 10 days after operation. [H.M.]

Boston Medical and Surgical Journal.

August 20, 1903. [Vol. CXLIX, No. 8.]

1. The Surgical Treatment of Gastric Ulcer. JOHN C. MUNRO.
2. The Medical Treatment of Gastric Ulcer. HUBERT G. WILBUR.

1.—Surgical Treatment of Gastric Ulcer.—J. C. Munro, in speaking to general physicians, pleads for the more intimate association of the internist and the surgeon in the study of gastric ulcer, and predicts that within 5 years his statements that are now considered by general physicians as being too radical will be thought mild and conservative. He states that of 100 consecutive laparotomies made by him for various conditions, more than 60% were made too late, from the surgeon's view. The majority of cases of gastric ulcer are medical, theoretically, from first to last. A careful study is needed to determine which are surgical. The internist should stand by the surgeon and see living dissection, as well as postmortem, for his pathologic knowledge. Diagnoses by chemic analyses are considered less reliable than those made by clinical data. [A.G.E.]

2.—Medical Treatment of Gastric Ulcer.—H. G. Wilbur discusses prophylaxis and advises rest in bed with rectal feeding. This is described in detail together with a gradual return to feeding by mouth with treatment for the anemia, etc. [H.M.]

Medical Record.

August 22, 1903. [Vol. 64, No. 8.]

1. Case of Splenomedullary Leukemia Successfully Treated by the Use of the Röntgen Ray. NICHOLAS SENN.
2. The Management of Cases of Pulmonary Tuberculosis in the Dispensary. JAMES ALEXANDER MILLER.
3. Secret Poisons and Their Uses in Ancient Times. J. W. WAINWRIGHT.
4. Purpura Hæmorrhagica Fulminans, with Report of a Case. HENRY GRAHAM MCADAM.
5. A Study of a Scarlet Fever Epidemic. ALFRED C. HAVEN.
6. A Preliminary Report on Some Experiments with the McGraw Elastic Ligature. M. S. KAKELS.
7. Poisoning with a Small Dose of Quinin. M. GOLTMAN.
8. Strangulated Oblique Inguinal Hernia in a Child 11 Days Old; Operation. J. HUTCHINGS WHITE.

1.—Splenomedullary Leukemia Treated by X-ray.—Recovery from splenomedullary leukemia under the influence of x-ray treatment is the case reported by N. Senn. The patient was a Jewess of 29, with a history of 14 months' illness that progressively became worse in spite of varied treatment. When seen by Senn, the patient's spleen reached nearly to the pubes, and 2 inches beyond the median line on a level with the umbilicus. Examination of the blood showed numerous eosinophiles and myelocytes and marked poikilocytosis. On February 3, x-ray treatment was begun, the spleen, lower end of the sternum, and epiphyseal extremities of the long bones being exposed to the action of the rays daily for from 10 to 20 minutes. On several occasions, treatment had to be suspended temporarily because of symptoms of intoxication. In three weeks the spleen began to decrease in size, and improvement in the blood was noted. These 2 changes kept pace with each other, and in the latter part of June the patient returned to her home in excellent health with the exception of being somewhat anemic. Senn says that this is the only case of leukemia that he has seen recover, and he attributes recovery entirely to the x-ray. His reasons for making the following statement are not clear. "There can be no longer any doubt in reference to the microbic origin of leukemia nor of the antimicrobic action of the Röntgen ray." [A.G.E.]

2.—Management of Pulmonary Tuberculosis in the Dispensary.—J. A. Miller describes the special care given to tuberculous patients in the Vanderbilt clinic, extending to regulation of the home surroundings. As the mass of the poor are dependent on the dispensary, the importance of making its treatment as effectual as possible is apparent. The patient should be given as favorable a prognosis as possible, but impressed with the seriousness of his condition and the danger of contagion. As much rest as possible should be insisted on, beginning, if possible, with 2 weeks in bed if there is fever. Changes to employments requiring little effort with much fresh air should be advised, such as that of watchman, transfer agent, etc. The patient should sleep alone, in the airiest and sunniest room in the house, using fire-escapes, etc., in the summer. The digestive system should be properly prepared before overfeeding is attempted. Patients unable to supply themselves with proper food are to report to the Society for the Prevention of Tuberculosis. Drugs are the least important element in the treatment. Cod-liver oil is used more as a food. Cathartics, etc., are given according to indications. Trained nurses are sent out to inspect the homes and advise as to prevention of infection, general hygiene, etc., and report to the hospital. The writer reports the results in 35 cases, with a large percentage showing improvement. [H.M.]

3.—Secret Poisons in Ancient Times.—J. W. Wainwright reviews allusions in Greek and Roman literature and in that of the sixteenth and seventeenth centuries to the use of secret poisons and quotes Shakespeare's references to the same. Both irritant and narcotic substances were used. Various guesses as to their nature are ventured but absolute knowledge is not accessible. Formulas when found were usually burned with the criminal. [H.M.]

4.—Purpura Hæmorrhagica Fulminans.—H. G. McAdam reviews the literature of this rare affection, which generally ends fatally, and reports the successful use of adrenalin chlorid internally and locally in a child of 5, pronounced moribund. [H.M.]

5.—A Scarlet Fever Epidemic.—A. C. Haven describes the serious epidemic in the sanitary locality of Lake Forest, Ill., which required such stringent regulations as closing all schools, forbidding all public gatherings, and all visiting. Children were not allowed on the streets and stray dogs and cats were shot on sight. Cases were strictly quarantined and houses thoroughly disinfected and yet after all this the epidemic persisted for 2 months longer, 6 in all. An unusual number of sore throats were noted early in the epidemic. Some could not be distinguished from ordinary tonsillitis. These were recognized as a manifestation of scarlet fever in immunes, and the cases were as dangerous to the community as any other. Unfortunately many of these never offered themselves for inspection but spread the disease broadcast. Another cause of extension was the exceeding wildness of many of the cases. A peculiarity was the unusual number of young adult cases. No age to 40 was exempt. The giant diplococcus was demonstrated in typical and obscure cases by class. The mortality was surprisingly small, only 2 deaths in 108 cases. [H.M.]

6.—The McGraw Elastic Ligature.—M. S. Kakels reports the results of experiments with this ligature in making anastomoses in dogs. Seven gastroenterostomies and 3 enteroenterostomies were made and the dogs killed at varying from 72 hours to 192 hours thereafter. Cutting through of the ligature had reached various stages, 3 gastroenterostomies showing only a beginning severance on the fifth day. This was believed to be due to a thin ligature and the relative thickness of a dog's stomach as compared with the human organ. Otherwise the results were eminently satisfactory. On general principles Kakels recommends a thick ligature and the inclusion of at

least 1½ inches of tissue in order to insure a free opening within 3 or 4 days. [A.G.E.]

7.—Poisoning with a Small Dose of Quinin.—M. Goltman reports a case in which the amount contained in a small laxative pill caused the eruption of large purplish wheals. When first seen the patient was swollen and unsightly, and said that in previous poisonings the wheals were converted into blisters, which became sore. By opening the bullas later at their lowest point the rawness was prevented. A paste of zinc oxid, starch, bismuth, carbolic acid, and lanolin was spread over the body, and strychnin and morphin given internally. The condition was doubtless a toxic angioneurosis. That the urticaria was not due to gastric irritation is evidenced by a similar attack having been brought on by quinin oleate having been rubbed into the skin on a previous occasion. [H.M.]

8.—Strangulated Hernia in an Infant.—J. H. White reports the radical operation for strangulated oblique inguinal hernia in a child of 11 days. The child's condition was critical for a few days, but complete recovery followed. This is believed to be the youngest herniotomy case recorded. In a case in England the patient was aged 16 days. [A.G.E.]

New York Medical Journal.

August 15, 1903. [Vol. LXXVIII, No. 7.]

1. The Significance of Jaundice as a Symptom in Disease of the Biliary Tracts. JOHN B. DEAVER.
2. Regicides: Sane and Insane. E. C. SPITZKA.
3. Phlegmasia Alba Dolens and Its Treatment. HERBERT MARION STOWE.
4. Chronic Gastritis: A Clinical Study of 600 Cases. G. W. MCCASKEY.
5. Double Extrauterine Pregnancy. SWITHIN CHANDLER.

1.—Jaundice in Biliary Diseases.—John B. Deaver discusses the more important conditions causing obstructive jaundice and emphasizes the following points: (1) Jaundice is absent in the majority of cases of gallstone disease; (2) the jaundice following acute gastrointestinal symptoms means a catarrhal condition of the ducts, and may be followed by suppurative cholangitis with its deep jaundice and well-marked symptoms; (3) that jaundice following chronic gastrointestinal symptoms is usually due to chronic pancreatitis with induration and enlargement of the head of the pancreas and with or without gallstones, and after excluding malignancy; (4) acute obstruction of the common duct by a stone furnishes characteristic symptoms easily diagnosticated; that chronic impaction is followed by the intermittent type of jaundice without enlargement of the gallbladder, or else by no jaundice whatever. Should the icterus become intense, the fever, sweating, and chills of suppurative cholangitis will denote infection. [C.A.O.]

3.—Phlegmasia Alba Dolens.—H. M. Stowe discusses this condition especially in connection with pregnancy or the puerperium. He says that the disease in the puerperal woman may arise from three causes: 1. Thrombophlebitis of the main or principal efferent vessels of an extremity having its origin in the placental sinuses. 2. Traumatism inflicted upon the pelvic veins and lymphatics, especially in difficult and tedious labors. 3. Infection from the entrance into the blood of bacteria or their toxins. The main factor in the etiology is thrombophlebitis. Prophylaxis is of the greatest importance in these cases. The treatment should be rest in bed with the affected limb or limbs slightly elevated and enveloped in a compress of gauze retained by a roller bandage. During the acute stage much relief can be obtained from hot compresses. For the pain morphin is at times indispensable. The bowels should be kept open by salines. Cardiac tonics are indicated for many patients. Ammonium carbonate in doses of 10 grains to 20 grains, 3 times a day, is reputed effectually to hasten the absorption of the exudate. Gentle massage, gradually increasing in vigor, is of benefit after the first week. Probably the best method of treating the subacute stage is by the use of hot dry air. Potassium iodid, or preferably mercury protiodid, is to be given for months. Calomel in small doses is also of advantage. [C.A.O.]

4.—Chronic Gastritis.—G. W. McCaskey has made a study of 600 cases of chronic gastritis, occurring in the course of a private consultation practice, and therefore belonging for the most part to the severer type of cases. In nearly all cases there was made, in addition to a routine chemic and microscopic examination of the stomach contents, a more or less complete study of the blood and of metabolism, as well as a routine microscopic examination of the feces, and especially of material obtained by flushing the colon after evacuation of the bowels. The author says that when he finds excessive quantities of thick mucus saturated with HCl and containing the usual microscopic findings of inflammation, he cannot doubt the coexistence, for at least a time, of chronic gastritis and increased HCl secretion, although he has no doubt but that many of these cases might, and probably would, terminate in diminished and even absent HCl secretion from ultimate destruction of the glandular elements. In a large number of cases quite severe grades of chronic gastritis were present, with complete absence of stomach symptoms. In the majority of cases there was evidence of impairment of gastric motility. The general treatment is of first importance and is based upon a careful study of nutrition, metabolism, elimination, the vascular and nervous mechanisms, and the blood. To meet the varying grades of subnutrition it is his practice, after 1 or 2 cleansing, disinfecting, and local stimulating treatments of the stomach, to place the patient on at least 2 daily liberal meals of meat, stale bread, and well-cooked cereals, with a light noon meal of broth and some cereal food. As to therapeutic measures, he resorts to hydrotherapy, electricity, massage, chamber gymnastics, and outdoor exercise. Lavage is indicated, as a routine measure, only in cases where there is a considerable amount of mucus or other *débris*. [C.A.O.]

5.—Double Extrauterine Pregnancy.—Swithin Chandler reports 2 cases, the first is that of a double extrauterine pregnancy, the second bloody cysts of the ovaries. The cases demonstrate the difficulty of differential diagnosis between the two conditions, the previous history and the results of a physical examination being very similar. [C.A.O.]

Medical News.

August 22, 1903. [Vol. 83, No. 8.]

1. Cardioptosis. ALBERT ABRAMS.
2. Management of Breech Presentations. E. M. THOMAS.
3. Amber Yellow Glass in the Examination and Treatment of Eyes. H. H. SEABROOK.
4. The Treatment of Chronic Catarrhal Deafness (Otitis Media Catarrhalis Chronica). GEORGE W. HOPKINS.
5. The Clinical Value of Blood Pressure. H. RICHARDSON.
6. Tying and Care of the Umbilical Cord. ALBERT S. HARDEN.
7. The General Practitioner and His Relation to Early Surgical Operations. E. B. MONTGOMERY.
8. Other Causes Than Syphilis for Paresis. H. PRESTON SIGHTS.

1.—Cardioptosis.—Recent literature is limited to the observations of Rummo and Ferrannini. A. Abram's observations refer to cases in which no anomaly was present beyond malposition. When murmurs were present they were accidental. He classifies his cases as (1) voluntary cardioptosis, (2) cardioptosis associated with ptoses of the abdominal viscera, (3) cardioptosis of accommodation, (4) primary essential cardioptosis with the suppositious cause of impaired tonicity of the bloodvessels supporting the heart. Other factors are increased size and weight of the heart aneurysms and newgrowths, adhesions, pleural or pericardial. He reports the case of an individual who could displace heart, stomach, and kidney at will. Flaccid abdominal walls diminish intraabdominal tension and conduce to ptosis of the abdominal organs, descent of the diaphragm, and prolapse of the heart. Dislocation of accommodation is a compensatory act to augment the area of respiration which has been reduced by an aneurysm or a tumor. If we make firm compression of the upper thorax of a child we note the immediate descent of the heart. In aortitis and aneurysm with anginous signs the diaphragm with a display of muscle instinct lies high as if to diminish traction on the vessels. In cardioptosis there may be no symptoms, or a feeling of weight and oppression with epigastric pulsation and dyspnea much intensified by exertion. The pathognomonic signs are elicited by skiascopy. A support, exerting pressure on the upper abdomen should be worn. In Glénard's disease exercises for the abdominal muscles and diaphragm with massage, faradization, and hydrotherapy often yield excellent results. [H.M.]

2.—Management of Breech Presentations.—In the man-

agement of breech presentation the attitude of the accoucheur, in the opinion of E. M. Thomas, should be one of watchful observation so long as there is no immediate danger to child or mother Care should be taken to preserve the membranes until dilation is complete. After rupture of the membranes it is best for the trunk to be expelled slowly; but when the hips appear at the vulva the obstetrician should be ready to extract at once in case of emergency. Extraction should be slow, the traction taking place only during pains and firm pressure should be made upon the uterus through the abdominal walls so as to maintain firm contraction upon the head of the fetus. If in pure breech presentation aid becomes necessary, the child may sometimes be expelled by gradual pressure upon the fundus. Should this fail, manual extraction should be attempted. One or both of the index fingers should be inserted into the fold of the anterior groin and traction made downward. If forceps are necessary, the axis traction forceps of Tarnier are the best, but should not be used until the child has passed the superior strait. The tractions should be gradual and intermittent, during the pains, thus dilating the maternal soft parts better than by continual hard pulling, and they should be aided by simultaneous pressure upon the fundus. If forceps fail or are contraindicated, the fillet is the next best thing. The manner of using it is described. Thomas also gives directions as to the use of the blunt hook if other measures fail; if the child is known to be dead, he thinks the cephalotribe the most reliable tractor. [W.K.]

3.—Amber-yellow Glass in the Examination and Treatment of Eyes.—H. H. Seabrook finds that this color, which gives almost perfect protection from the chemic rays, does not impair vision, and corrects the chromatic aberration of the eye. Because of difficulty in obtaining this color he uses a biconvex lens of white glass split and cemented on plane glass of medium light amber-yellow. This causes less congestion, lacrimation, photophobia, pain, and pupillary contraction in examined eyes. There is some confusion at first from the changed color of the iris and dulled corneal reflex. It probably causes slight relaxation of accommodation. The effect on spectral and pigment blue is different. This glass seems to be an important addition to present forms of treatment for hyperesthesia of the retina. Seabrook has used it in chronic conjunctivitis following trachoma, in cataract, postoperative iritis, chorioretinitis, glaucoma, etc. [H.M.]

4.—Treatment of Chronic Deafness.—G. W. Hopkins says that prognosis in chronic catarrhal otitis media is not notably unfavorable, failures in treatment being usually due to (1) insufficient study of the etiology and pathology of the case, or (2) lack of persistency in treatment. Considerable space is devoted to the question of securing ventilation of the middle ear when the eustachian tube is diseased. Electrolysis is by far the best method of mechanical dilation. Removal of the membrani tympani and ossicles should be performed only when grave melancholia from tinnitus or similar urgent indication exists. Many obstinate cases yield to the use of superheated air. Treatments are best given 3 times weekly for from 3 months to a year. [A.G.E.]

5.—Clinical Value of Blood-pressure.—H. Richardson describes the instrument of Hill and Bernard for taking maximum and mean pressure. The clonic contractions of the heart and the tonic contractions of the arterioles are the determinates of the arterial pressure under normal conditions there is a postural variation in blood-pressure. In pathologic fatigue, neurasthenia, etc., these variations are reversed. Probably in no condition are observations of more service than in the early diagnosis of Bright's disease before albuminuria occurs. The action of the bromids on blood-pressure is interesting as shown in epileptic cases. In melancholia simplex there is a high mean and a low maximum pressure. In mania both are high. In locomotor ataxia, paresis, and arteriosclerosis the mean pressure is high. Treatment of mean pressure is far from satisfactory. The Schott bath gives the best results. [H.M.]

6.—Tying and Care of the Umbilical Cord.—A. S. Harden for tying the cord prefers sterilized tape ⅛ to ¼ of an inch wide. The tying should be performed by placing the first knot in place over the cord, drawing snugly, putting the thumbs in apposition, and then, using the second joints of thumbs as a fulcrum, separating tips of thumbs holding the ligature. In this way pressure is brought to bear directly upon the knot itself and the chance of lacerating the cord is minimized. The author has seen over 500 cases in which this method was employed, without an instance of either hemorrhage or laceration of the cord, and in 35 cases in which silk was used there were 5 cases of laceration and as many hemorrhages. Plain sterile gauze is the best dressing and no other is needed. Directions for applying it are given. By this treatment he has secured a falling off of the cord as soon as by any other dressing, if not sooner, and has lessened the chances of infection. [W.K.]

7.—Early Surgical Operations.—E. B. Montgomery writes of the conditions in which it is the duty of the general physician early to secure the advice and aid of a surgeon. Among these are appendicitis, intestinal obstruction, acute cholecystitis, typhoid perforation, extrauterine pregnancy, hernia, pleural effusions, carcinoma, and rectal troubles causing obstipation. [A.G.E.]

8.—See *American Medicine*, Vol. III, No. 25, p. 1057.

CLINICAL MEDICINE

DAVID RIESMAN A. O. J. KELLY

EDITORIAL COMMENT

Tuberculous Peritonitis.—Before Spencer Wells accidentally discovered the curability of tuberculous peritonitis by means of laparotomy the disease was considered to be absolutely fatal. In 1872 Wells operated upon a young woman supposed to be suffering with an ovarian cyst. The exploratory incision, however, showed the peritoneum to be densely covered with tubercles. There were extensive adhesions also, between the coils of the small intestine and the colon and omentum. The uterus and the ovaries were normal, but their peritoneal covering was rough with tubercles. The patient recovered, married, and was well when the case was reported in 1884. In the short period elapsing from this time to 1890 Koenig was able to collect 131 cases of peritoneal tuberculosis successfully treated by laparotomy, and since then the number of cases has been enormously increased. As yet, however, there has been no satisfactory explanation of the mode of action of the operation. Zesas[1] reviews the hypotheses that have been advanced. Lauenstein holds that the sunlight kills the tubercle bacilli, and that the removal of the exudate deprives them of the necessary moisture. Von Mosetig–Moorhof and Nolen consider the entrance of air to be the essential feature, and have cured cases by the mere blowing of air into the abdominal cavity. Hildebrand has shown experimentally that if the operation be done under water, so that air cannot enter, the laparotomy will not prove curative. Warneck believes that the operation favors the formation of an exudate that brings about the destruction of the bacilli; and Bumm attributes the same result to the increased emigration of leukocytes that, he believes, occurs after the removal of the exudate. None of these hypotheses—and the list here given is not exhaustive—fully answers the requirements. Shattuck[2] has shown that tuberculous peritonitis may undergo spontaneous cure, and that surgical intervention is not necessary in every case. We have also seen an apparently complete recovery in a case—the tuberculous nature of which had been proved by tuberculin injections—after paracentesis abdominis. Shattuck's advice in this matter, however, is sound. It is that if medical treatment fails to cause improvement in the patient after a month or six weeks—or even in less time, if the patient seems to be losing ground—surgical treatment should be instituted.

REVIEW OF LITERATURE

Acetone and Diacetic Acid as a Cause of Recurrent Vomiting in Children.—E. L. Peirson[3] gives notes of 3 cases

[1] Centralblatt f. d. Grenzgeb. d. Med. u. Chir., July 17, 1903.
[2] American Journal of the Medical Sciences, July, 1902.
[3] Archives of Pediatrics, July, 1903.

of persistent vomiting in children where acetone and diacetic acid was present in the urine. He has aborted attacks by the use of sodium bicarbonate. In the case of threatened attacks he puts the child upon whey and rusk, giving also a little scraped beef, and gives 8 gms. (120 gr.) of soda during 24 hours. This diet with the soda is kept up for 2 days, when the food is gradually increased and the soda diminished. [A.G.E.]

Relationship between Epilepsy and Migraine.—W. Strohmayer[1] enumerates the following points proving the close connection existing between epilepsy and migraine: 1. The basis in both is a permanent cerebral change, due probably to autointoxication. 2. Both are characterized by attacks showing a tendency to periodicity. 3. Both are usually preceded by aura or prodromes (visual, auditory, or paresthetic). 4. In epilepsy the symptoms seem to emanate more from the motor area, in migraine from the sensory area of the brain. 5. Both are followed by a period of exhaustion which may terminate in epilepsy as a paralysis, in migraine as an oculomotor palsy. Cases are reported in which periods of dulness accompany or replace the migraine attacks just as is so often seen in epilepsy. It has been claimed that migraine may change to epilepsy and *vice versa*, but Strohmayer doubts this. He has seen cases where the two coexisted, but he has not been able to find any case in which one replaced the other. Some atypical cases exist in which the diagnosis is somewhat difficult. In both a neuropathic tendency exists, thus making probable the coexistence of the two. He relates the histories of 5 cases in which the two coexisted. [E.L.]

A Case of Chloroma.—This case is reported by M. Weinberger,[2] the patient being a boy of 15, who, since an attack of scarlet fever in July, 1902, had shown weakness and rigidity of the lower extremities. Later there developed swelling of the cervical and inguinal lymph-nodes, hemorrhage from the gums and nose, cardiac dilation, swelling of the spleen, fever, and cutaneous hemorrhages. Examination of the blood showed 4,500,000 erythrocytes, 13,000 leukocytes (86% being large lymphocytes), hemoglobin 45%. Bence-Jones albumosuria was present. The patient rapidly declined and finally died in coma. Autopsy showed tumefaction and green coloration of nearly all the lymphatic system, including the lymph-nodes of the various regions, the tonsils, and the lymph follicles of the stomach and intestine, the dura mater, the serous membranes, and the parenchyma of the kidneys and liver contained green tumors; and proliferation, green in color, of the periosteum of the vertebras had penetrated the vertebral canal and compressed the cord. The bone marrow was red and constituted mostly of large lymphocytes. [A.G.E.]

Diagnostics of Diseases and Functional Efficiency of the Kidneys. — To determine the movability, dislocation, enlargement, and consistency of a kidney, Senator[3] advises, if other methods fail, that the patient be examined while supported on a canvas stretcher in a bath-tub containing tepid water. In regard to inspection in the diagnosis of renal disease, attention is called to the epigastric contraction, which almost always accompanies painful disease of the kidneys. Rectal and vaginal examination are only of value in case of dislocation of a kidney. Percussion is almost valueless, as the note often remains unchanged after a kidney is extirpated. Senator, however, finds auscultatory percussion to be of practical value. Only in a very few cases can a renal calculus be palpated through the abdominal wall. Cystoscopic examination and catheterization of the ureters are two methods of great diagnostic value. Senator corrects the erroneous conception of many physicians who believe polyuria occurs only in granular contracted kidneys. Polyuria may, among other causes, be due to a certain form of amyloid degeneration. As regards the appearance of the urine, the author recalls a little-known fact, namely, that in a patient with granular contracted kidneys, in spite of great cyanosis and dyspnea, the urine may remain clear and light in color. The boiling test should not alone be depended upon, as in many cases one may fail to detect albumin by that method. This is especially true as concerns the Bence-Jones albumosuria, the presence of which is a fairly accurate indication of the existence of a high-grade anemia associated with bone disease. There is a prevalent but incorrect idea that nephritis cannot be present unless there are casts in the urine. Casts are the product of disturbed activity in the epithelial canals and not coagulated albumin from the glomeruli. In acute nephritis the epithelium is extensively diseased, while in the chronic form the connective tissue is the most involved. Hence, in chronic nephritis frequently only a few casts are present. In polycystic degeneration of the kidney an important diagnostic factor consists in the presence in the urine of rosette-like red bodies, which resemble leucin. Senator refers to the tests for obtaining the urotoxic coefficient and for determining the molecular concentration of the urine, but places little reliance in them. The most recent diagnostic test consists in determining the molecular concentration of the blood, serum or dropsical transudates. The freezing point of normal blood is 0.56° C.; if it sinks to 0.60° C. or lower, renal disease is indicated. Disease of one kidney alone does not change the freezing point of the blood. Senator considers the last one of the most important tests, especially when a surgical operation is to be considered. [W.E.R.]

Obliteration of the Superior Vena Cava.—William Osler[1] reports 2 cases of this condition which he describes as being extremely rare. One patient was under observation for 3 years and the diagnosis of the fibroid obliteration had been made by exclusion. In the second case obliteration was due to compression in Hodgkin's disease. The first patient was a colored butcher of 25, who had a history of hard work, alcohol, and exposure. Among his symptoms were swelling of the neck and face, cyanosis, and gradual dilation of the veins of the upper extremities, thorax, and epigastric regions, and evidences of tuberculosis. Autopsy revealed the following: "Chronic tuberculosis; tuberculous caries of the spine; fibrous tissue growth in the adjacent regions, with involvement and occlusion of vena cava superior and of innominate veins; establishment of extensive collateral venous circulation; tuberculous meningitis." The collateral circulation is thus explained: "The left jugular vein being occluded, blood from the head must have passed out mainly by way of the right jugular, through the right subclavian, through the prepectoral anastomosis with the anterior perforating branches of the internal mammary and with the subcutaneous tortuous veins to the superficial epigastrics and thence to the inferior vena cava, which was normal throughout its course. An alternate course would have been from the subclavian to the upper right intercostal veins through the perforating branches of the latter and thence to the azygos, which was very large." Excellent plates accompany this article. A summary of the 29 cases of fibroid obliteration of the superior vena cava, collected from the literature by Dr. Hume, is appended. [A.G.E.]

Rhythmic Jerking Movement of the Head (Musset's Sign).—B. Herzog[2] has observed rythmic movement of the head in almost every case of aortic aneurysm and aortic insufficiency coming under his notice; in these cases he considers it due to increase in general blood pressure; he has seen it also in cases of alcoholism, atheroma, interstitial nephritis, and hypertrophy of the left ventricle. In these cases he believes it to be due to increased local pressure; either the result of atheroma or stasis. Musset's sign in two otherwise negative cases drew the attention to the circulation. Accentuation of the second aortic sound led to a diagnosis of cerebral syphilis and appropriate treatment. [E.L.]

Cutaneous Temperature in Chronic Articular Rheumatism.—M. Herz[3] by means of a delicate apparatus determined the cutaneous temperature in chronic diseases of the joints. He selected 15 patients for his experiments, of whom 7 suffered from chronic articular rheumatism, 7 had traumatic joints, and 1 gave a history of gonorrhea. In all of these, with the exception of four, the cutaneous temperature was subnormal. In four there had been an acute exacerbation of the process shortly before the examination and the temperature

[1] Münchener medicinische Wochenschrift, March 10, 1903.
[2] La Médecine Moderne, June 24, 1903.
[3] Berliner klinische Wochenschrift, May 25 and June 1, 1903.

[1] Johns Hopkins Hospital Bulletin, July, 1903.
[2] Deutsche medicinishe Wochenschrift, March 26, 1903.
[3] Berliner klinische Wochenschrift, May 18, 1903.

was above normal. Herz concludes that in chronic joint disease the cutaneous temperature is subnormal. A venous congestion, even in a very mild degree, increases the temperature. If congestion is active there is at first an increase later a decrease in the temperature. [W.E.R.]

Retention of Sodium Chlorid in Cardiac Edema.—M. Merklen[1] believes that the retention of sodium chlorid plays a role in the pathogenesis of cardiac edema analogous to that which has been assigned to it in the edema of Bright's disease. In support of this opinion he cites the efficacy of milk diet in cases of edema due to cardiac inefficiency. The role of sodium chlorid in dropsy is well shown by the great quantity of that salt contained in the fluid of edema whatever may be its origin. In a case of cardiac edema which was rapidly reduced by rest and a milk diet, Merklen found by repeated urinary analysis that the discharge of chlorids was increased equally with the amount of fluid. There is then a retention of sodium chlorid in cardiac cases, at the same time there is retention of fluid when the urinary secretion becomes insufficient because of renal stasis or an intercurrent nephritis. This retention may be both the cause and the effect of dropsy. It results not only from the stasis and the hypertension in the capillaries, but also from the rupture of the osmotic equilibrium between the blood and the plasma in the tissues. If this conception be correct it is easy to comprehend the effect of alimentation on the appearance, the aggravation, the persistence or the disappearance of edema in cases of cardiac lesion. [A.G.E.]

A Peculiar Vascular Murmur in the Lungs.—P. K. Pel[2] reports an interesting case in which examination of a man of 32 with a tuberculous tendency showed the presence of a distinct vascular murmur over the right lung. It was a loud, continuous, blowing hum, which was heard over the whole of the upper lobe of the right lung, but most distinctly in the supraspinatus fossa about 3 cm. from the third thoracic vertebra. In 25 years' experience the author had seen no similar occurrence nor had one been reported by other observers. The patient had hemorrhages from the mouth since 1896, and with the exception of a slight retraction of the right pulmonary apex showed no signs of tuberculosis. Heart and other organs normal. The respiratory murmur had no influence upon the intensity of the vascular murmur. The patient was seen 6 years later and this murmur was still present. Pel believes the adventitious sound to be both of venous and arterial origin. Its loud humming character and its duration indicate the former, the systolic accentuation the latter. Its occurrence is difficult to explain, but the author believes it to be due either to a venous distention in the neighborhood of the artery or to an anastomosis between the pulmonary vein and artery. The cause in either case is due to tuberculous disease of the vessel walls or in close proximity to them. The presence of the hemoptysis in this case led the author to conclude that a relation existed between it and the murmur and that the condition in the lungs may at any time cause a fatal hemorrhage and that hence such a murmur, if found, is of prognostic value. [W.E.R.]

Syphilis of the Trachea and Bronchi.—L. A. Conner[3] gives an analysis of 128 recorded cases of the above affection and reports a case of syphilitic stenosis of both bronchi. The article is largely statistical and contains the condensed record of 81 cases not hitherto collected. Only a few of the many valuable points can be mentioned in an abstract. Ulcers were found in 44% of all the cases, distinct scars in 40%, a diffuse connective tissue infiltration of the wall within the cartilages in 11%, and masses of dense fibrous tissue outside of the cartilaginous rings in 6%. The trachea alone was diseased in 56% of the cases, the trachea and bronchi together in 33%, and the bronchi alone in 11%. The youngest patient was 14 months, the oldest 73 years. The mortality among the 128 cases was 76%. As to the form of antisyphilitic treatment the greatest benefit seems to have been obtained from large doses of the iodids. Conner gives full notes of his own case, the patient being a woman of 30. The article is accompanied by an extensive bibliography. [A.G.E.]

[1] La Semaine Médicale, June 24, 1903.
[2] Berliner klinische Wochenschrift, April 13, 1903.
[3] The American Journal of the Medical Sciences, July, 1903.

Normal Respiratory Rhythm.—S. T. Kostin[1] undertook a series of experiments in order to determine the origin of the respiratory rhythm. He found that the normal rhythm will continue when only the lower half the medulla and the phrenic nerves as well as the pulmonary vagus-branches are active. According to Rosenthal, the action of the respiratory center is purely automatic. This is disputed by the author, since in the absence of reflex influences the breathing center produces no rhythm but tonic contractions of the respiratory muscles. Rhythm is the result of a reflex interruption of this tonic spasm. The reflex impulses come partly from the cranial nerves and centers located above the medulla, but chiefly from the vagus-branches in the lungs. The development of the respiratory rhythm is therefore somewhat as follows: The first inspiration is caused by a tetanic action of the breathing center and results in inflation of the lungs; the expanding lung stimulates the vagus-terminations and a centripetal inhibitory impulse is sent to the breathing center, which at the end of inspiration becomes strong enough to counterbalance the centrifugal impulse; the diaphragm is relaxed and a passive expiration takes place. While the lungs are collapsing, however, the centripetal impulse from the vagus-terminations gradually falls to zero, thus allowing the impuse from the center to produce a new inspiration. These two phases constitute the respiratory rhythm, and its frequency and depth depend on the quantitative relations of the two chief determining forces. [L.J.]

GENERAL SURGERY

MARTIN B. TINKER
A. B. CRAIG C. A. ORR

REVIEW OF LITERATURE

Primary Retroperitoneal Tumors.—Richard Douglas[2] reports the case. Patient was a woman of 31 who had previously enjoyed good health, with the exception of typhoid fever 6 years ago. Since 1901 she had suffered with frequent attacks of abdominal pains, accompanied with vomiting and obstinate constipation. A marked swelling developed in the epigastric region, which grew perceptibly, distending the entire abdomen. Palpitation, difficult respiration, and obstinate constipation were constant features, varied by severe attacks of vomiting, recurring at intervals of about 10 days. With the abdomen opened, the tumor had the appearance of an ovarian cyst. A trocar was introduced, but no fluid obtained. The tumor was found to lie retroperitoneally, encircled by the colon and its enucleation seemed feasible. The overlying peritoneum was incised, the mass easily and quickly enucleated from its bed in the cellular tissue of the loin to the right of the spinal column. It had grown between the folds of the ascending mesocolon. The recovery was uneventful, and at the time of writing, 4 months after the operation, the patient was well. The removed tumor weighed 14½ pounds. The laboratory report showed it to be a lipomyxoma with a round-cell sarcomatous base. The types of the retroperitoneal tumors belong to the connective tissue. The innocent tumors are lipomamyxoma and fibroma and the malignant is sarcoma. They usually occur between the ages of 30 and 50. The surgical procedure when feasible is an enucleation of the tumor, but in doing this we must bear in mind that the intestinal circulation may be cut off. Drainage should be provided and is usually best obtained through the loin. [A.B.C.]

Splenectomy for Gunshot Wound. — L. Brennfleck[3] reviews the history and results of splenectomies following traumatism, performed to date, and adds a case in which the spleen had to be removed because of gunshot injury. The abdominal cavity was found filled with blood-clots and the almost severed spleen was removed. There was a small perforation in the diaphragm, but otherwise no injuries were found. A traumatic pneumonia developed during the convalescence, but ultimately recovery was complete. The patient never suffered any ill-effects. Careful blood examinations were made at different times, but neither the red nor white corpuscles

[1] Russki Vratch, May 17, 1903.
[2] Annals of Surgery, March, 1903.
[3] Münchener medicinische Wochenschrift, April 7, 1903.

showed any great variation from the normal. The author concludes from his case, as well as from the statistics, that extirpation of the injured spleen is an operation neither dangerous to life, nor does it exert an injurious influence on the organism. [E.L.]

Intestinal Perforation.—Tilden Brown[1] reports 3 cases. In the case of the 1 patient in the series who survived surgical intervention, the interesting feature was a faint omental agglutination well occluding a recent perforation. The author states that had the therapeutic measures directed toward the intestinal immobilization, as advocated by Ochsner, been rigorously observed, recovery might have occurred without operation. The first patient was a woman of 21, who in the third week of a typhoid attack suffered from the symptoms of perforation. Twenty hours after the onset of the symptoms a laparotomy was performed and perforation in the ileum found. The 3 openings were closed by means of Lembert sutures. Posterior vaginal drainage was instituted. The patient died 28 hours after operation. The second was a man of 40, a beer drinker, who had suffered from gastric distress. He had a mild attack of typhoid fever. The symptoms of perforation appeared and laparotomy was done. A linear rent a half-inch long was found in the intestine. This was closed by Lembert sutures. The patient lived for 6 days. Necropsy was not permitted. The third was a woman of 23, who in a typhoid attack suffered from a number of intestinal hemorrhages. The symptoms of perforation appeared 3 weeks after admission into the hospital. Operation disclosed the condition as mentioned above and the patient made a complete recovery. She was discharged well on the fortieth day after the operation. [A.B.C.]

Treatment of Prolapse of the Rectum.—A. E. Halstead[2] gives a general review of the methods of treating prolapse of the rectum, speaking of the 4 varieties as given in the old classification of Cruveilhier. He has operated upon 6 cases, three of complete prolapse and three of prolapse of the mucous membrane. Of the latter, two were treated by resecting the mucous membrane, as in the Whitehead operation. The other case, due to a rectal polyp, was treated by the removal of the polyp and linear cauterization. All of these cases recovered promptly and completely. Of the 3 cases of complete prolapse, two were treated by intraabdominal ventral fixation of the colon. Both were in women, and a plastic operation upon the perineum was also done in each. The results were good. In the third case the prolapsed gut was amputated by the method of Mikulicz. There was no recurrence after 2 years. Halstead states that rectopexy should be employed, if at all, only in lesser degrees of prolapse, but believes that its disadvantages and dangers outweigh its good points even in those cases. [A.G.E.]

Intestinal Resection.—After a historic review, a technical description, and a discussion of the indications for the various operations employed to resect portions of the intestines, P. Manasse[3] relates the history of a boy who was operated upon on account of a peritoneal abscess of uncertain origin. The patient recovered with several fecal fistulas, which made resection necessary. He anastomosed the small intestine with the cecum (Senn's method), and at a later date removed 1½ meters (5 feet) of small intestine; the patient recovered. The advantages of Senn's method, which has been but seldom used by surgeons, over all others are: Its technic is simple, as it requires but 2 sets of sutures, the implantation suture and the closure of the blind gut; it prevents artificial fistulas. In no case published have the intestinal contents passed through the sidetracked intestine after the operation. The mortality statistics are lower than after other operations. [E.L.]

Treatment of Lupus by Röntgen Rays and Ultraviolet Rays.—H. E. Gamlen[4] holds that the advantages of the Röntgen rays over operative treatment are principally cosmetic. After treatment, the skin is soft, pliable, and devoid of contractures. He reports 12 cases of lupus successfully treated with the rays. Great care and earnest attention to detail are the prime requisites in this method of treatment. Instead of daily exposures he has adopted a system of giving a sitting 2 or 3 times per week, lasting from 3 minutes to 5 minutes. In dealing with some cases he combines the ultraviolet rays with the Röntgen rays. In others he uses the ultraviolet rays alone. With the latter there is very little subsequent discoloration in the surrounding tissues. The same does not apply to the Röntgen rays, the pigment being more apparent when low tubes are used. He is of the opinion that for small areas the lupus lamp is the most effective. He never gives any accessory treatment with the lupus lamp or Röntgen rays. The histories of the reported cases are recorded in considerable detail. [A.B.C.]

The Blood-pressure of Acute Cerebral Compression.—Harvey Cushing,[1] in a sequel to the Mütter lecture for 1901, reports several cases occurring since that time which have made it possible to demonstrate in clinical cases reactions corresponding to those which at that time had only been experimentally produced in animals. The cases reported form an exceedingly interesting and instructive series, but cannot be detailed in a brief abstract. Broadly speaking, in cases of intracerebral or extracerebral hemorrhage accompanied by elevated blood-pressure, the relief of cerebral compression almost immediately caused a drop in blood-pressure. Cushing says he would not advise operation in every border-line case of basal fracture with concussion, especially when increase of intracranial tension is not marked, yet the records show that of 2 patients with supposedly similar lesions, the operated case with an opening left in the skull makes a more rapid recovery than the nonoperated one, and seems less likely to suffer from the posttraumatic sequels of epilepsy and late mental derangements. Temporary amelioration of the severe symptoms in 2 cases of apoplexy are considered sufficient justification for future attempts to afford surgical relief to certain carefully selected cases of cerebral hemorrhage. In the light of experience, the routine therapeutic measure of "bleeding" in these cases is considered hazardous. The final conclusion of Cushing as regards increased intracranial tension is as follows: "In conjunction with other symptoms, a progressive increase in arterial pressure or a high degree of the same, which has been already reached, or a pressure which exhibits from moment to moment great alterations in level may be taken as a certain indication of the advisability of early operative intervention. In case there are localizable symptoms the site of trepanation is plainly indicated. In case of generalized compression from widespread hemorrhage when there are no localizing indications, the intracranial tension should be relieved by the elevation of a large osteoplastic flap from one hemisphere or the other with a corresponding opening in the dura." [A.G.E.]

Spontaneous Fragmentation of a Vesical Calculus.—A vesical calculus was demonstrated by cystoscopic examination in a very fat patient of L. Goerl's;[2] he had presented symptoms pointing to it for some time. On account of his great weight, 215 lb., an antifat cure was proposed and his weight reduced to 165 lb. within 4 months. The cystoscope at this time revealed the stone broken into 2 parts, both of which were later passed spontaneously. The diet prescribed for the patient had evidently so changed the character of the urine as to bring about the destruction of the uric acid stone. He mentions and discusses the theories usually advanced for spontaneous breaking up of calculi and considers traumatism and change of mode of life the most important of these. [E.L.]

Blank-cartridge Wound and Tetanus.—J. B. Bain[3] reports the case. On July 3, 1902, a girl of 13 was shot in the palm of the right hand with a blank-cartridge. She was brought at once to the dispensary and about 45 minutes after the receipt of the injury operation was performed. A tourniquet was applied to the forearm and an elliptical incision was made about the wound to such an extent as to include the powder stained area with a margin of normal tissue. Powder grains were found embedded in the muscles, tendon sheaths and nerves. All such tissues were carefully resected. The wound was then cleansed with corrosive solution and closed with

[1] Annals of Surgery, March, 1903.
[2] Medicine, June, 1903.
[3] Deutsche medicinische Wochenschrift, March 12 and 19, 1903.
[4] British Medical Journal, May 30, 1903.

[1] American Journal of the Medical Sciences, June, 1903.
[2] Münchener medicinische Wochenschrift, April 7, 1903.
[3] Annals of Surgery, March, 1903.

drainage. All the removed tissue, together with wadding and powder grains found in the wound were placed in the culture tube of coagulated blood-serum and sent to the laboratory. After 3 days in the incubator, a growth of bacteria had occurred which on examination showed germs which were believed to be tetanus. These were isolated in pure culture by means of anaerobic blood culture and were found to be true tetanus bacilli; 2 mice and 2 guineapigs inoculated subcutaneously with cultures, died of the characteristic symptoms of tetanus. It is therefore probable that had not the wound been treated thoroughly by complete excision of the lacerated tissues that the patient would have died of tetanus. [A.B.C.]

The Treatment of Cancer and Rhinoscleroma by Means of the Röntgen Ray.—Gottignies[1] reports cases of these conditions with the therapeutic results of the use of the Röntgen ray, and publishes photographs illustrating the improvement in the cases. Good results were obtained in one case of cancer of the left breast, one case of epithelioma of the nose, one case of a rodent ulcer of the lower eyelid and one of the right ear, and a case of rhinoscleroma. [J.H.W.R.]

The Treatment of Large Vesical Calculi.—In every case of large vesical calculus, says E. Desnos,[2] 3 points are to be considered: the general state of the patient, the bladder, and the calculus. Under the first comes particularly the examination of the urine and the physical examination of the patient. The urine should be examined from the clinic, bacteriologic, chemic, and cryoscopic points of view. The presence or absence of infection of the bladder and the size of the prostate are important points. As to the size of the calculus, an operation directed against one of more than 6½ cm. (2½ inches) in diameter is to be considered grave. For a surgeon but little skilled in lithotrity no hesitation is permissible; suprapubic cystotomy is his operation. To those who have extended experience in the use of the lithotrite the limitations are the size and resistance of the calculus to manipulation. In the presence of advanced suppurative lesion of the kidneys, if complete operative abstention is not indicated, cystotomy appears to expose the patient to less risk than does litholapaxy. [A.G.E.]

Abnormal Motility of Gallbladder Containing Gallstones.—A woman of 47 had a very freely movable tumor the size of a child's fist, in the right half of the abdomen; it was hard in its lower part, soft in its upper part. It did not seem connected with the liver. Apart from the presence of the tumor, the patient was perfectly well. V. Lieblein[3] made a diagnosis of carcinoma of the right kidney, and opened the abdomen. It was then found to be a thickened enlarged gallbladder having a large stone in its fundus. Its hepatic attachment had been stretched out of all recognition. He removed the stone, and a good portion of the bladder wall. Patient made a good recovery. [E.L.]

Dislocation of Carpal Bones.—William Hessert,[4] after quoting surgical authorities to show the diversity of opinion with roference to the probability of dislocation of metacarpal bones, reports a case. The patient was a man of 25, painter. While working on a scaffold he fell a distance of 4 stories. There was no severe injury except to the right arm, which injury was diagnosed fracture of the lower end of the radius. A splint was worn for a month. It was found that the fingers remained partially flexed to some extent. No object could be picked up. Passive motion was free but active motion poor. Pronation and supination were free, both active and passive. Active and passive motion in the wrist was very much restricted. The hand was practically useless to the individual. A skiagraph showed a dislocation of the scaphoid and semilunar bones. There being no probability that these bones could be replaced in their normal condition, they were removed completely. The result was a much improved use of the hand, though some deformity and imperfect use still maintained, which, of course, will be permanent. The article gives a complete review of all the cases of dislocation of the metacarpal bones which have been reported in literature. [A.B.C.]

[1] Jour. Med. de Brux., June, 1903, p. 369.
[2] La Médecine Moderne, June 3, 1903.
[3] Münchener medicinische Wochenschrift, April 14, 1903.
[4] Annals of Surgery, March, 1903.

GYNECOLOGY AND OBSTETRICS

WILMER KRUSEN FRANK C. HAMMOND

EDITORIAL COMMENT

Postpartal Hemorrhage.—There is no emergency in obstetric practice that calls for more prompt and energetic action, nor in which the courage and skill of the obstetrician are more abruptly put to the test, than in severe postpartal hemorrhage. The physician must think and act promptly and must be familiar with all the methods and resources at his command, so that no time may be lost in deciding upon a choice of procedure. The principal cause of such hemorrhage is uterine inertia, or atony of the uterine muscle. Placenta prævia exposes to postpartal hemorrhage as the lower segment of the uterus has but little contractile power at the close of labor. All physicians are familiar with the symptoms of this condition. As a rule, it is a preventable accident if proper attention is devoted to uterine contraction. The ordinary methods of treatment are usually effective. Vigorous friction over the uterine fundus, or forcibly grasping the uterus, will stimulate contraction and expel clots. It may be necessary to introduce one hand into the uterus for the double purpose of emptying that organ and provoking strong contractions. Bimanual compression, strongly anteflexing the uterus, has been suggested. Compression of the abdominal aorta is a temporary means of controlling the bleeding while the physician gains time for other procedures. The introduction of astringent or irritating solutions or substances into the uterine cavity has been employed since the time of Hippocrates, but at present the intrauterine injection of hot sterilized water has come to be regarded as one of the most reliable means for the control of hemorrhage. The temperature of the water must be hot, from 115° to 120° F., as merely lukewarm water favors bleeding. Simple measures failing, the uterus should be tamponed with strips of aseptic gauze. If strictly antiseptic precautions are observed, the tampon may be safely left in the uterus 24 hours and its renewal is very seldom required. When uterine contraction has been secured and the bleeding still persists, the hemorrhage is usually due to deep cervical lacerations, injuring the circular artery of the cervix. In such cases immediate repair of the tear is demanded. It is interesting to note in this connection that Labhardt has recently reported a case in which the postpartal hemorrhage did not cease with the usual treatment; the uterine artery was then compressed by Muzeux forceps, according to Henkel's suggestion, and bleeding ceased at once. The author points out the danger of seizing the ureter or the intestine or the peritoneum by the blind application of these forceps. The possibility of the development of a subsequent traumatic aneurysm of the uterine artery must also be borne in mind. Another effectual method for controlling hemorrhage by promoting uterine contraction is faradization of the uterus, but ordinarily the obstetrician will not have the necessary electric apparatus at hand to employ this method.

REVIEW OF LITERATURE

True Deciduomas.—L. Hoche and P. Briquel[1] contribute a thorough study of deciduomas. They report a case of which a brief summary is: A female of 41, delivered of an 8 months' fetus, was apparently in good condition. Three days after, she expelled from the uterus a mass of tissue without accompanying hemorrhage. Microscopic study showed the tissue to be formed essentially of large cells grouped in masses of various sizes and separated by canals or spaces of a vascular, lymphatic or glandular nature. The authors place this structure as that of the uterine product of pregnancy, the large cells being classed as decidual cells. They quote at length 6 cases from the literature and analyze each report. They speak of the confusion among various writers regarding deciduoma and the puzzling

[1] Arch. de Méd. Expér. et d'Anat. Path., July, 1903.

nomenclature, including deciduoma malignum and deciduoma benign. They prefer the name "hyperplasia massive of the decidua," but to simplify the terminology they use the term "true deciduoma." True deciduomas, they state, are neoplastic decidual hyperplasias arising from a part of the true uterine decidua or representing a decidual metamorphosis of a preexisting glandular polyp. [A.G.E.]

Prophylaxis of Gonorrheal Ophthalmia in the Newborn.—J. Neverka[1] reports the method employed in the obstetric department in Prague. Immediately after birth, before severing the cord, the eyelids are washed with cotton dipped in 3% boric acid; this is repeated after the cord is cut, and before the child is oiled. The eyes are protected during the bath. Boric acid is again used after the child is clothed; after this several drops of a 20% solution of protargol are instilled into each eye. The eyelids are moved up and down so the protargol will enter every part of the conjunctival sac. If the mother is suspected of having the disease the protargol instillations are repeated several times during the first few days. As little reaction follows these injections, washing with salt solution afterward is unnecessary. The results of this method are very satisfactory. The percentage of infected children was reduced from 2% to 0% in a list of 1,100 deliveries. [E.L.]

Ovarian Transplantation.—F. H. Martin,[2] in a preliminary report, gives the technic employed by him in 2 cases of ovarian transplantation. In both cases the ovaries had been removed for sufficient length of time to establish an artificial menopause. In each instance about a third of each ovary from a supposedly normal subject was attached to the stump of the tube, the lumen of which was made patulous. Both cases were operated on in 1902, and some signs of menstruation have occurred in each. Martin says it is too early to estimate the value of these operations, but he believes that menstruation will eventually be established. He believes that the operation described will make it possible to relieve in a large number of cases the nervous symptoms arising as a result of a premature menopause following the sacrifice of the ovaries. This was accomplished in the two cases reported. [A.G.E.]

Hot-Air Treatment of Gynecologic Disease.—Oskar Burger,[3] from the study of a series of reports is convinced that hot-air therapy is a valuable conservative treatment in certain known gynecologic diseases, because of its sedative effects upon pain, and because it promotes absorption. For the latter reason it is especially valuable in cases of hard pelvic exudates frequently of puerperal origin, since under this treatment these exudates are often rapidly absorbed. In carefully selected cases with the treatment adapted to individuals, hot-air therapy is in many instances more potent in producing favorable results than are older customary remedies. [W.K.]

Bloodless Case of Placenta Prævia.—W. G. Moore[4] believes this case to be unique in obstetric history. The patient was a young woman with a previous history of 3 miscarriages. One physician, who examined the patient after the beginning of labor, suggested the diagnosis of placenta prævia, his opinion being based solely on the thickened feel of the sac. When the membranes ruptured a half placenta, with 4 inches of cord, protruded from the vulva. The head could be felt against the perineum. The next pain delivered a living fetus of 7 months. The remaining half of the placenta was found adherent to the os, and was easily removed. At no time was there any hemorrhage. Moore believes that there was a central placenta, thinner than usual, which was sufficiently elastic to allow the small head to engage and act as a plug until the placenta ruptured. [A.G.E.]

Placenta Prævia.—In 10,263 labor cases occurring from 1892 to 1901 in the obstetric clinic in Prague, E. Nohel[5] finds only 55 cases of placenta prævia. This gives a percentage of 0.53, which is smaller than that of previous reported records. Placenta prævia occurred oftener in women between 35 and 40 years of age than in any other period of 5 years. This is in accordance with the finding that multiparas are much more liable to placenta prævia than are primiparas. Only 9% occurred in the latter, while 20% occurred in women who had previously borne 3 children. Miscarriages occurred in 5%, premature labors in 62%, while 33% went to full term. The maternal mortality was 9.09%, while that of the fetus was 81.9%. Atonic postpartum hemorrhage occurred in 10 cases, of which 3 died. [B.K.]

Antitoxin in Diphtheria Associated with Pregnancy.—J. E. Kempter[1] reports what he believes to be the first recorded use of diphtheria antitoxin during pregnancy. The patient was a primipara of 28, in the eighth month of pregnancy. The antitoxin, 3,000 units, was given at one dose. Recovery was uneventful. The patient subsequently came under the care of an obstetrician who reported a normal labor and a healthy child 3 weeks later. [A.G.E.]

[1] Heilkunde, January, 1903, Vol. vii.
[2] Chicago Medical Recorder, July, 1903.
[3] Wiener klinische Wochenschrift, June 9, 1903.
[4] St. Louis Courier of Medicine, July, 1903.
[5] Zeitschrift für Heilkunde, 1903, Bd. xxiv, Heft vi; Abth. für Chirurg., Heft, ii, p. 150.

TREATMENT

SOLOMON SOLIS COHEN
H. C. WOOD, JR. L. F. APPLEMAN

REVIEW OF LITERATURE

Treatment of Chronic Diarrhea. — Chronic diarrhea depends upon an intoxication, an intestinal lesion, or an insufficiency of gastric digestion.[2] It is always necessary to treat first the causative lesion. In diarrhea due to uremia, the patient must be confined to a milk diet. In that due to exophthalmic goiter, faradization of the goiter will cause the diarrhea to disappear. In the presence of obstinate diarrhea, the existence of beginning goiter must be sought, and treated if present. The association of ipecac, calomel and opium is a classic remedy in chronic dysentery. They may be prescribed as follows:

Ipecac . . . . . 0.06 gm. (1 gr.)
Calomel . . . . . 0.02 gm. (⅓ gr.)
Extract of opium . . . . . 0.004 gm. (1/15 gr.)
For 1 pill. From 5 to 8 are taken daily.

One to two teaspoonfuls of Rochelle salt in a glass of hot water may be substituted 2 or 3 times a week. This should be taken before meals. One of the following powders may be given before breakfast and dinner:

Powdered simaruba . . . . . 0.3 gm. (5 grs.)
Powdered catechu } of each . . . 0.26 gm. (4 grs.)
Extract of rhatany }
Bismuth subnitrate . . . . . 0.65 gm. (10 grs.)
For 1 powder.

If severe colic is present, a small quantity of opium may be administered, preferably paregoric. Diarrhea of tuberculous origin is combated by astringents associated with opium. Adrenalin may also be used in the dose of 5 to 10 drops of a 1-1,000 solution in a little water, upon arising and before retiring. In diarrhea due to insufficiency of gastric digestion, proper dietetic precautions should be observed. When the mouth is foul in the presence of diarrhea with no disease of the stomach, Rochelle salt taken on an empty stomach, or a teaspoonful of sodium sulfate in a glass of hot water is of value, with 10 to 20 drops of hydrochloric acid in a glass of water after each meal. Lactic acid does not act so well. [L.F.A.]

Mystic Medicine.—F. X. Dercum (System of Physiologic Therapeutics, Vol. viii) in concluding his study of "Suggestion by Magic and Mystic Practices," says that the literature of occult medicine, exclusive of works upon hypnotism, is quite considerable. All the methods, however, no matter under what name they are couched—"Christian science," "mind cure," "faith cure," "vital force," "psychic force," "mental medicine," "natural suggestion," "science of life," "power of mind," "power of will," "force of mind," etc.—are based upon the induction of the negative hallucination. With the especial negative hallucination as to the disease, there is associated the induction of the general positive hallucination of well-being. The subjective accompaniments of morbid processes alone are recognized by mystic medicine. The organic basis to which the pain or other unpleasant symptom owes its existence is ignored. Advocates of mystic healing fail to realize the hope-

[1] Maryland Medical Journal, August, 1903.
[2] Journal des Praticiens, Vol. xvii, No. 20, 1903, p. 312.

lessness of their situation. The seat of the higher psychic activities, the cortex, can only be cognizant of changes taking place within itself. Normally these changes are correlated with the changes which take place in the body or in the environment. To interpret *artificially* induced changes—hallucinations and delusions—as correctly representing transformations in the organism or in the external world is an absurdity which falls to the ground of its own weight. Mystic medicine is as old as the race. Some forms have gone, others have come, but no matter how the dress has been changed, the method is always the same. The incantations of the "medicine man" differ in no essential from the incantations of the eddyist or the dowieite. Each deals with disease as the result of sin and crime, as evidence of the anger or the ill-will of the demons or of the gods, who must be appeased by prayer, charms, and magical rites; or who must be opposed by some occult knowledge or mystic power possessed by the healer. Civilization merely adds a complex outward raiment, but this raiment conceals the same old puerile superstition and magic that characterized the medical practice of our savage ancestors.

Treatment of Dysentery by Neutralized Hydrogen Dioxid Water.—Roger and Rocaz[1] have obtained excellent results from the use of rectal injections of neutralized hydrogen dioxid water in dysentery. The hydrogen dioxid of commerce being acid in reaction, it is important to neutralize it carefully before employing it in this way. Roger directs that it be mixed with an equal volume of a solution of sodium bicarbonate 4 parts to 1,000. Another method consists in the addition of vichy water. The quantity of liquid injected should vary with the individual; it is necessary to employ as much as possible without causing its expulsion; ½ qt. to 1 qt. is usually used for adults, ½ pt. to 1 pt. for young people, and 3 oz. to 6 oz. for infants. Two or 3 injections daily are usually sufficient in benign cases; this number may be increased according to the severity of the attack. The liquid should be injected slowly by means of a fountain syringe placed a short distance above the patient, who should be directed to turn from side to side so that the large intestine may be completely bathed. By this treatment the pains and tenesmus rapidly diminish and the mucus and blood disappear from the stools. No counterindication exists to this treatment, which may also be used in the treatment of enteritis simulating dysentery. [L.F.A.]

Pyramidon in Tuberculosis.—A. Debidour[2] reports a series of 23 cases of tuberculosis in which the use of pyramidon camphorate had a very beneficial effect on the fever of this disease. He employs the drug in doses of from 0.2 gm. to 0.4 gm. (3 grs. to 6 grs.), 2 or 3 times daily. The action of pyramidon camphorate is less powerful than that of antipyrin but much more durable than the latter drug. No unfavorable effects were seen after its use. [L.F.A.] [Such treatment is purely palliative, and must be reserved for emergencies or to alleviate the symptoms of terminal infection. Antipyresis by drugs is never directly helpful. It serves merely to mitigate distress. S.S.C.]

Gummas at the Point of Injection of Mercurial Preparations.—F. Juliusberg[3] reports 3 cases of syphilis in which the treatment consisted of hypodermic injections of mercury; respectively 18 months, 9 months, and several years afterward there appeared at the points of injection a hard mass of considerable size, painful and tender. In 2 cases the center of the mass had softened and broken down. He discusses the question whether the masses were gummas or softened chronic infiltrations produced by encapsulated mercurial salts. As no iodids had been given two of the patients, it could not have been a question of the formation of the caustic iodid of mercury within the tissues. Juliusberg reached the conclusion that they were gummas produced by constant traumatism to the parts. They disappeared promptly when iodids were given. He closes his article by giving general directions how to employ the hypodermic method so as not to produce infections. [E.L.]

Methylatropin Bromid.[4]—This is a white, crystalline substance easily soluble in water or dilute alcohol, but insoluble or only slightly soluble in absolute alcohol, ether, and chloroform. It has been found after experimentation that this preparation stimulates the action of the heart and respiration less rapidly than does atropin. Methylatropin bromid has been used successfully in the treatment of the night-sweats of pulmonary tuberculosis in the doses of from 6 mgs. to 13 mgs. ($\frac{1}{10}$ gr. to ¼ gr.). It does not cause dryness of the mouth and throat as does atropin. [L.F.A.]

The Treatment of Gout.—I. *Dietary.*—Sir Dyce Duckworth would lengthen greatly the usual list of foods and drinks allowable to gouty individuals.[1] Animal food is not only harmless but beneficial to gouty persons if it be taken in moderation. The alleged difference between red and white meats he regards as nonsense. Fish and shellfish are innocuous and viscera need not be excluded from the list. Roots and vegetables grown underground are harmless, as are tea, cocoa, and coffee, when properly prepared. Many gouty persons are better without wine, while a little good wine helps many of them. The point emphasized is that a large choice of edibles, including most of those consumed by healthy individuals, is open to the gouty. Relief comes not so much by omitting this or that article of food as by a daily and systematic reduction of the whole amount consumed. II. *Local Treatment.*—For relieving the local pain in acute gout, A. P. Luff finds the following lotion the most useful:

Sodium carbonate	125 gms.	(℥ 4)
Belladonna liniment	60 cc.	(℥ 2)
Tincture of opium	45 cc.	(℥ 1½)
Water	sufficient to make 235 cc.	(℥ 8)

A small amount of this is mixed with an equal quantity of hot water and poured on cotton-wool previously arranged about the joint. This is changed every 4 hours. F. S. Toogood finds of great value the application of a hot brine fomentation made of common rock-salt. For 12 months he tried local hot-air treatment but obtained no favorable results. III. *Balneology.*—G. A. Bannatyne describes certain conditions and effects that should govern the physician in making choice of a suitable spa for his patient. He compares the actions, internal and external, of the waters of most of the famous European springs and states that the most suitable waters in America are those of Saratoga, the St. Clair Spring in Michigan, and the Caledonian Spring in Canada. He believes that mineral water used as a bath is not absorbed. The class of waters that may be used in all forms of gout are the simple thermal or calcareous waters. Particular springs for certain classes of cases are enumerated. The modes of application of the water, both internal and external, as carried out at Bath are described at length. [A.G.E.]

Intravascular Antisepsis.—W. V. Shaw[2] has experimented with the intravascular use of antiseptics. Formalin, guaiacol, and chinosol were nontoxic in healthy full-grown rabbits in the following maximal doses in the animals observed:

Chinosol 1:640, in 6% NaCl solution	40 cc.
Guaiacol 1:200, in 6% NaCl solution	25 cc.
Formalin 1:250, in 6% NaCl solution	10 cc.
Formalin 1:500, in 6% NaCl solution	15 cc.

Animals injected with *Bacillus pyocyaneus* died more quickly after intravascular use of antiseptics than did control animals. Of 2 tuberculous rabbits one seemed to be unaffected by intravascular injection of formalin, the other died in half an hour, evidently from local effect upon the lungs. [S.S.C.]

FORMULAS, ORIGINAL AND SELECTED.

To remove "liver spots," Coston[3] recommends:

Compound tincture of benzoin	1½ oz. (45 cc.)
Mercuric chlorid	1 dr. (4 gms.)
Cologne water	to make ½ pt. (235 cc.)

Apply twice daily. [S.S.C.]

Depilatory Powder.—The best ordinary depilatory powder[4] is one made of a good quality barium sulfid and starch. The proportions may vary from barium sulfid and starch equal parts to 1 part of barium sulfid and 4 parts of starch. Do not use lime; that ruins the skin. An excellent depilatory paste is

[1] Le Mois Thérapeutique, Vol. iv, No. 2, 1903, p. 17.
[2] Thèse de Paris, 1902.
[3] Münchener medicinische Wochenschrift, April 14, 1903.
[4] Les Nouveaux Remèdes, Vol. xix, No. 6, 1903.

[1] The Practitioner, July, 1903.
[2] Journal of Hygiene, iii, 2, 1903, 159-165.
[3] Therapeutic Gazette, July 15, 1903.
[4] Critic and Guide, July, 1903.

made by passing hydrogen sulfid into milk of lime; this gives calcium sulfhydrate, which is not caustic. [s.s.c.]

FOR INVESTIGATION.

Brief reports of results of the use of drugs mentioned in this section are invited, for the Editor's information and for publication. (See editorial article in issue of January 4, p. 42.)

Antennaria Margaritacea in Treatment of Hemorrhoids.—F. M. Black,[1] of Peru, Ind., reports much success in treating external hemorrhoidal tumors with a medicine prepared from the plant antennaria margaritacea; common name, "life everlasting;" vulgar name, "old sow." The leaves and spreading tops, gathered when in bloom, about the last of August, or during September, are placed in an ample vessel, closely covered over a slow fire, steeping for 10 or 12 hours, not allowing to boil; the liquid is then expressed, strained, filtered and evaporated upon a water bath to a solid extract of the consistency of soft wax. About 1 ounce of this solid extract is rubbed up with 2 ounces of any good ointment base, apply usually twice a day. Pile tumors usually vary in size, the larger ones pressing with considerable force against smaller and less movable tumors become irritated sometimes by friction, causing intense suffering. In such conditions Black saturates a small pledget of cotton with the ointment, and presses it between the tumors. Sometimes a few drops of carbolic acid are added and help to relieve this irritation. The bowel movements should be kept soft. Sulfur usually answers well for this purpose.

PATHOLOGY.

J. Edwin Sweet

EDITORIAL COMMENT

The Localization of the Tetanus Bacillus.—It is the commonly accepted teaching of bacteriology that the tetanus bacillus remains strictly localized to the site of the infected wound. This teaching was founded upon the result of direct clinical and experimental examination of cases of tetanus; it was also made more plausible by the discovery of the terrible toxin of the bacillus, which made it possible that a few bacilli could produce more than the lethal dose for the infected organism. There are many facts, however, concerning tetanus which are as yet by no means clear; the fact that the bacillus is found in every fertilized soil and in considerable numbers, has been explained in several ways, and yet the explanations have hardly more than the importance of theories, because they are not subject to direct experimental proof. One theory is that the bacillus of Nicolaier is of intestinal origin, that is, that it propagates in the digestive tract of the larger domestic animals, and thus passes with the waste of digestion to the soil; yet the presence of the tetanus bacillus in the intestinal content has not been demonstrated in a manner sufficiently conclusive to give this theory the importance of a fact. Another peculiarity of the tetanus bacillus has long been known—its socalled symbiotic tendency—the property of developing, under certain conditions, only in conjunction with some other bacterium. This fact seems sufficient to explain the remarkable occurrence of tetanus, yet a conclusive study of this phenomenon has, we think, never been made. This may be partly due to the technical difficulties attendant upon the artificial cultivation of the organism. The unsatisfactory state of our present knowledge leads us to welcome any addition to the question. Hohlbeck[2] has recently reported a case of typical tetanus in a young sailor. The infection had its seat in a superficial injury of the side of the nose; typical tetanus bacilli were found in the necrotic tissue of the wound. So far the case presents nothing unusual, but Hohlbeck reports that ordinary bouillon cultures, made from blood taken from the patient five hours before death, slowly became clouded; on the seventh day Hohlbeck demonstrated microscopically in these cultures, bacilli which were in every way like the bacilli described by Nicolaier and Rosenbach, together with cocci. Further bouillon cultures were inoculated from this culture and showed typical drum-stick bacilli, after the course of from eight to ten days. Four out of eleven white mice, inoculated with the cultures of the second generation, died of typical tetanus. A few similar cases have been previously reported. Nicolaier[1] found tetanus bacilli in the spinal cord. Schnitzler[2] found them in the lymph-glands adjoining the seat of infection. Dor[3] found the bacilli in a small hematoma of the gray matter. Belfonti and Pescarolo[4] found a bacillus taken from the blood of a patient 24 hours before death. Hochsinger[5] cultivated tetanus bacilli from blood taken from the cephalic vein of a tetanic patient. Von Oettingen and Zumpe[6] and Sacharjan[7] have found tetanus bacilli in the organs of experimental animals. Hohlbeck reports analogous results with animals. Hohlbeck considers that under certain circumstances the bacilli may wander from the wound into the blood-current, but it is impossible to state whether the severity of the infection, or the condition of the wound, would influence this process. One thing seems certain, that a mixed infection is necessary to the presence of the bacilli in the general circulation. We do not think that general conclusions can be drawn from so few cases, but these cases seem of considerable importance to the question of the pathology of tetanus, and should at least be familiar to every one to whom the possibility of a thorough examination of a case of tetanus may ever occur. In regard to the serum therapy of tetanus, von Schuckmann[8] reports one fatal case, and in connection with this report a statistic consideration of the cases thus far reported. He concludes that a therapeutic success cannot be obtained with the tetanus antitoxin in its present form. In this same journal there immediately follows the report of a successful case by Frotscher, who considers it probable that the use of the antitoxin made the course of the disease more favorable, even though he is unable to state specifically just what symptoms were alleviated. If a general infection occurs at all, it is probable that it occurs in a large number of cases. Herein may lie the explanation of the failure of a purely antitoxic serum in so many cases of tetanus.

Human and Bovine Tuberculosis.—The startling statement made by Robert Koch at the London Tuberculosis Congress, that bovine tuberculosis is not transmissible to the human being, was based upon the fact that no unquestionable case of infection of a human being with the bovine bacilli had as yet been reported. He further stated the natural restrictions which must be applied to any case before its bovine origin could be strictly claimed. A recent case reported by Troje[9] seems to withstand a most severe criticism. A butcher's apprentice tore the skin of his left forearm upon the rib of the carcass of an animal infected with perlsucht. After about six weeks' incubation the skin became affected by a process at first of the character of a tuberculous ulcer, later assuming that of lupus; a local lymph-gland infection accompanied the process. After over a year a subcutaneous, tuberculous abscess formed, and the glands of the axilla and of the infraclavicular space became infected. The case-history of this patient seems to stand without question, there being no history of tuberculosis in the family and, likewise, no evidence of latent disease. The diagnosis of bovine tuberculosis is further borne out by a microscopic examination of the

[1] The Eclectic Medical Gleaner, August, 1903.
[2] Deutsche medicinische Wochenschrift, No. 10, 1903, S. 172.

[1] Virchow's Archiv, 1892, Bd. cxxviii.
[2] Zentralblatt für Bakteriologie, Bd. xiii.
[3] Semaine Médicale, 1890, No. 23.
[4] Zentralblatt für Bakteriologie, Bd. iv.
[5] Zentralblatt für Bakteriologie, Bd. ii.
[6] Deutsches Archiv für klinische Medicin, 1899, Bd. lxiv.
[7] Cited from Wratsch, 1898.
[8] Deutsche medicinische Wochenschrift, No. 10, 1903, S. 173.
[9] Deutsche medicinische Wochenschrift, No. 11, S. 190.

infected tissue, which reveals certain characteristics peculiar to the picture of perlsucht. A definite, histologic differentiation is, nevertheless, thought impossible. Troje considers that the similarity between the pictures offered by this case and those of ordinary lupus indicates that the sole difference between the bovine and human tuberculosis is a difference in virulence, the bovine bacillus being less virulent.

REVIEW OF LITERATURE

The Pathology of Early Deaths After Burns of the Skin.—A number of different opinions have been given to account for deaths occurring a short time after burns. Sonnenburg says that it is due to shock (vasomotor and cardiac paralysis); this explains a few cases. Changes in the blood, macroscopic and microscopic, have been claimed by others as being responsible, especially by Tappeiner and Ponfick. The latter also formulated the theory that in such cases thrombi obstructed the uriniferous tubules, producing hemorrhagic nephritis and uremia. Dohrn[1] has studied 16 cases, 12 of whom died, and 9 cases came to autopsy. He found extensive blood changes in all of them, both as regards form and number of the red and white blood cells; many of them were destroyed, their detritus filling the circulatory stream, but he was not able to demonstrate thrombi anywhere, although making extensive search. Nephritis was found three times, and neither this nor degenerations and inflammations of other organs, such as the central nervous system, the lymph-tissue, etc., which were found, should be traced to the hemoglobinemia. His own conclusion is that death in all cases is brought about by toxins widely diffused throughout the body. [E.L.]

Pathology of Cancer.—To J. J. Clarke[2] the idea that cancer arises in a perverted habit of epithelial cells would seem to contradict the teaching of Darwin, if characters acquired with infinite slowness could be thus lost in one individual's life. The pathology of smallpox throws a light on that of syphilis and cancer. The bodies demonstrated in variola are so far specific that Guarnieri's experiment may be taken as a test of the activity of any specimen of vaccine lymph. The aggressive, highly-specialized parasitism of some of the protozoa gives them a totally different import from the more passive bacteria and fungi. Clarke has found a close similarity between the bodies seen in the vaccinated cornea and those described as the protozoa of cancer, and that through a larger series of forms than is usually recognized. He has also described in primary, secondary, and tertiary skin lesions, bodies resembling those that occur in vaccine lymph and variolous lesions. Gaylord's work confirms conclusions that he arrived at 10 years ago. [H.M.]

The Pathologic Changes in the Nervous System in a Case of Lead-poisoning.—In a case of lead-poisoning in which there had been slight wrist-drop and paraplegia, W. G. Spiller[3] found changes in the brain, the pia, the nerve-cells of the anterior horns of the spinal cord, the ganglia in the posterior roots, the peripheral nerve-fibers, and the muscles. The changes in the spinal ganglia closely resembled those found in rabies, and consisted in proliferation of the endothelial cells lining the capsules. In the pia the changes were also characterized by proliferation of the endothelial cells. [D.R.]

Microscopic Technic.—To prevent the light from being too bright when artificial illumination is used, T. Sato[4] interposes pale-colored glass or gelatin paper between mirror and condenser. If the complemental color to the stain is used, much better and clearer pictures are formed than with other colors. For safranin he uses green glass; for methylene-blue, red and yellow, etc. [E.L.]

Adenoma and Angioma of the Kidneys.—W. R. Smith[5] (Australia) describes (*a*) two specimens of adenoma of the kidneys; (*b*) two specimens of angioma of the kidney, one of which was associated with angioma of the liver; (*c*) a capillary angioma of the liver; (*d*) a case of isolated angioma of the abdominal cavity; and (*e*) an angiofibroma of the liver, and discusses the comparative structure and mode of growth of these tumors. The article is illustrated by 23 figures, mainly of microscopic sections. The relation of angiomatous to adenomatous growths is considered. The acini of the latter apparently being derived from outlying cells in the fibrous groundwork of the tumor or in preexisting tissue. The changes in the epithelium of the tubules and in Bowman's capsule are taken to be illustrations of a law that the writer has deduced from his studies of various newgrowths; viz., that when one portion of an organ has become cancerous or is otherwise diseased, the whole of the tissues of the neighborhood, if not of distant parts as well, seem in a condition of active preparedness to participate in changes identical with those going on, or in changes of another character depending on the particular or special nature of the tissues affected. [A.G.E.]

Hyperplastic and Metaplastic Hematopoiesis in a Case of Universal Carcinosis.—L. Kast[1] reports a case of multiple carcinosis from primary cancer of the penis. The blood count showed 120,000 leukocytes to the cubic millimeter, of which 94.5% were multinuclear neutrophiles. The other forms were either slightly or not at all increased. There were observed certain abnormal forms, identified as bone marrow elements. The erythrocytes were considerably diminished. Autopsy showed carcinosis of almost all organs, especially the bone marrow. The hematopoietic organs were changed even in the noncarcinomatous parts. The bone marrow was universally red, and characterized by hyperplasia of its neutrophile and oxyphile granular cells. The noncancerous spleen, and to a certain extent the lymph glands, were enlarged and partook of the socalled myeloid transformation. Among the cases of bone marrow tumors so far reported this is the first to show such marked changes in the proportions and formation of the leukocytes. The author is of the opinion that the blood changes are to be considered as a secondary, cachectic anemia, combined with an excessive hyperleukocytosis of a leukemic nature. [B.K.]

Parasitic Origin of Scurf.—Alfred Lefebvre[2] describes three forms of this condition which he bases upon the clinical history, microscopic examination, and cultures. Of 91 cases there were 67 of "Teigne à petites spores" (*Microsporon audouini*), 11 cases of "Teigne à grasses spores" (*Trichophyton megalosporum endothrix*), and 13 cases of "Teigne faveuse" (*Achorion schönlenii*). [J.H.W.R.]

Spontaneous Pulmonary Tuberculosis with Large Cavity in a Water-turtle.—Spontaneous tuberculosis of the lungs has never before been observed in the cold-blooded animals. F. Friedmann[3] reports such a case. The right lung of a turtle contained a number of small, cheesy nodules; the lower part of the lung contained a cavity the size of a hen's egg, in the wall of which numerous small miliary nodules can be seen. The entire organ contains a very large number of bacilli not distinguishable from the tubercle bacilli of mammalia. Some of the alveoli were almost solid with the swarms of these organisms. Typical giant-cells were seen in different places. [E.L.]

The Mechanism of Absorption of Granular Materials from the Peritoneum.—W. G. MacCallum[4] reviews the previous theories regarding the presence of stomas or stigmas in the peritoneum and then gives the results of a series of studies made to control those different theories and also to discover the path taken by solid granules as they leave the peritoneum. The crucial point is the passage of the granules through the tissues, if any, that separate the lumina of the lymphatic channels from the cavity of the peritoneum. An elaborate description of the anatomy and histology of the structures in question is given. One conclusion reached is that phagocytosis is capable of producing by itself an injection of the lymphatics and is of extreme importance in the absorption of granular material. A further point determined by artificial respiration experiments is that mechanical aspiration of granules through lax cell membranes by respiratory movements is

[1] Deutsche Zeitschrift für Chirurgie, 1902, Vol. lx., p. 469.
[2] Medical Press and Circular, March 11, 1903.
[3] Journal of Medical Research, August, 1903.
[4] Münchener medicinische Wochenschrift, February 24, 1903.
[5] Medicine, August, 1903.

[1] Deut. Archiv für klin. Med., Bd. 76, p. 48.
[2] Journal Médical de Bruxelles, March, 1903, p. 145.
[3] Deutsche medicinische Wochenschrift, January 8, 1902.
[4] Johns Hopkins Hospital Bulletin, May, 1903.

also possible. From the studies detailed MacCallum finds no support whatever for the statement that there exists open communications between the peritoneum and the lymphatics, nor can he uphold the idea that the peritoneal cavity forms a part of the lymphatic system. Each of these cavities is lined with cells that retain their specificity throughout and nowhere merge into one another or into the adjacent connective tissue cells. [A.G.E.]

Experiments on the Kidney.—F. Pfaff and M. Vejnx-Tyrode,[1] in repeating the perfusion experiments on the kidney in the laboratories of the Harvard Medical School and the Massachusetts General Hospital, found it impossible to procure a secretion of normal urine when the kidney was perfused with defibrinated blood. By using blood rendered noncoagulable with leech-extract, better results, quantitatively, as well as qualitatively, were obtained. [D.R.]

Eberth's Bacillus in the Lungs of Typhoid Patients.—Roque and Bancel[2] studied the bacillus of Eberth in its relation to the lungs in typhoid fever, and concluded that this bacillus localizes itself readily in the lungs, and plays an important role in pulmonary complications of typhoid fever, and that the blood of the lungs contains more of the bacilli than the blood of the general circulation. [J.H.W.R.]

Meningococcus Intracellularis.—O. Heubner[3] reports two cases of epidemic cerebrospinal meningitis, and basing his remarks upon the bacteriologic reports of the cerebrospinal fluid reaffirms the statement made by him a number of times and almost generally accepted that the meningococcus intracellularis is the organism setting up this disease. He discusses one after the other the various arguments brought forth by different observers against this, and especially lays stress on the unreliability of Gram's stain, by which in one of the cases the bacteria were decolorized after one puncture, but not after two others. He considers the bacterium described by Weichselbaum as identical with his, but says the name given by him is better than that given by Weichselbaum. [E.L.]

Metabolism in Gout.—T. B. Futcher[4] writes with special reference to the relationship between the uric-acid and phosphoric-acid elimination in the intervals and during acute attacks of gout. He reports a careful study of 3 cases and gives charts of each, showing a parallelism between the curves of the two acids which he believes is a fairly constant one in gout. This intimate association of the two acids seems to point toward a common cause and to suggest a common source. The author's summary of the study is: "The analyses in the cases reported suggest very strongly a close parallel relationship between the uric-acid and the phosphoric-acid excretion in gout. They further point in favor of the view that both are products of nuclein disintegration. In the quiescent intervals both phosphoric acid and uric acid are markedly reduced below normal. Two or three days after the acute arthritic symptoms commence the phosphoric acid and uric acid gradually increase until they reach the average normal output, or even the upper limit for normal. As the acute manifestations subside both steadily fall and remain below the lower limit for normal until the onset for the next acute attack." [A.G.E.]

Bactericidal Action of Human Blood-serum.—E. Löwenstein[5] concludes from his experiments that the cell-free serum of human adult blood possesses strong bactericidal properties for typhoid bacilli and cholera vibrios, but acts weakly on anthrax bacilli. Staphylococci and diphtheria bacilli are not at all influenced by the serum. The serum of diabetics entirely loses its bactericidal power for anthrax. In infectious diseases the bactericidal power of the serum is suspended for the organism causing the disease. [B.K.]

A New Parasite Found in Sarcoma.—G. S. Kulesh[6] describes a parasite belonging to the class of sporozoa, which he found in a sarcomatous growth of the stomach. The parasite and its biologic history are given in detail. While decidedly rejecting any suggestions of its accidental presence, the author does not venture to make broad generalizations, and contents himself with the statement of facts. [L.J.]

Basophilic Granules in Red Blood Cells.—Reitter[1] has found basophilic granules in the red blood cells of 20 individuals afflicted with pulmonary tuberculosis and a high grade of anemia. Since all the conditions in which the punctate erythrocytes have been found are associated with anemia, he believes, that they are due to the impoverishment of the blood, and are not a characteristic blood sign of any one disease. The same granules were found in small numbers in some specimens of normal blood. The author therefore concludes that in small numbers they are perfectly physiologic, and must be considered pathologic only when many blood corpuscles contain the granules. [E.L.]

The Chlorids in Typhoid Phlegmasia Alba Dolens.—M. Chantemesse[2] believes that chlorids retained in cases of typhoid fever have the same effect that has recently been demonstrated in Bright's disease. Hence phlegmasia alba dolens has the same pathogenesis as the edema of nephritis. To 6 cases he has given a salt-free diet with results that apparently justify this belief. In two of them the condition had persisted 6 weeks and 2½ months respectively; in two it was recent, the swelling of the leg being marked; in the last two thrombosis was undoubted but the swelling failed to appear. The diet produced in all the cases an amelioration of surprising rapidity. Chantemesse concludes that phlegmasia alba dolens in typhoid patients is the result of the intoxication of the part by sodium chlorid, the venous obliteration being only a predisposing cause. That this is true of puerperal and cachectic patients he is not prepared to say, but has seen the disappearance of pain and swelling follow the use of this diet in an aged woman who had thrombosis at the site of an inflamed varix. [A.G.E.]

Concerning the Coagulation Inhibiting Constituent of Medicinal Leeches.—F. Franz,[3] working in Jacobi's laboratory, has succeeded in isolating the anticoagulatory constituent of leech-extract. The substance, called herudin, is an albumose allied to the peptones. It may be obtained in the dry state, and will soon be placed upon the market. Herudin ought to prove useful in physiologic and in certain clinical experiments. [D.R.]

Primary Malignant Tumor of the Pleura.—C. Gutmann[4] reports a case which showed at autopsy a tumor of the left pleural cavity, composed of numerous pedunculated nodes. The tumor was superficial, penetrating the pleural tissue in but a few places. The surface epithelium of the pleura was absent in many spots, and in other localities showed a tendency to cell multiplication. It covered the pedicles and tumor masses and often was continuous with the tumor tissue. The latter was composed of nests and tracts of irregularly placed, multiform, closely packed and matted cells. There were no metastases. The tumor evidently arose from the surface epithelium of the pleura. The structure was of a sarcomatous nature, but the cell nests and tracts were epithelial in character. The tumor was, therefore, neither a sarcoma nor a carcinoma. [B.K.]

Immunization with Diphtheria Bacilli.—Lipstein[5] performed a number of experiments to produce products which when injected into animals would immunize them against the effect of the bodies of the diphtheria bacilli. He succeeded in doing this by beginning his intraperitoneal injections with combinations of antitoxin and dead cultures, gradually working up to stronger and stronger cultures until a serum was obtained which produced resistance against virulent cultures, that is, agglutination followed the contact of this serum with virulent cultures. He found, however, that this precipitating property varied with the culture used, and was greatest when bacteria used were related to serum from which immunizing serum had been made, weaker when some other bacteria were employed. [E.L.]

Congenital Tumors of the Kidney.—Two cases are re-

[1] Arch. f. exper. Path. u. Pharmak., June, 1903, Bd. xlix, Hefte 4. u. 5.
[2] Lyon Médical, April, 1903, p. 578.
[3] Jahrbuch für Kinderheilkunde, 1902, Vol. lvi, p. 359.
[4] The Practitioner, August, 1903.
[5] Deut. Arch. für klin. Med., Bd. 76, p. 93.
[6] Russki Vratch, March 29, 1903.

[1] Wiener klinische Wochenschrift, November 20, 1902.
[2] La Semaine Médicale, July 29, 1903.
[3] Arch. f. exper. Path. u. Pharmak., June, 1903, Bd. xlix, Hefte 4 u. 5.
[4] Deut. Archiv für klin. Med., Bd. lxxv, p. 337.
[5] Deutsche medicinische Wochenschrift, November 13, 1902.

ported by L. W. Strong,[1] one being bilateral in a boy of 4. The kidney and tumor of one side was removed, recovery following. In three weeks a similar tumor was detected on the opposite side. Growth was rapid and the patient died in six months. Detailed histologic findings of both tumors are given. The second specimen was obtained at autopsy upon a boy of three. Among Strong's conclusions are: (1) Histologic comparison shows that these tumors resemble the embryonic Wolffian body; (2) there is a continuous system of tubules and their derivative cell masses throughout the tumor, the tubules being the primary mesothelial elements and the cell masses derived from them by retrograde metamorphosis; (3) the histologic characteristics vary with the age of the part; (4) bilateral tumors are coincident and not metastatic; (5) metastases may occur through the lymph stream. [A.G.E.]

Postmortem Appearances in the Drowned.—H. Littlejohn[2] finds in literature no special reference to the effects of immersion in salt water. The diagnostic signs of drowning are the same but changes from lying in the water show marked differences. In the sea soft parts on exposed portions of the body are destroyed very rapidly principally from the action of fishes and crabs, while the body as a whole shows much slower putrefactive changes. The bones of head, hands and feet are often picked clean within 10 days of death. The backs of the hands are attacked before the palms, due to difference in toughness of the skin. Slowness of putrefaction is due to greater purity of the water, the slightly antiseptic action of the salt and possibly also conditions more conducive to the formation of adipocere. Injuries are found more frequently in bodies recovered from fresh water. Abrasions occurring in the sea are of a light red color, similar to excoriations caused during life, due to the salt water. This may account also for the general bright red or pink coloration frequent in those drowned in the sea. The writer reports a case in which calcium phosphate crystals studded the pleura, one of the constituents probably being derived from the body, the calcium from the sea water. [H.M.]

THE PUBLIC SERVICE

Changes in the Medical Corps of the U. S. Army for the week ended August 22, 1903:

BRECHEMIN, Major LOUIS, will proceed to Ord Barracks and report at that post for duty, to relieve Captain P. F. Straub, who, upon being thus relieved, will proceed to Fort Leavenworth and report for duty.

BRECHEMIN, First Lieutenant LOUIS, Jr., will proceed to Fort Baker and report for duty.

FORD, First Lieutenant J. H., is granted leave for ten days.

MATHEWS, First Lieutenant G. W., is granted leave for one month.

MASON, Major C. F., will proceed to Austin, Tex., for the purpose of advice relative to the hygienic conditions to govern encampment of Texas national guard.

Assignment to sergeants first class are as follows: G. J. Westerdahl to Fort Lincoln; C. S. Benche to Fort Leavenworth; W. S. Baker to Fort Reno; Frank Lahna to Fort McDowell.

STEPHENSON, Major WILLIAM, is granted leave for ten days.

GEER, First Lieutenant C. C., is granted leave for one month.

BRECHEMIN, First Lieutenant LOUIS, Jr., will report to Third Squadron, Sixth Cavalry, for temporary duty.

SHOOK, First Lieutenant J. R., will report to the commanding officer Sixth Infantry, for temporary duty.

MORSE, First Lieutenant C. F., and LEWALD, First Lieutenant L. T., will report to Base Hospital, Iloilo, for temporary duty.

PIPES, First Lieutenant H. F., will accompany troops ordered to the United States in S. O. 188.

The following assignments of sergeants first class are made: Patrick O'Reilley to Cabana Barracks; H. J. Walls and W. H. Vinal will accompany troops from Havana to the United States; John Walton to Havana.

WADHAMS, First Lieutenant S. H., will proceed to Manila and report to judge advocate of G. N. M., as witness in the case now pending before that court.

The following changes of station and assignment to duty are announced: First Lieutenant R. F. Metcalf to Camp Connell, Calbayog, Samar, as surgeon; Sergeant First Class Thomas Robinson to Base Hospital, Iloilo, Panay.

DE WITT, First Lieutenant WALLACE, is relieved from duty at Fort Porter and will proceed to Fort Myer for temporary duty.

HENDERSON, First Lieutenant A. B., leave granted is extended twelve days.

[1] Archives of Pediatrics, May, 1903.
[2] Edinburgh Medical Journal, February, 1903

CARSWELL, First Lieutenant R L., will report for transportation to the Philippine Islands and upon arrival at Manila will report for assignment to duty.

WHITCOMB, First Lieutenant C. C., is relieved from duty at Fort Preble and will proceed to Fort McKinley.

LYSTER, First Lieutenant T. C, will make not to exceed two visits each week to New York City on business pertaining to the examination of recruits.

Changes in the Medical Corps of the U. S. Navy for the week ended August 22, 1903:

GRUNWELL, A. G., and BUCHER, W. H., surgeons, appointed surgeons from June 20—August 15, 1903.

THOMPSON, J. C., passed assistant surgeon, commissioned as such, August 10—August 15, 1903.

WIEBER, F. W. F., surgeon, ordered to the Prairie, August 21—August 17, 1903.

RIGGS, R E., assistant surgeon, detached from the Naval Hospital, Philadelphia, and ordered to the Navy Yard, Washington, D. C.—August 17, 1903

BROWN, H. L., assistant surgeon, detached from the Navy Yard, Washington, D. C., and ordered to the Naval Hospital, Philadelphia, Pa.—August 17, 1903.

BEYER, H. G., surgeon, detached from the Prairie and ordered to duty as member of a Board on Barracks—August 18, 1903.

MCLEAN, A. D., assistant surgeon, ordered to the Wabash, Boston, Mass.—August 18, 1903.

SCOTT, S. L., assistant surgeon, ordered to the Naval Hospital, Chelsea, Mass.—August 19, 1903.

RANDALL, J. A., assistant surgeon, ordered to the Naval Hospital, Norfolk, Va.—August 19, 1903.

ABEKEN, F. G., assistant surgeon, ordered to the Naval Hospital, New York—August 19, 1903.

PEASE, T. N., assistant surgeon, ordered to the Naval Hospital, Newport, R. I.—August 19, 1903.

DERR, E. Z., medical inspector, detached from the Chicago and ordered home to wait orders—August 20, 1903.

HUNTINGTON, E. O., surgeon, when discharged from Naval Hospital, New York, granted sick leave for three months—August 20, 1903.

MORGAN, D. H., passed assistant surgeon, ordered before a Retiring Board, September 4, at the Navy Yard, Mare Island, Cal.—August 20, 1903.

STONE, M. V., assistant surgeon, ordered to the Naval Hospital, New York, for treatment for a period of six months—August 20, 1903.

Changes in the Public Health and Marine-Hospital Service for the week ended August 20, 1903:

BANKS, C. E., surgeon, three days' leave of absence from August 8, 1903, under paragraph 189 of the regulations.

CARMICHAEL, D. A., surgeon, Bureau order of August 10, 1903, directing Surgeon Carmichael to report to director of Laboratory for special instructions, amended so that he shall report at the Laboratory for special temporary duty—August 17, 1903.

PERRY, J. C., passed assistant surgeon, relieved from temporary duty in the Bureau, and directed to report to the director of the Laboratory for duty—August 15, 1903.

ROSENAU, M. J., passed assistant surgeon, granted leave of absence for seven days from August 19—August 18, 1903.

NYDEGGER, J. A., passed assistant surgeon, granted leave of absence for one month from August 13, 1903, on account of sickness—August 20, 1903.

WICKES, H. W., passed assistant surgeon, leave of absence for one day granted by Bureau telegram of August 13, 1903, revoked—August 20, 1903.

PARKER, H. B., passed assistant surgeon, relieved from special temporary duty at Vera Cruz, Mexico, to date from July 22—August 17, 1903. Granted leave of absence from August 19—August 18, 1903.

MCCLINTIC, T. C., assistant surgeon, to report to director of the Laboratory for duty, to take effect August 1, 1903—August 17, 1903.

WILLE, C. W., assistant surgeon, relieved from duty at the Laboratory, to take effect August 3—August 17, 1903. Detailed to inspect unserviceable property at Baltimore, Md.—August 18, 1903.

DELGADO, J. M., acting assistant surgeon, granted extension of leave of absence for seven days from August 12—August 17, 1903.

FOSTER, J. P. C., acting assistant surgeon, granted leave of absence for seven days from August 19—August 19, 1903.

FRISSELL, C. M., acting assistant surgeon, Department letter of August 6, 1903, granting Acting Assistant Surgeon Frissell leave of absence from August 6 to 18, amended to read from August 10 to 25—August 17, 1903.

SCHUG, F. J., acting assistant surgeon, granted leave of absence for ten days from August 15—August 17, 1903.

SPOHN, A. E., acting assistant surgeon, granted leave of absence from July 26, for thirty days—August 17, 1903.

Appointments.

HAMILTON, JAMIN H., appointed acting assistant surgeon, for duty at Richford, Vt—August 5, 1903.

WILLIAMSON, STACY D., appointed acting assistant surgeon, for duty at Malone, N. Y.—August 14, 1903.

Promotions.

FRICKS, L. D., assistant surgeon, commissioned (recess) as passed assistant surgeon, to rank as such from August 2, 1903.

HEISER, V. G., assistant surgeon, commissioned (recess) as passed assistant surgeon, to rank as such from August 3, 1903.

WHITE, M. J., assistant surgeon, commissioned (recess) as passed assistant surgeon, to rank as such from August 4, 1903

American Medicine

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PUBLISHED WEEKLY AT 1321 WALNUT STREET PHILADELPHIA BY THE AMERICAN-MEDICINE PUBLISHING COMPANY

VOL. VI, No. 10. SEPTEMBER 5, 1903. $5.00 YEARLY.

Fresh Milk and Its Transportation.—With the extension of the trolley systems into all parts of the country in the neighborhood of cities, and with the systematization and speed of railway trains our health-boards should at once demand the delivery of milk to the city consumer within a few hours after the milking. Every hour that the milk is kept lessens its nutritive value and increases the danger from infection by the multiplication of bacteria. It is not enough that the most praiseworthy scientific precautions as to keeping it pure should be demanded in the handling, shipping, keeping, and retailing; the time-element is as highly important. The greater the distance and time between the cow and the milking, and the child and the drinking, the more the danger and the more certain the use of pernicious adulterations and preservatives. There has lately been a hide-and-seek discussion in the House of Commons of England as to foreign milk, in which it came out that no information could be obtained as to this form of secret commercialism. The names of the dealers, etc., could not be obtained, and yet it was certain that milk is shipped into England from Holland, Norway, France, and—would one believe it?—from Victoria and New South Wales! It is added that despite all methods of preservation the milk "separates or deteriorates in other ways" after about a fortnight! In one case the imported milk was "believed to have been mixed with really fresh milk!" Some of our standard oil magnates should go to London and establish under-sea "pipe lines" to the Dutch, French, and Scandinavian dairies!

One Woman's Work as to Slaughter-house Sanitation.—The title *Reverend* before the name of a woman is likely to give citizens of "the effete East" something of a shock. But if there are more with the valor and effectiveness of the Rev. Caroline Bartlett Crane of Kalamazoo, Mich., we as physicians, or as citizens of any kind, should welcome them to any office, didactic, theologic, or practical that they may find to their tastes and abilities. *Charities* says that through her efforts the Michigan State Legislature has passed a bill providing for the inspection of meats and the care and sanitation of slaughter-houses. Mrs. Crane had a hard fight. She was to have been notified when the bill was up for consideration, but her first word came early one morning of its defeat by an overwhelming vote. In 30 minutes she was on a train bound for the State capital, and before the expiration of the 24 hours during which a defeated bill may be reconsidered, she had persuaded the man who was most instrumental in defeating the measure to move its reconsideration. The rules of the lower house were suspended and Mrs. Crane was given five minutes in which to address the members. That day the bill passed by a vote of 61 to 19. The bill has three vital provisions: (1) Licensing butchers, not for revenue, but for control; (2) regulation and inspection of slaughter-houses outside of city limits; (3) the minimum requirement for cleanliness and sanitation of slaughter-houses. It is the outcome of an investigation made by Mrs. Crane of seven Michigan slaughter-houses which she believes to be typical of uninspected abattoirs in all parts of the country.

Theory and Common Experience as to Alcohol.—The nutritive value of alcohol is discussed at great length by Professor Atwater.[1] The first point is, of course, that alcohol in small quantity is oxidized in the body. This fact has not been disputed by competent persons in 20 years. But Professor Atwater repeats it too often, and attaches to it an unreasonable amount of importance; he appears to regard it as a criterion of food value, notwithstanding the statement of Kühne (Heidelberg) that "the oxidation of a substance in the human body does not determine its injurious or its useful effect." According to Faust, "Morphin, like alcohol, may be oxidized in the body and in increasing quantities as the subject becomes more immune to it." Professor Atwater has made a number of experiments on three men by which he claims to have shown that alcohol in small quantity can be used by healthy persons in place of the carbohydrates and fats. Even if this were generally admitted—of course, it is not—he has forgotten that "this is not its important action when taken as part of food. Its value depends not on its being used as a substitute for an isodynamic quantity of starch or fat, but on its directing and modifying the metabolic processes of the body" (Foster). Professor Atwater admits that alcohol has an indirect drug action upon the nervous system in addition to a direct action

[1] Physiologic Aspects of the Drink Problem, edited by Dr. Billings.

as a food, but he appears to believe that one is obtainable without the other, which is contrary to the opinion of Horsley, a physiologist and neurologist of quite the first rank, who maintains that alcohol in quite small amounts with meals is injurious to the nervous system. Professor Atwater's opinion of the practical value of his experiments is of considerable importance. After demonstrating to his own satisfaction that alcohol is probably a source of muscular energy, he adds, "but practical experience indicates that it is a poor food for muscular work." From this admission would it be fair to assume that when the experience of everyday life conflicts with Professor Atwater's experiments, the latter may safely be disregarded? Quoting once more from the eminent physiologist, Michael Foster, "it appears that no distinct physiologic dicta concerning the usefulness or the opposite of alcohol as an article of diet can at present be enunciated. Any physiologic opinion which may be given is of less value than the teachings of general experience."

The Tent Treatment of Tuberculosis. — All interested in this important subject will find useful suggestions and experiences in the seventh annual report of the Manhattan State Hospital, by Dr. Macdonald. Considering the material at his disposal, the tuberculous insane, in advanced stages of the disease, the results of the tent treatment are very encouraging. The report summarizes the work of the second year. The patients were divided into three camps. In camp A., 84 male patients received the treatment, with 20 deaths due to tuberculosis, making a total from this cause of 8% of all deaths, a decrease of 8.8% from that of the previous year; 13 patients were returned to the wards with the disease arrested, and one cured. There was a general improvemeut in weight in all but three patients—a thermometer of general improved conditions—and in the discharged patients it ranged from 17 to 45 pounds. The average gain of the two-year treatment of 23 patients was 21¾ pounds, the average loss of the three who lost was 2⅔ pounds. In camp B., 20 demented and unclean patients were treated with an average gain of 12¼ pounds. In camp C. were placed 43 old, chronic patients —females. Extensions and improvements of the system are planned, Dr. Macdonald wishing especially to extend it to convalescing and working patients.

Responsibility for the Eddyistic Epidemic.— When the history of the outbreak of mental disease which its adherents call "Christian Science," "New Thought," "Mental Healing," etc., comes to be written, it will be found that not a little of the responsibility for its existence rests upon New England transcendentalism. As regretfully as one must say it, Emerson is their favorite philosopher, or was once so. Of course, neither this noble man nor that popular movement is entirely responsible for the present day examples of mental degeneration and disease. So far as one can learn, these people have no care for anything outside the dizzy whirl of their monomaniac ideas, or preferably, lack of ideas, and far from knowing anything about so ancient a person as Emerson they reck not and know not of any interest except "vibralogy" and the repetition of a meaningless lot of words. In one or two instances there is a glimpse of the fact that they have a vague idea of an outside world, as in Wilmans', for instance, but it is only of the world of phantasmagoric newspaper science (as, *e. g.*, "a life powder compounded by a Chicago physician to revive dead animals") taken in all seriousness. In one or two things all are united—in treating disease by "absent or distant treatment," and getting money therefor, in hating doctors, and the "postal underlings" (for excluding their purely commercial fraud journals from the mails). All agree the Cain of the primal couple was sired by Quimby and dammed (*absit omen!*) by Mrs. Mother Mary Baker, etc., and the parents were only "spiritually" married!

But the accident of names is as nothing. All names sit lightly on the consciences of these ladies. So under any other names the epidemic must have come. The conditions were such that the result was inevitable. What were these conditions?

Facts and Fallacies as to Rabies.—Dr. Dawbarn, of New York, directs attention to a number of facts and fancies as to rabies. One of these refers to the supposed greater prevalence of the disease in dogs during "dog days." We are able to supplement his protest by statistics from the monograph recently published by the United States Department of Agriculture, edited by Ravenel, which gives the distribution of 14,066 cases by the months of the years as follows: January, 943; February, 1,045; March, 960; April, 1,323; May, 1,419; June, 1,467; July, 1,435; August, 1,294; September, 1,145; October, 965; November, 933; December, 1,137. Thus the popular superstition is found to have no foundation. Another error shown by the dog-muzzling ordinances of New York and many other cities, is that rabies may be prevented by muzzling alone, which, of course, would not be of use in the case of household pets within doors. The cruelty of tight and effective muzzling to one who loves and understands dogs is so terrible that it should rouse all the natural and acquired fury of the antivivisectionists—those of them, if such there are, who really care about canine suffering. Having no sweat-glands, dogs lose the necessary moisture in hot days by the mouth, and by rapid panting, and this requires a widely opened mouth. Let the kindhearted and the physiologists unite to demand the banishment of muzzling. Restriction may be required, as much as may be thought wise, and the owners of all dogs allowed in streets or parks may be commanded to hold them by means of a leading strap, leash or chain. Or they may be compelled to keep them at home or without city limits. Dr. Dawbarn adds the wish that—

> The public could be induced to stun by blows, and not kill with bullets, dogs that apparently have gone mad. Afflicted with genuine rabies, the poor animal is certain to die, and quickly. If instead it is heatstroke, abundance of cold water and possibly bloodletting may save its life.
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> If it recovers, think of the relief from mental anguish of those who may have been bitten by the crazed animal, and who now know that they are in no jeopardy of madness; have no need to undergo the Pasteur treatment. Because of the present foolish plan of killing at sight every dog in a fit in summer time, an unspeakable amount of anxiety and dread, most of it wholly needless, is caused among those bitten.

"Freedom" is the title of a journal said to be of "Realistic Idealism," published at Seabreeze, Florida. We cannot give the editor's name, for she—it is of course a lady that edits such journals—has a multiplied personality and many names. These are some of them, scattered everywhere through the samples before us: Wilmans, Helen, H. W. P., Wilmans Publishing House, Helen Wilmans Post, Helen Wilmans, No Signature, etc. Financially Helen seems the most successful of all the New Thoughtists, Mental Healers, or whatever name one should use to describe them, and there are occasional glimmers of sanity to be found in her paper so that one may be hopeful even of this large class of the American people and of their mental convalescence. The greatest of the complaints of Helen and of her publishers and contributors is of Postmaster-General Madden. The violence of the language against the "postal underlings" of the Government for excluding *Freedom* from second-class rates is unworthy of the divine people for whom "there is no evil." And all this in the same issues which contain the legend, "entered at the postoffice as second-class matter." It is incomprehensible. The papers "multed" or suppressed, it is said, are "those devoted to the promulgation of ideas not in harmony with the postoffice officials." This seems unnecessary, and contradicted by the columns of reading notices and advertisements of the editor's and publisher's business enterprises, books, lectures, etc., a column or two of one editorial being devoted to the publisher's Letter Tablet, price 25 cents. The editor's financial ability is thus spoken of in her own journal:

> Mrs. Wilmans Post claims to have mastered poverty by using her power to think; that by concentration of thought on money she has drawn wealth to herself as if to a magnet; and certainly her large financial income and magnificent properties in Florida give indications of her success in raising herself from a condition of most abject poverty to one of unlimited opulence. In her famous book, "The Conquest of Poverty," she sets forth her modus operandi.

Has Helen attended the school she advertises—"The Washington Sanatorium and School of the Art of Attracting Opulence?"

"Freedom" and Medicine.—Like all these descendants of Dr. P. P. Quimby, of Maine, plus Mother Mary Baker Patterson Glover Eddy, "Freedom" most of all things hates medicine. Its pathology is as naive as would be expected of those who do not believe in matter or disease, and who have never studied any other kind of science than that in the Chicago daily yellow papers. "Chronic disease is the gradual accumulation of dead matter, etc.," and "sickness is an effort to cast it off." "The whole effort in all cases of healing is that of the mentality or spirit endeavoring to free itself from the accumulated beliefs of the ages, etc."

> It is thought alone—the right kind of thought—that has the ability to cast every element of decay out of our bodies by quickening the springs of action within them. Is the liver torpid? Thought can cast out every obstruction to its perfect action. Is the heart sluggish and the circulation slow? Thought can remedy this. And so of every organ; and with every organ renewed how can it be possible that the whole body should lag behind in sickness and distress, and how should it die? We know positively that thought can renew the various organs in the body.

Renewing organs by thought is however a small part of the claim to omnipotence. Helen says that she has an

> "entire conviction in the ultimate conquest of disease and every form of bodily weakness. This leaves us with the perfect right to assert the possibility of conquering old age and death; and I want it understood forever that I do assert it; that I believe in it with my whole mind, and that I work for it with every breath I draw."

Alopaths (it is always spelled so) and homeopaths, all drug-givers and such despicable folk are "on the run," and, "Medicine is played out. Every new discovery of bacteria shows us that we have been wrong and that the millions of tons of stuff that we have been taking was all useless." "Any drug is a poison. Anything that cannot be digested and assimilated into the body is a poison. The drug has no power of action at all. It is utterly dead." What Helen and company understand by "doctors" may be gathered from this:

> I have taken it upon myself to interview some of the persons whose pictures have appeared with statements over their own signatures that they have been healed; and invariably I have found that the person was not healed at all. One man in this city, when I asked him why he gave his picture and statement which I saw in a daily paper, replied:
>
> "Well, they took me over there and washed me out and filled me up with stimulants and electricity until I felt so good I thought I was healed. While I felt so well, they put the statement you saw under my nose for me to sign and got my photograph. But after I had been home two weeks I was worse than ever I was before."

The faithful healer, however, is thus encouraged, thus encourages herself, or himself, or itself:

> What matters it if others reject you when you have once perceived the wondrous potencies of your Personality, the Shrine of the Infinite, the Tabernacle of Genius?

"Christian" is the name of a "New Thought" periodical published in Denver, Colorado. The New Thoughtists praise it as illustrating the humorous aspect of the faith. With avidity, therefore, one seeks some relief from the solemn earnestness, serious as an insane ward, of all the other journals and writings. The intent and conscious purpose, it must be emphasized, because unintentionally and unconsciously they are far more mirth-provoking than any writing of Mark Twain. The editor of *Christian*, we suspect, would not claim any christianity for himself or his periodical—the "humor" may lie in that—although he tells us he is an "ex-preacher." His wife, of whom he is always writing in his editorials, he says is an "ex-actress." Regretfully one must confess the humor, if intended, is not present. It is all as dreary as a "comic opera." Of the intended kind the constant calling of his readers "sweetheart" and "darling," and the iteration of such colloquialisms as "in the soup," "bucking against the postoffice department" (Mr. Madden would not let him in), "Shake, my dear girl," "Let him have his jimjams," etc., are illustrative. From a most serious "poem" occupying the whole front page, and composed by a famous member, three disconnected lines should also be excerpted:

"Tinkering of thoughts tobasco."
"Free from mustard meditation."
"Not a new food, nor a lung-stunt."

The paper is largely taken up with advertising the editor's books and the value and price of his absent treatments. "God is doing this work," he says, "and He (God) has money to burn." Doctors and their profession "catch it." Even the copies of his paper, as a fetich, "start the healing vibrations," and his patients wear them next to their skin until the sheets are worn out. "Gravitation does not extend beyond the limits of the earth's atmosphere," and "God is electricity." The ex-preacher says "religion is ridiculous" in his periodical called *Christian*. He, the editor, has no time to receive or make calls, he is so busy with sending vibrations to his absent patients. In this he is greatly aided by his wife, who took away from him all desire for stimulants and narcotics. And yet when she is absent the baby got sick and she was so alarmed she sent for the doctor. The baby had eaten too much, and that was all. This was not an intended joke.

"Now" is the name of an interesting journal published in San Francisco, and it is "entered as second-class matter, etc." It is called by its editor, "a journal of positive affirmations," and the motto of the "school" kept by him ("six boys and three girls, from 23 to 63 years of age, and five others") is "I Am an Unfolding Soul." "I Celebrate Myself," of Walt Whitman, is another motto ("welcome any book that calls attention to Whitman," says the editor)—indeed, mottos are on every page, above, below, and through, all in caps, many, alas, from Emerson. It is devoted to "entering into the vibrations *now*," and the editor teaches just how to do it, if you will subscribe, send your dollars for his journal, and for "psychometric readings," for his "mottos," etc. And yet, "entering into the vibrations" has two significances, for a death is thus chronicled:

Now has another friend among the immortals. Thomas G. Newman, editor and publisher of the *Philosophical Journal*, passed to the higher vibrations on the 10th inst.

Every reader is pleaded with to "stand in with *Now*," as against "the United States Postal Department," and JUSTICE is demanded of heaven and earth. But the editor says he is "all that infinity can manifest," so he should win his case against General Madden without help. The patients he solicits for treatments "by mail courses," or "at his parlors," "through magnetism, suggestion, and silent powers," are doubtless many and enthusiastic, and he has no trouble in replying to the criticisms he frankly quotes of himself. Here are two:

The editor of *Now* is in a fog. He is sincere in his belief, but as a mental scientist he is as blind as a bat. Mr. Brown, you are a funny man.

It seems strange that any white male human being past the age of six (6) years should spare the space to indulge in loosely stringing meaningless words upon so loose a creed. Perhaps he refers to the wheels within the wheels within his head, which are always turning from right to left.

Concerning physicians, this is a sample opinion approvingly quoted from a brother vibralogist:

A modern sickness treated in the modern style is one of the greatest travesties on common sense in the world of thought unless it is some of the inanities of the religious creeds. One of the greatest burlesques of our day is to see a spectacled, bewhiskered, plug-hatted, long-tailed-coated son of Esculapius engaged in a scientific combat over disease.

BOOK REVIEWS

Toxicology.—By CASSIUS M. RILEY. By Lewis S. Matthews &. Co., St. Louis.

This little book consists of a valuable dissertation upon all the various poisons, giving the preparation, tests for and use of the drug, symptoms of poisoning, treatment, fatal dose, and postmortem findings. It is most convenient and happily arranged for a small work of ready reference. The author's extensive experience in chemistry and toxicology makes the work authoritative.

The International Medical Annual.—Published by E. B. Treat & Co., New York and Chicago.

This, as stated, is a year-book of treatment and practitioner's index. With this issue the "Medical Annual" reaches its twenty-first year, and the list of contributors is large and of such standing in the profession that their views will command respect. The volume is intended to serve as a reflection of the knowledge of the year; and in this issue is commenced a general summary of the year's work. The volume will be found useful and interesting.

Heath's Practical Anatomy.—Edited by J. ERNEST LANE. Published by P. Blakiston's Son & Co.

This is the ninth edition of the work, and in its present form it is somewhat reduced in size, making it convenient for the use of students in the dissecting-room. The work has been carefully revised and brought abreast of the present time. The long popularity which Heath's Anatomy has enjoyed renders further comment by the reviewer unnecessary, further than to state that for the purpose for which it is designed, the present edition is decidedly superior to the others which have appeared.

Diseases of the Skin.—By JOSEPH GRINDON. Edited by B. B. GALLAUDET. Published by Lea Brothers & Co., Philadelphia and New York.

This is a manual of some 350 pages, with appropriate illustrations, in which are discussed the various skin affections, together with their treatment. The volume is especially designed for students and busy general practitioners. It makes no pretense to an exhaustive discussion, though it is sufficiently full and complete for all purposes except that of the specialist. It is convenient, ready and up to date. The pathology and treatment of the various affections are especially well given, for a work of limited extent.

Anatomy.—By WILLIAM H. ROCKWELL, JR., and BERN B. GALLAUDET. Lea Brothers & Co., Philadelphia and New York.

This is a manual of anatomy prepared for students and practitioners. It is founded on Gray and follows that work in most of its consideration of the subject matter. It is simply the essentials of anatomy divested of unimportant details, and as such is suitable for purposes of review and the general study of the subject without the minutiæ.

International Clinics.—Edited by A. O. J. KELLY, A.M., M.D. Volume II. Thirteenth Series, 1903. Philadelphia, J. B. Lippincott Company.

This volume contains 24 articles arranged under 8 headings. First is a very timely symposium on the Summer Diarrheas of Children, with articles on milk bacteria, causation, symptomatology, and treatment of summer diarrheas, by H. W. Conn, Alfred Hand, Jr., A. C. Cotton, Thompson S. Westcott, Matthias Nicoll, Jr., and A. B. Marfan. Diseases of the Pancreas is considered by Eugene L. Opie and John B. Deaver. Under Treatment are papers by Levi, Gaston, Bouchard, and J. Madison Taylor. Included under Medicine is an article on A Common Cold, by Alexander Haig, and 3 articles on Heart Disease and Endocarditis, by Bishop, Poynton, and Satterthwaite. In the 3 papers on Surgery, Gay, Bishop, and Roncali, respectively, discuss hemorrhoids, abdominopelvic diagnosis, and the surgical relief of traumatic epilepsy. Pediatrics claims one paper, Cirrhosis of the Liver, by W. F. Hamilton. Gynecology

includes Sterility, by J. Riddle Goffe; Ectopic Gestation, by Cuthbert Lockyer; Cervical Lacerations, by C. D. Palmer. Under Ophthalmology is an article on Surgical Intervention in Paralysis of the Ocular Muscles, by Edmund Landolt.

A Textbook of Surgery.—By GEORGE EMERSON BREWER, A.M., M.D. Published by Lea Brothers & Co., New York and Philadelphia.

This book is designed for students and practitioners of surgery. It fills a place midway between a manual and an exhaustive treatise on the subject. As such it is well adapted in arrangement and scope for the purpose for which it is designed. Many of the illustrations, particularly those having to do with applied dressings, dislocations, hernias, amputations, etc., are above the average for such a work. The subject-matter is briefly and yet comprehensively discussed, and the work is well written. Its brevity and conciseness without a a sacrifice of the essentials is the strong point which the author has made.

Practical Hygiene: A Manual for Students, Physicians, and Medical Officers.—By CHARLES HARRINGTON. Second edition. Lea Brothers & Co.

A book that has to meet a demand for a second edition within but little more than a year from its first appearance needs but few words from a reviewer. The present volume is an improvement upon the first. Beside changes in and additions to many chapters of the book, a new chapter on The Relation of Insects to Human Diseases has been added. Some obsolete material has been cut out to keep the work to a reasonable size, though it still contains 760 pages. It is especially valuable as a book of reference, but may well be used as a textbook. This edition is well and attractively bound.

How to Succeed as a Physician.—Published by the Church Publishing Company, Meriden, Conn. Price, 50 cents.

In this little volume of something more than 100 pages the unnamed author, a physician, has collected many interesting facts, makes some curious deductions, and gives much wholesome advice to young men entering or about to enter the profession. While designed for the profession, the book would afford interesting and profitable reading for scores of laymen. The author asserts that he has practised medicine for 37 years. His wide and varied experience, together with his insight into human nature and his keen sense for plain, unvarnished facts, has enabled him to produce a little book intensely interesting, clean and valuable. It should be read by every physician.

First Aid in Accidents.—By CHARLES R. DICKSON. Published by Fleming H. Revell Company, Chicago, New York, and Toronto.

This is a little handbook of 124 pages, but every page contains valuable information. It is designed for all who in any capacity are likely to be called upon to render first aid to the injured, especially railway and steamboat employes, policemen, firemen, etc. Technical language has been omitted. The book abounds in information as to how to improvise dressings, control hemorrhage, resuscitate the asphyxiated, how to control shock and collapse, what to do in convulsions, etc. It could be used to advantage by nurses, and even read with interest and profit by laymen.

Microscopy and Bacteriology.—A Manual for Students and Practitioners. By P. E. ARCHINARD, A.M., M.D., Demonstrator of Microscopy and Bacteriology, Tulane University of Louisiana, Medical Department. Published by Lea Brothers & Co., Philadelphia and New York.

This number of the "Medical Epitome" series edited by V. C. Pedersen answers its purpose very well. The introduction deals with refraction of light and the microscope. Following this are chapters dealing with fundamental principles, the staining and cultivation of bacteria, inoculation of animals, infection, etc. The various pathogenic bacteria are then considered and the book closes with a short chapter on bacteriologic examinations of water, air, and soil. Each chapter is followed by a list of questions for purposes of quizzing. The larger part of the 74 illustrations are taken from Abbott.

AMERICAN NEWS AND NOTES.

GENERAL.

Negro Births are Less than Deaths.—Statistics compiled show the deathrate among the negroes who reside in New York and the other large cities of the country is considerably in excess of the birthrate. Out of the 66 cities reported by the census of 1900—North, South, East and West—the deathrate among the negroes is found to be greater than the birthrate in 50 cities.

Bubonic Plague in Mexico.—The Marine-Hospital Service has been informed of the appearance of 3 cases of bubonic plague at Sequeros and 3 cases at Bagio, Mexico. Both these places are in the vicinity of Mazatlan, where there was a scourge of the disease last winter. The plague infection is supposed to have been carried to Mazatlan from San Francisco. The latest reported case of bubonic plague at San Francisco appeared on August 9.

To Drive Away Mosquitos.—It is stated that the department of agriculture is investigating the virtues of the ocimum-virides, a plant from Northern Nigeria. It is claimed that the odor of this plant is very offensive to mosquitos, and will drive them away. In this respect it is said to resemble thymian and eucalyptus. Therefore the department, before giving its unqualified endorsement, is making investigation as to the accuracy of reports concerning it.

Scientific Apparatus for Investigating Foods.—A photomicroscopic camera for taking pictures of food adulterants and their bacteria, and the microtome for cutting articles of food into infinitesimal pieces have lately been used with success by the Department of Agriculture. Imported foods are now tested by the department in a microscopic laboratory established for the purpose, and many astonishing revelations have been made under the new regulations adopted by Congress.

Surgeon General of the Army Returns from an Inspecting Tour.—Surgeon-General O'Reilly, of the United States Army, has returned to Washington, D. C., from a tour of inspection of the army sanatorium at Fort Bayard. It is stated that the big Montezuma hotel at Las Vegas Hot Springs, owned by a railroad company, has been closed for lack of patronage and may be turned over to the United States government for sanatorium purposes. It is understood that the surgeon-general favors the plan.

Eddyism for Horses.—It appears that down in Texas a farmer of Collins county brought suit against the Houston and Texas Central Railroad for so injuring his horses with a train that they died. The testimony was considered and it seemed that the plaintiff would win his contention, but when he went on the stand in his own behalf and was asked what treatment he had given them he answered that he had given them the Christian science treatment. The jury at once returned a verdict in favor of the railroad company.

Edison Has a Cancer Cure.—It appears that Mr. Edison, who is a wizard in electricity, is not content to confine his endeavors to that apparently limitless field, but, if properly quoted, he now comes out with a new method for curing cancer. He firmly believes that if blood is carried by transfusion from a healthy person into the veins of the person affected with cancer, there is great liability that the malignant process may be arrested and cured. The medical profession could well wish that Mr. Edison's suggestions in medicine may prove as fruitful as they have in electricity, but it is not likely that his "cancer cure" will meet with brilliant success.

Fourth of July Tetanus.—Statistics collected by the *Journal of the American Medical Association* show that the number of Fourth of July accidents is greater and their results more serious than is generally understood. The highest number given by any newspaper record is about 217, while the *Journal* figures—accurately verified—exhibit the deaths since last Fourth as 406 from a total of 423 cases. Beside these deaths there were 10 persons made blind, 75 who lost 1 eye, and 3,898 other serious injuries. Shown by States, the greater number of accidents were thus distributed: Pennsylvania, 82; Ohio, 67; Illinois, 49; New York, 36; Missouri, 29; Michigan, 29; Massachusetts, 16; Minnesota, 15; Iowa, 14; Indiana, 11; Kansas, 11; Wisconsin, 10; New Jersey, 8. The Southern States are quite free from deaths of this sort, as the blank cartridge plays a minor part in the celebration there. Kentucky has 4, West Virginia 3, and the others do not appear in the list at all. Also most of the Northwestern States are free from mortality so caused. Examining the cause of these accidents, the *Journal* finds that nearly all are due to "the murderous toy pistol"—the cheap affair made to shoot 22-caliber blank cartridges. These cartridges and the firecrackers both offer large opportunity for contamination in their construction. An interesting fact is that July is the season when tetanus, aside from "Fourth" accidents, is most prevalent. For the prevention of such wholesale injury, the *Journal* emphasizes the danger of inadequate treatment of the wounds and advises prohibition of the sale of blank cartridges and cheap toy pistols.

EASTERN STATES.

New Hospital Opened.—The new outpatient department building of the Massachusetts General Hospital, which was erected at a cost of $400,000, has been opened for the reception of patients. The building is constructed with all the modern hospital conveniences and is one of the most thoroughly equipped of its kind in the world.

Foot-and-Mouth Disease Again.—Information from Bangor, Me., under date of August 26, states that on the receipt of information of the discovery of 4 cases of foot-and-mouth disease among cattle in Wakefield, Mass., F. O. Beal, chairman of the Maine board of cattle commissioners, decided to reestablish the quarantine against Massachusetts cattle.

Salem Doctors Object to Whistles.—Twenty-four Salem doctors, after discussing the noise of the steam whistles heard so often in their city, have petitioned the council to adopt regulations for their use within the city limits. They declare that the noise is often "a matter of life and death to people seriously sick," and a nerve-racking and discomforting thing at all times.

Announcement.—A new association for the alleviation of tuberculosis and the education of the community hopes soon to commence active work in Cambridge, Mass. The constitution says: "This association shall be called the Tuberculosis Aid and Education Association," the object being, "To cure at home if possible persons suffering with tuberculosis; to relieve with food, as far as possible, all needy tuberculous persons; to educate the entire community in the care and prevention of this disease; to promote the establishment of hospitals for hopeless cases." The movement is intended to be largely educational, and for this reason there will be on file, open to the public, reports from other organizations working along similar lines, reprints from papers read by physicians before medical and other societies, and pamphlets descriptive of public and private sanatoriums. The committee will be grateful to physicians and others who will donate any of the above. If possible, they would like 3 copies, one for the library, one for a special room devoted to advisory conferences, and one for private consultation by the Board of Managers. Address Mrs. Rufus P. Williams, North Cambridge, Mass.

NEW YORK.

Interesting Decision Against Saloon Keepers.—It is stated that saloon proprietors and temperance workers of the State of New York are interested in a decision rendered by Supreme Court Justice Lyon in a case brought by Mrs. Elizabeth Westbrook, of Ithaca, against several saloon proprietors to recover damages in the sum of $1,000 from each, for allowing her son to spend with them for drink, money needed at home, thus injuring his health and morals. The defendants moved to dismiss the complaint on the ground that Mrs. Westbrook had no cause for action. Justice Lyon has decided that Mrs. Westbrook is entitled to recover the full amount asked for if the allegations she makes in the complaint are proved.

Ithaca's Pure Water Supply.—The new plant which is to give Ithaca a pure water-supply has been put in operation. Cornell University loaned to the Ithaca Water Company $150,000 for the building of the purification plant, and it is pronounced by Dr. George Soper, of the State Health Department, to be a perfect piece of work. It employs what is known as the mechanical or rapid system of purification. The water as soon as delivered to the receiving wells is charged with a solution of sulfate of alumina, which forms a white flocculent precipitate, which rapidly forms into flakes. The water is then passed into coagulating basins, where 70% of its impurities settle. It is then passed through 6 filters of 3,000,000 gallons daily capacity.

PHILADELPHIA, PENNSYLVANIA, ETC.

Will Organize a New Medical Society.—Physicians of Franklin, Cumberland and Adams counties, of this State, and Washington county, Md., will meet at Mount Alto Park, to organize a medical society, on September 8. State Forestry Commissioner Rothrock will read a paper on "Fresh Air Treatment of Tuberculosis."

Milk Examined Free.—An invitation is extended by the officers of the Bureau of Health to any and all persons who may desire, to submit to the chemists of the bureau any milk which they may desire, and chemical analysis will be rendered free of charge. The object is not only to prevent the consumption of impure milk, but to find, if possible, every dealer who is furnishing adulterated or medicated milk in any way whatsoever.

Typhoid Fever Increasing.—There were 133 new cases of typhoid reported in the city for the week ended August 29, which is an increase of 15 over the number reported during the previous week. The officers of the Board of Health are unable to explain why typhoid should be so prevalent at this season, when more than the usual quantity of supposedly pure water is being distributed from the filtration plant. An epidemic of this disease is feared.

Swindling Illegal Practitioners.—According to the detective department of the city a number of swindlers have conspired to blackmail medical practitioners who do an illegal business. It is stated that 3 persons call together on their victims, show them warrants and if they do not put up goodly sums of money they tell them they are under arrest. It is needless to say that the money is forthcoming and "arrest" is escaped. It is "Greek meet Greek" when knaves and swindlers prey upon each other.

Alba Dentists Company Must Explain.—Action has been brought against the Alba Dentist Company, which has a number of dental parlors in Philadelphia, for its violation of the law and its own implied contracts in employing student dentists to do certain of the professional work in its dental parlors. Also the company must explain why it is not exercising any of the objects authorized by its charter, and is not engaged in manufacturing or supplying any surgical instruments or supplies or appliances, such as it uses in the business conducted by itself, but on the other hand is doing the customary work of the professional dentists, which appears to be contrary to its charter.

SOUTHERN STATES.

One Hundred and Fourteen Years Old.—Information from New Orleans states that widow Victor Marie de Rausbourg, supposed to have reached the age of 114 years, is dead at her home in that city.

Yellow Fever Refugees in Texas.—The Texas Health Department has been advised that refugees who are fleeing from Tampico, Mexico, where yellow fever is epidemic, have been crossing into Texas at Rio Grande City and other points on the lower Rio Grande, where quarantine inspectors were not located. Appointment of quarantine officers at these places has now been ordered.

A Tall Family.—Newspapers state that Benjamin Hamrick, of Webster Springs, W. Va., and his 9 sons beat the record for remarkable families. At a recent family reunion it was found that the aggregate height of the 10 male members of the Hamrick family was 62 feet 3¾ inches, while the combined weight aggregated 1,741 pounds. The shortest man was 6 feet 1 inch, and the tallest 6 feet 5¾ inches; the lightest was the father, who weighed 155 pounds, while the heaviest was 226 pounds.

New Superintendent for the United States Hospital for the Insane at Anacostia.—Secretary of the Interior Hitchcock has received word from Dr. William A. White, assistant superintendent of the New York State Hospital for the Insane at Binghamton, accepting the office of superintendent of the Government Hospital for the Insane at Anacostia, across the Eastern Branch from Washington, which was offered to him some time ago. Dr. White will succeed Dr. Alonzo Richardson, who died about 2 months ago.

WESTERN STATES.

Formaldehyd in Milk Kills 19 Babies.—It is reported that in the last few days 19 infants have died in Denver from diseases which can be traced to milk preserved with formaldehyd. The records show that only 38 deaths of children under 2 years of age were reported last year. So far this year 75 deaths of children under that age have been reported. Dealers who have been selling milk treated with preservatives will be prosecuted.

Much Improvement in Chicago's Milk Supply.—The Bulletin of the Chicago Health Department recently issued says: "Of the 742 samples analyzed 473 were brought to the laboratory by private individuals; the remaining 269 were collected by the milk inspectors. Of the inspectors' samples only 7 of milk were found below grade, and out of 76 samples of cream 6 were found below grade. Of inspectors' samples of milk and cream 4.8% were below grade. Of the 473 samples brought to the office by private individuals, chiefly milk dealers, 408 were milk, of which 15 were below grade, and 65 were cream, of which 6 were below grade.

Working for the Blind.—The American Blind People's Education and General Improvement Association recently held a convention in Chicago. An effort was made to harmonize the systems of "finger print" for blind people. One of the organizers of the movement is quoted as saying that there are now 5 leading systems, each having its special advantages and a large following among educated blind persons. This only adds to the difficulty. It appears that a commission was appointed for the purpose of selecting the best points in each system and attempting to form the basis for a single system, dispensing with the disadvantages and combining the several advantages in all the systems. The association is urging the appropriation by Congress of $75,000 to start the work. It is said that such assistance is now given by the Government to the deaf. It appears that the American Association of Instructors of the Blind are opposing the combination of the several systems into one.

FOREIGN NEWS AND NOTES

GENERAL.

Women Physicians in Algeria.—A Paris dispatch to the *London Times* says that the Algerian Government has entered upon the interesting experiment of providing native women, who are prevented by their social customs from going to ordinary doctors, with free consultations by qualified medical women. The French colony is thus following the example set by Lord Dufferin in India in organizing a medical service for the zenanas, and by Austria-Hungary in Bosnia and Herzegovina. In each village where the Mussulman population is sufficiently large the government proposes to establish a woman practitioner, providing her with the necessary medicines and instruments, and giving her a salary proportionate to her work. Applicants for these positions must be provided with diplomas either as doctors in medicine or officers of health.

Australia's Birthrate Declining.—The following figures, which are deduced from the New South Wales experience, may be taken as exemplifying the conditions of the States as a whole. They give the number of legitimate births to every thousand married women under the age of 45, during the period of 21 years, and from the persistent and regular character of the fall, it may be surmised that the minimum has not even yet been reached, and a further decline may be looked for: 1881, 336.3; 1882, 330.5; 1883, 333.6; 1884, 346.2; 1885, 341.7; 1886, 338.9; 1887, 333.4; 1888, 328.8; 1889, 304.2; 1890, 304.7; 1891, 288.7; 1892, 286.4; 1893, 281.4; 1894, 267.1; 1895, 260.3; 1896, 240.4; 1897, 241.3; 1898, 229.6; 1899, 226.6; 1900, 227.1; 1901, 235.3. One curious fact is that the decline in the birthrate is manifest in every class and among people of every shade of opinion and of every social condition, except among women of Irish birth.

GREAT BRITAIN.

London's Inferior Water.—The Water Committee of the city of London reports that results of recent analyses show a remarkable falling off in the quality of the filtered water supplied to London consumers. This inferiority (the committee points out) is largely due to the character of the water in the Thames and Lea, and points to the need of a much larger storage area, in order to obviate the taking of water from the rivers during flood periods.

Antivaccinators Barred Out.—Mr. Henry Walford Stubbin, a wellknown piscatorialist, died recently at Cheltenham, and has left a will under which the local general hospital is to get £1,000 for the purpose of endowing a bed therein. A curious condition of the testament is that the bed should never be used by any "professed or suspected antivaccinator," nor by any relative, servant, or other connection of any antivaccinator, professed or suspected.—[*Westminster Gazette.*]

Population of Ireland.—The latest statistics show a marked diminution in the death rate and in the number of emigrants from Ireland during the past year. All other statistics, however, show the great decrease which has been continuing for years in the population of Ireland. In 1824 there were over 7,000,000 inhabitants in Ireland, in 1845 over 8,000,000, while in 1901 the population was a little over 4,500,000. In 1902 the population was decreased by 17,556, showing a diminution in 56 years of almost 4,000,000 persons. Among the other statistics noted during the past year were the excess of births over deaths, 21,857; the loss by emigration, 39,613; the number of illegitimate births, 2,593, only 2½% of the total for Great Britain. Out of a total of 79,119 deaths only 1,263 were attributed to insanity.

CONTINENTAL EUROPE.

A Peculiar Award.—Dr. Weissberger, a prominent surgeon of Frankfort, Germany, was so severely injured in a railroad accident some time ago that he had to cease practising his profession. His claim for damages was submitted to a court of law, which has decreed that the doctor shall receive annually from the company 17,000 marks (about $4,000). The character of the award rather than the amount has attracted attention among lawyers generally.

A stroke of paralysis has induced Dr. Karl Schönborn to resign his professorship at the University of Würzburg. He has been a tremendous worker, and is noted particularly for his achievements in Berlin at the outbreak of the war with France. Langenbeck and Bardeleben left for the seat of war, and Schönborn took charge, in their place, of the clinic at the university, and the Charité, as well as of the Jewish hospital, while presiding at the same time over the Augusta hospital.

French Government Aims to Stamp Out Disease.—According to the *World's Work*, the French Government has recently taken preventive measures in the schools which will at some time practically stamp out the disease in France, if they are persisted in. The pupils are examined every 3 months, and their physical condition with reference to the danger of tuberculosis is entered on their reports; no carpets are allowed in schoolrooms and no dry sweeping is permitted; the furniture is regularly washed; books are regularly disinfected; promiscuous use of penholders and pencils is forbidden—every pupil must have his own, and they are advised to keep them out of their mouths. In boarding-schools a severer routine is prescribed; and tuberculous pupils are to be kept from school. Such a system as this, if it be carried out, would in a generation or two make tuberculosis quite as rare as smallpox.

Wine Testing by Telephone.—According to the *London Telegraph* wine testing by telephone is the latest application of electricity. Unscrupulous venders will not bless M. Maneuvrier, assistant director of the Laboratory of Researches of the Paris Faculty of Sciences. He has just discovered an infallible method of ascertaining by the use of the telephone how much a given quantity of wine has been watered. The principle on which the invention rests is the variable conductibility of different liquids, notably of wine and water. The originality of M. Maneuvrier's ingenious application is his use of the telephone to determine to what degree the liquid under observation is a conductor. He has constructed an apparatus which achieves this object satisfactorily and accurately. By means of a chart, on which are set down in tabular form the results of various necessary calculations made by M. Maneuvier for the purpose, an operator with the telephone can easily, and in a short while find out the exact proportion of water in the wine which he is testing, whereas the chemical analysis processes hitherto employed are lengthy, laborious, and costly.

OBITUARIES.

William Smoult Playfair, at St. Andrews, Scotland, August 13, aged 67. He was graduated from the University of Edinburgh in 1856. He received an appointment as assistant surgeon in the Bengal Army, and in 1859 and 1860 was professor of surgery in the Medical College of Calcutta. He spent 7 years in India and in 1873, at the age of 27, settled in London. He was appointed professor of obstetric medicine at King's College, London, and obstetric physician to the King's College Hospital, holding this chair for 25 years. Dr. Playfair had an extensive practice and was one of the foremost obstetricians of his time, his distinction in his special department being recognized both at home and abroad. He has contributed much valuable matter to medical literature.

R. Henderson Graham, of Washington, D. C., died at the Garfield Hospital, in that city, August 24, aged 54. He served in an Ohio regiment during the Civil War and subsequently studied medicine, being graduated from the Columbus Medical College in 1879. In 1889 he moved to Washington, where he engaged in the practice of his profession until a short time before his death. He was a member of the American Medical Association, the American Therapeutic Association, and the Medical Association of the District of Columbia.

Josiah D. Cotton, in Marietta, O., August 6, aged 81. He was graduated from the University of Louisville, Ky., in 1847, and served as a surgeon of the Ninety-second Ohio Volunteer Infantry in the Civil War. He was a member of the American Medical Association, and the Ohio State Medical Society.

Ludwig Mond, recently, in Rome, Italy, aged 64. He was a native of Cassel, Germany, and was educated at Marburg and Heidelberg. Dr. Mond was famous for his researches and inventions in chemistry. He was the founder of the famous Davis-Faraday research laboratory.

Dr. Salazar, in charge of the American Hospital at Tampico, Mexico, died recently of yellow fever. Dr. Salazar, realizing that his death was near, called for paper and pen and wrote his own death certificate.

Samuel Bryant Potter, in Fredericktown, O., August 5, aged 74. He was graduated from the Jefferson Medical College, Philadelphia, in 1854. He was a member of the American Medical Association.

Robert Cornelius, of Philadelphia, Pa., August 30, aged 50. He was graduated from the Hahnemann Medical College, Philadelphia, in 1874, and was a practising physician for 29 years.

Burwell G. Abernathy, died at his home in Tampa, Fla., July 30. He was graduated from the College of Physicians and Surgeons, Baltimore, in 1880.

P. C. Barker, founder of the Morristown, (N. J.) Memorial Hospital, and dean of the medical profession in that city, died August 21, aged 68.

William E. Allen, health officer of Scranton, Pa., August 25, aged 62. He was graduated from the Albany Medical College in 1856.

John S. Wentz, in Drifton, Pa., August 29, aged 75. He was graduated from the University of Pennsylvania in 1855.

Joseph Muir Corbett, surgeon of the Anchor Line steamer *Astoria*, drowned in the Hudson river.

Dr. Schloss, at Mulhausen, Alsace-Lorraine, suddenly, about August 24.

Robert Morrison Rhea, in Knoxville, Tenn., August 11, aged 60.

George Johnston, in Connellsville, Pa., August 9, aged 84.

Edward Stanton, at Kokomo, Ind., died recently, aged 80.

L. W. Bacon, in Minneapolis, Minn., August 14, aged 96.

T. J. I. Pattillo, in Macon, Ga., August 6, aged 71.

Z. T. Christman, at Warwick, Pa., August 26.

SOCIETY REPORTS

CANADIAN MEDICAL ASSOCIATION.

The Thirty-sixth Annual Meeting Held at London, Ontario, August 25, 26, 27, and 28, 1903.

[Specially reported for *American Medicine*.]

Surgical Treatment of Hallux Valgus and Bunion.—JAMES NEWELL (Watford, Ont.) said that tight ill-fitting boots are the most common cause, it being rare to find a normal foot. In advanced or pronounced cases, advised a long internal incision, opening up of the joint, with complete division of the ligaments. The tissues are separated from the joint and the head of the metatarsal bone sawn through the back of the cartilage. The edges are trimmed off and the exostosis removed by bone forceps. When bleeding has ceased, the sutures are inserted and the foot put up in an aseptic sterile dressing. A sheet-iron splint turned up at the big toe and a roll or pad of cotton between the toes is applied, retained by a bandage. After 10 days the sutures are removed, and when the wound is healed, passive motion in the joint is begun. The toe should be kept in a straight line, and the splint not removed for 4 weeks.

Inguinal Hernia of an Imperfectly Developed Uterus and Appendages.—R. FERGUSON (London, Ont.) This paper will appear in a future issue of *American Medicine*.

A Discussion on Typhoid Fever was opened by W. P. CAVEN (Toronto), in whose opinion calomel and salol are the best intestinal antiseptics. When the temperature rises above 102° he changes from tepid to cold sponging. In tympanites no drugs are comparable to turpentine and asafetida. In hemorrhage he relies upon morphin. HERALD (Kingston) would add dermatol 15 gr. every 4 hours to the treatment, but would dispense with drugs in cases running an ordinary course. In hemorrhage the ice-bag may be as potent as the morphin. MCCALLUM (London) said that the sheet anchor in typhoid is strychnin, begun early and continued throughout the disease.

Autointoxication.—HORNIBROOK (Cherokee, Iowa) dealt with the most advanced views of this important subject.

The Size of the Pupils as an Aid to Diagnosis.—J. T. DUNCAN (Toronto) said that the pupils may be abnormal (1) by bilateral contraction; (2) by bilateral dilation; (3) by unilateral contraction or dilation; in other words, they may be unequal in size. The various diseased conditions found in these states of the pupil are set forth. But the pupils may be either movable or fixed. Therefore the lists are again analyzed and those conditions pointed out in which the pupils are contracted and fixed, those in which they are contracted and movable, those in which they are dilated and movable or fixed, those in which they are unequal and movable or fixed. A certain amount of differential diagnosis was given, special reference being made to the diagnosis of locomotor ataxia.

The Physiologic Generative Cycle of Woman.—JENNIE DRENNAN (St. Thomas) said that evolution is evident in all phases of life, adaptation to environment and the handing down of this adaptation. Heredity causes the changes, which we see in every phase of life. "Structure is determined and preceded by function" and function is determined by environment. The physiologic generative cycle of the female mammal is ovulation, pregnancy, and gestation, but owing to an adaptation to a pernicious environment this physiologic cycle in woman has become interrupted by a monthly ovulation and menstruation. This is the outcome of civilization, which too often caters to mankind's senses rather than to what is best for him. As adaptation has produced the present state of affairs, so adaptation to a more natural state will in time be the remedy of this evil and by our physiologic knowledge we as a profession must teach the laity.

HUNTER (Toronto) read a very practical and acceptable paper on the **Medical Treatment of Diseases of the Nose and Throat.**

Gunshot Wound of the Upper Arm with Nonunion of Humerus and Destruction of the Musculospinal Nerve.—HADLEY WILLIAMS (London) reported a case with operation 6 months later terminating in recovery. The patient was a male, aged 22, who was shot through the arm, totally destroying the center of the humerus and tearing away 2½ inches of the musculospinal nerve. He came under Dr. Williams' care 4 months after the accident. He found the bone ununited, a discharging sinus present, and complete paralysis of the musculospinal nerve. He operated by dissecting out the nerve and resecting 2 inches of bone to bring the nerve-ends together, and uniting the nerve-ends by through-and-through silk sutures. Four months later the bone was still ununited, and there was no relief of the paralysis, although the nerve-ends had united. A second operation was now performed. A special silver plate was made, 2 inches long and 1 inch wide, with a screw-hole at each corner. The ends of the bone were freshened, the silver plate laid in position over the line of separation secured by 4 silver screws screwed into the bones. A cushion of muscular tissue protected the nerve from possible involvement in callus. In 6 weeks bony union was complete, in 6 months and 4 days after the nerve was sutured (first operation) movement began in fingers and wrist, 12 weeks later in the thumb, and 3 weeks later paralysis entirely disappeared. The patient was exhibited for examination. He attributed the favorable result to the following points in the technic of the operation: (1) Resection of the bone to bring the divided nerve-ends together; (2) protecting the nerve from being involved in the union of the bone by the intervening cushion of muscle tissue; (3) apposition of the nerve-ends by through-and-through sutures instead of uniting them merely by the sheaths, and the use of a tension suture to relieve the approximation suture.

Operation on Hip-joint without Shortening.—R. P. ROBINSON (Ottawa) illustrated the subject by the citation of 2 cases. One, a little girl 4½ years old, with a tuberculous abscess of the hip. Incision was made where the abscess pointed—on the outer side below the great trochanter, and a pint of pus emptied. Special care was taken to preserve all the shreds of periosteum and to stretch those shreds along the space recently occupied by diseased bone up to the lower part of the acetabulum, where they were stitched to the periosteum raised from the ileum at this point. The overlying muscles and fibrous tissue were well buckled over the diseased area. The remainder of the wound was left open, dressed with aseptic gauze and allowed to heal by granulation. Fifteen pounds extension was used for 2 weeks, then moderate extension for 4 months longer, and not allowed to walk for 6 months after the operation. The wound healed in 5 weeks, gentle movements were kept up daily after the second week. A new joint has been formed, no shortening, and neither lordosis nor tilting of the pelvis. Skiagraphs of the joint were exhibited. A similar case in a young lady aged 17 was operated on with equally good result, but recovery more prolonged. The points emphasized were the preserving of all existing portions of periosteum, and union to adjacent periosteum, to cover the periosteum with muscles and fibrous tissues, and to maintain extension.

Perforation from Typhoid.—HUTCHISON (Montreal) reported 5 cases. The fifth only was successful. With improving technic the prospects of reducing the mortality rate is hopeful. In the last case he used the left oblique incision instead of the median, as more direct and time-saving.

President's Address.—W. H. MOOREHOUSE (London, Ontario) extended, on behalf of the medical fraternity of London, a most hearty welcome to the Association. He also tendered, on behalf of the Association and city, fraternal greetings to delegates and visitors from abroad. He outlined the aims of the Association as follows: 1. The cultivation of medical ethics. 2. The advancement of medical science. 3. The protection of the profession against outside aggression. "Genius consists chiefly in an infinite capacity for taking pains," is the ideal which should pervade the medical profession above all other vocations. The intermingling of men of widely varying capacities and standards begets a mutual feeling of enthusiasm and confidence. The occasional fellowship of men laboring for a common object, viz., the alleviation of human suffering and the conquering of disease, affords an inspiration without which the medical profession would suffer both in enthusiasm and resources. Tracing the ancestry of medicine, our profession has both a royal and a priestly origin. He advocated culture as well as skill on the part of the profession, if it is to maintain its claim to being regarded as a "learned profession." He recommended guarding well the portals of entrance to the profession by the maintenance of high standards of matriculation, a requisite, he was proud to say, in which Canada stood in the foreground. He regretted the obstacles which still stood in the way of the adoption of the Dominion Registration Bill, and hoped ere long to see the obstacles removed and the bill become law. He would like to see more Canadians entering the field of medical authorship, and keeping pace with the advance of literature in other spheres. The hospital accommodation in our cities was, he believed, well abreast that of other nations. The increasing use of patent medicines and proprietory preparations was becoming a menace to the unsuspecting public. He referred specially to the dangerous incorporation of alcohol and narcotics in these preparations. Could not our legislatures be induced to adopt the law of France which requires the makers of patent medicines to place the formula upon every patent medicine offered for sale. Lastly, the address touched on the duty of the medical man to himself. The adage, "There is plenty of room at the top," has been overdone. Many good and brilliant men perish in the ascent, or when the top is reached the strain is too great to maintain the position. He charged laxity in business methods with much of the failure in the practice of medicine. He also advised the pursuit of some hobby outside of medicine as a means of relaxation, lest in the prolonged overanxiety to save the lives of others the physician's own life may become a castaway.

GEORGE M. GOULD (Philadelphia) read a literary and scientific thesis on the **Role of Eyestrain in Civilization and Medicine.**

ELLIOTT (Gravenhurst) gave a **Lantern Lecture on the Open-air Treatment of Tuberculosis at the Muskoka Sanatorium.**

At the conclusion of the lecture Dr. Barrick, of Toronto, seconded by Dr. Powell, of Ottawa, and supported by Rev. Dr. Moore, of Ottawa, moved a resolution urging upon the government to enact legislation providing for municipal sanatoriums for the tuberculous. The resolution carried unanimously.

[*To be continued.*]

CLINICAL NOTES AND CORRESPONDENCE

[Communications are invited for this Department. The Editor is not responsible for the views advanced by any contributor.]

KOUMISS.

BY

JAMES JOHNSTON, M.D.,

of Bradford, Pa.

Fermented milk is not a new preparation, except in the methods of its manufacture. Koumiss, in its different forms, is older than history. It has been food and medicine for millions of people. From time immemorial, the Cossacks, Tartars, and Calmucks of Asia and Europe have transmitted from family to family and from generation to generation, the means and the processes employed in its production. It is the common belief among those nations that the ferments employed were received by Mahomet from God; its origin is surrounded by legends and its manufacture shrouded in mystery. The phenomena of fermentation stimulated the imaginations of these primitive people by the singularity of their appearance, the mystery of their cause, and the strangeness of their effects.

To us the wonders of fermentation are partially lost by being spread over a large number of illustrations; but to them koumiss was their all in all of fermented foods, the only one that they knew. It was in a class by itself, and represented in their dietary the only prepared food for infants, the only delicacy for invalids, the only ready refreshment for guests. It was the one stimulant by which the tired traveler could be restored and the worn out mother rested. Or, when made more potent, as they knew how to make it, by the addition of buckwheat flour and honey to the fermenting mixture, it came to be for them the cup that cheers, exhilarates, and intoxicates. Koumiss was to them what champagne is to us. And if we have in champagne a palatable and attractive wine, they can boast for their tipple the advantage in food value, and stomachic qualities that are not only valuable in themselves, but are safeguards against gastritis and hepatic troubles as a consequence of overindulgence.

The wonders of fermentation that were hidden from their eyes are plain and natural facts to us, revealed by microscopy, chemistry, and bacteriology. Those savage nomads, dwellers on the steppes, were excellent macroscopists—they observed and experimented. Their product has been used extensively as a dietetic and therapeutic agent throughout Europe. Satisfactory use of it as a sole diet is demonstrated in numerous sanatoriums, and clinical investigations conducted on the largest scale have justified the claims of its originators with very little allowance for exaggeration.

With modern laboratory facilities, and our ability to produce pure cultures, we are now enabled to bring about the same changes in milk; to profit by all that they have gained in dietetic and alimentary advantages; and yet, cater to our western palates by eliminating or modifying some of the odoriferous characteristics of koumiss as it is made in the provinces of the Don.

TABULAR VIEW OF CHEMICAL CHANGES. PARTS IN ONE HUNDRED.

Of Milk.		Of Koumiss.	
Fats	4.10	Not chemically changed in the fermentation but fixed at will in the preparation of the milk before manufacturing	0.01 to 25.00
Albuminoids		Is changed in part to acid albumin, hemialbumose and peptone. The rest loses its lime and becomes more digestible	2.99
Casein	4 2	Disappears	
Lactalbumin	.4	Increased to	.52
Hemialbumose	.16	Increased to	2.16
Peptone	.93	Sugar of milk	3.09
Sugar of milk	4.46	Alcohol (never more than)	1.00
		Is readily oxidized and is usually converted into acetic acid.	
		Carbonic acid (not more than)	10.00

Salts and water are unchanged.

The most important fact shown here is that casein, which digests in the human stomach with considerable difficulty on account of the formation of large, hard and tough curds, is changed by the action of fermentation into peptone and hemialbumose, and having lost its lime it forms, as in the human stomach, small, soft curds.

Standard koumiss, which meets the majority of all the uses of koumiss, is made from whole milk with at least 4% of fat. It suits all ordinary cases of malnutrition, is easily retained by irritable stomachs and is a rapid tissue builder. It is not subject to further fermentations in the stomach or bowels, will not develop gas, and is a safe food in all fevers and after abdominal operations. It is counterindicated only in general plethora and in one local congestion—that of the kidneys. Cream may be added to the milk during the process of manufacture, enough to bring the whole amount up to 23%, without it separating again from the curd of the finished product. This may be done to suit some cases of emaciation without stomach disturbance, or when a laxative effect is desired.

But since the presence of fat is not essential in koumiss, for the reason that the characteristic changes on which its properties depend all occur in the other constituents of the milk, it may be made from skim milk and advantageously used in all those cases of dyspepsia and albuminuria in which skim milk is usually prescribed.

Let us compare the processes of normal digestion of milk with those of fermentation. What is it that actually happens in the stomach?

In the first place raw milk is curdled; then the clot is attacked; it is penetrated, little by little, by the gastric juice; it is broken into small fragments, which are attacked and disintegrated in their turn, until at last, whether in the stomach or in the intestine, these fragments become dissolved and pass into the condition of proteose and then into peptone.

Now in the laboratory where koumiss is prepared the same series of phenomena may be observed; and, just as in the digestive tract, these phenomena are the work of soluble ferments secreted by the glandular cells; so in koumiss, they are attributable to soluble ferments of the same sort artificially elaborated.

Koumiss constitutes, like the milk that it is made from, a perfect food. It offers this advantage, that it represents milk for the greater part digested, and of which the albuminous element is already almost immediately absorbable. Hence the two chief indications for koumiss are maladies of the digestive apparatus and failure of nutrition. It brings to the stomach a work three-quarters done. When freshly made it does not differ much from milk in either appearance or taste. Yet it does differ very much in digestibility, because in the stomach the changes are attained very rapidly. The soluble ferments of the stomach and the soluble ferments of the koumiss work together harmoniously and swiftly.

When fully matured it differs from milk in being tart, gassy, and creamy; tart from lactic fermentation, gassy from saccharin fermentation, and creamy from predigestion of the curd. The tartness develops soonest in the ripening process, so that the first change makes the koumiss resemble fine buttermilk. The subsequent changes, which occur slowly at a low temperature and are only fully realized in bottles that have been handled carefully during many months, are, increased smoothness of curd and increased gas pressure.

It is in fact a sparkling wine of milk, fermented like champagne, in the bottle; and, like champagne, it is grateful to the taste and acceptable to the stomach, even when the latter is behaving its worst.

It follows from this description that any rules for the administration of koumiss would be subject to many exceptions and would permit of much latitude in their observance. For anyone in good health koumiss is simply a delicious beverage that may be taken freely at any time or for any reason. A small glassful is an excellent thirst quencher, a larger portion makes a light lunch. A glass of koumiss may be considered the duplicate of a cup of bouillon, to be used in all similar ways, the one hot, the other cold. It is a social convenience in the club or at home as a satisfactory alternative drink to offer or to take. It is a satisfying refreshment and an appetizer before meals. A pint bottle-

ful taken slowly at intervals will carry a nursing mother comfortably through the night. Invalids who are limited to liquid diet do generally better on this than on any other food whatever. Those who need something between meals find koumiss always ready, always satisfactory, and sufficient.

When used in acute illness it should be by direction of the attending physician and according to his instructions, but for its use in chronic ailments it is interesting to know how they do it in the "Old Country."

There, in the sanatoriums in which a koumiss diet is more or less a factor in the treatment, and perhaps, in some instances, an attraction by which the institution is advertised, it is customary to line up at intervals during the day in couples as for a dance, and promenade about the hall and in front of a counter, whence the koumiss is dispensed by pretty maidens and carried by the laughing couples, who empty their glasses and refill as often as they choose. Hence the direction frequently given in this country, drink slowly, by sips, and accompanied with gentle exercise.

STRANGULATED INGUINAL HERNIA AND UNDESCENDED TESTICLE.

BY

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of Boston, Mass.

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While cases of strangulated inguinal hernia are of very common occurrence, one in which the hernia could not be demonstrated by physical examination because obscured by the presence in the canal of an undescended testis may be worthy of report.

A. S., aged 14, entered the relief station of the Boston City Hospital on March 1, 1903. He was a native of Russia, and had been in this country but a short time. He had had several attacks similar to the present one, the last, six months ago in Russia. Relief came each time from the application of heat. He had noticed a small tumor in the inguinal region for the past year.

He was taken sick about 8 a. m. of the morning of entrance, with abdominal cramps. The pain continued through the day, and the tumor in the groin became very tender. He entered the hospital in the afternoon with a normal temperature and a pulse of 108. He was put to bed with an ice bag over the inguinal region. An hour later, at 5 p. m., when I saw the patient, the pain had not ceased, and the pulse had increased a little. I found a boy with an anxious, drawn facial expression, suffering evidently genuine pain referred to the right inguinal region. The physical examination was practically negative, except as follows: The right testicle was not found in the scrotum, while in the canal on this side there was a very tender tumor.

The case then resolved itself into one of severe pain in the inguinal region with an undescended testicle (noticed for a year) in the canal, which prevented any examination of the internal ring. As no cause for an epididymitis or orchitis could be found in the history to account for the pain, a probable diagnosis of the strangulation of a bit of intestine at the internal ring was made, and the patient immediately prepared for operation.

An incision was made over the right inguinal canal and carried down to the sac about the testis. The sac was opened, allowing about 2 teaspoonfuls of straw-colored fluid to escape. Examination then showed the testicle half way down the canal with a piece of chocolate-colored intestine caught in the ring. The ring was enlarged and the intestine pulled down showing 1½ inches, dark colored, but viable. The intestine was then reduced. The cord with the peritoneal sac of the congenital hernia was first freed from the surrounding tissues, and then the peritoneum was dissected from the structures of the cord so that a hernial sac was made. This sac was tied off at the internal ring with chromicized catgut, and the excess cut away. The internal ring was narrowed by two sutures, one external to the cord and one internal to it. The internal oblique and the transversalis were sutured with kangaroo tendon to Poupart's ligament. The cord was then laid on this and the testis pulled down into the scrotum and the fascia of the external oblique sutured with kangaroo tendon to Poupart's ligament over the cord. The testicle was held down by making the external ring small, and by a few stitches in the subcutaneous tissue. The skin incision was then closed with silkwormgut.

The patient made a satisfactory convalescence, and on March 21 was allowed out of bed, and on March 23 was discharged from the hospital with a firm scar and the testicle lying comfortably below the external ring.

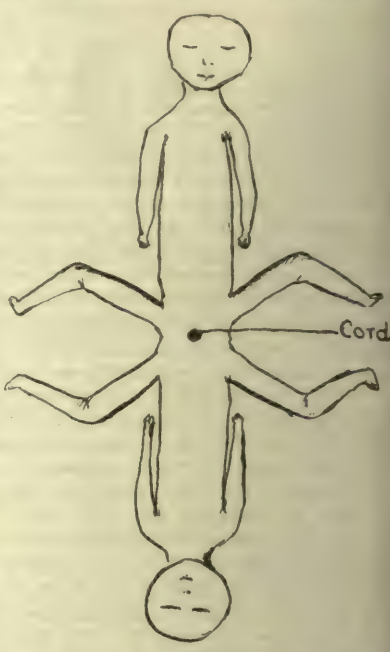
AN UNUSUAL CASE OF DOUBLE MONSTER.

BY

MILTON E. GREGG, M.D.,

of South Onondaga, N. Y.

On July 24 I was called to see Mrs. M. M. J., a young Indian woman residing on the Onondaga reservation. I was urged to come at once, as the patient was very sick "with dropsy." I found her very anemic, with general anasarca, shortness of breath, in fact, all of the symptoms of a serious nephritis. She was pregnant, but could not tell much as to the duration. However, I concluded from the size of the abdomen that she was between 8 and 9 months advanced. I hoped by the use of Basham's mixture, diuretics, and general tonics to tide her over the remaining short interval without resorting to premature delivery. On my next visit I saw several Indian women standing over a dead baby at one side of the little room. They allowed me to see what to them was an object of the greatest interest. To my surprise, I learned that my patient had been delivered. The people were superstitious, and refused my request for a photograph, so I have had to represent the monster by a rude drawing. The body was continuous, there being only a slight constriction at the middle line where the cord was inserted. The spine was continuous from one head to the other; the bodies, extremities and heads were seemingly perfect in their development. The sexual organs were at one side between the diverging legs, and were evidently those of the female. Only one had a perforate anus, which was also located in that locality.



The birth was easy and rapid, about 6 a.m. July 27. One died of asphyxia on the following afternoon, the other on the following morning. I was told that the babies cried and breathed alternately. The parent is the mother of a healthy, well-formed boy of 4 years, and there is no item of interest in the family history. The nephritis may have been due to pressure of the unyielding rod-shaped fetus upon the kidneys.

Today (August 21) my patient was engaged in making baskets, which her mother hopes to sell at a picnic.

ANTIVIVISECTION INFAMY.

To the Editor of American Medicine:—My attention has just been called to your editorial headed "Antivivisectionist Infamy" in your issue of August 22. Leffingwell is not a common name, and is associated in the minds of a large number of the medical profession with the Glen Springs Sanitarium. I would be glad if you would make it plain to your readers that I am not the Leffingwell who has identified himself of late years with the antivivisection crusade, with which I have no sympathy, nor has the later any connection with the sanitarium.

WM. E. LEFFINGWELL, President.

The Negro Problem.—Statistics from the late census suggest that the destiny of the negro race in this country is gradual but certain extinction. In Boston, during the census year, there were 13,991 births and 11,227 deaths of white persons, the excess of births being 2,714. Among the negroes the births numbered 240 and the deaths 327—a death excess of 87. In Greater New York the births of whites numbered 96,184 and the deaths 79,229, an excess of births of 15,935. The births of negroes were 1,430 and the deaths 1,970, the deaths exceeding the births 540. In Buffalo, Chicago, and St. Louis, a similar comparison of birth and deathrates was made, with like results. New Orleans, which might be expected to make a showing more favorable to the negro, shows an excess of births over deaths among the whites, the report for the negroes being births, 1,735; deaths, 3,310, or a death excess of 1,575.

ORIGINAL ARTICLES

A STUDY OF UNCINARIASIS IN PORTO RICO.

BY

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AND

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Over 30% of the deaths in Porto Rico, reported by the Superior Board of Health for the four months, September to December, 1902, were charged against anemia. This statement, if anything, is below the actual facts, because deaths due to complications of uncinariasis and coincident diseases are reported under the heading of such complication or disease. Also, deaths due directly to uncinariasis are often charged to one of its prominent symptoms, because a recognition of uncinariasis as an individual disease existing in Porto Rico, is confined to but few of the Porto Rican profession, so far as we know.

In 1890, 13% of all deaths were due to anemia.[1] In 1899 there were 8,977 deaths from anemia, or 22.5% of the total. While these statistics are not absolutely reliable, yet they show that there has been a steady increase in deaths from this cause; and whatever inaccuracies exist the figures are under rather than over estimated.

It is a startling fact that while Porto Rico has a larger proportion of children to adults than any State except South Carolina, yet in 1890 the percentage of persons over 60 was but 40 per 1,000, compared to 62 per 1,000 in the United States.

Whatever the attitude of the local practitioner may be, it is a fact that the importance of uncinariasis is not realized, and that the proper efforts are not being made to cure and stamp out this disease. We appeal for a thoughtful and sensible view of what is now the great scourge of fully 90% of the agricultural laboring classes in Porto Rico, and what has come to be a most prominent economic question in the betterment of the island.

Class of People Affected.—From the report of Governor-General George W. Davis, we quote the following: "It is a conservative estimate to place the laboring classes at quite 600,000 souls who do not own a rood of land or possess property of any kind, except a miserable cabin or thatch hut and a few insignificant articles of household goods. This comprises what is known today as 'jibaros' or 'peons.'" This class furnishes the cases of uncinariasis. It is our firm belief that 90% of them living outside of the larger cities are infected with the parasite, and that 75% of those infected show decided symptoms. In the cities it is not so common, but of the entire population of Porto Rico only 8.7% live in towns of over 8,000 inhabitants.

A fair representative of the city class is the Porto Rican soldier. One of the writers was a recruiting surgeon when the first regiment was formed. The applications for enlistment were far in excess of the numbers required, and none but the best dressed and most intelligent were accepted. In the vast majority of cases these were city men; yet Lieutenant Russell, Assistant Surgeon, U. S. Army, reports, "Among 19 native soldiers suffering from every variety of disease, I found that 84% were infected, whereas only 54% of the healthy were harboring the parasite." He also made examinations of only "healthy" boys in the Boys' Charity School and found 54% infected.

The deductions to be made from the above data are that the inhabitants of the city are by no means exempt, and that fully 50% of them are infected.

Of the island population 62.8% are engaged in agriculture. Coffee is by far the most important industry; 41% of the cultivated land is utilized for its culture. Of all agricultural laborers those on coffee estates are most exposed and rarely, if ever, escape infection. Attention is called to the method of planting coffee. A little hole is made in the damp soil with the finger, the bean introduced, covered in by earth, and pressed down with the thumb. The soil is of the richest and is always damp, as the coffee plant must be grown under shade. Here in the neighboring bushes evacuations of the bowels are made, and the larva is developed, reaching the infective stage at the time when processes of nature have destroyed all traces of human ordure. This combination of shade, dampness and rich soil forms an ideal culture medium for the larva.

Work on sugar estates should be considered the next most dangerous occupation.

A particularly favorable location for the development of the larva from the ovum is found in the banana patches which frequently surround the huts of the "jibaro." Here children play and roll in the damp earth, while persons and animals track the mud all over the immediate vicinity. It has been our experience that children are specially scourged.

In addition, there is utter lack of personal hygiene. Seldom is a privy found, and men, women, and children foul the soil with their evacuations, and are in turn fouled by the infective soil; a bit of soil the size of a pea containing at times 50 tiny rhabdites.

Vegetables eaten raw, food eaten with unclean hands, mud-soiled utensils and clothing, and drinking of muddy water are but few of the modes of infection, too numerous to be fully specified.

Geophagy seems to be a most unimportant mode of infection in Porto Rico.

The infecting rhabdites are not, in our opinion, commonly water-borne, except in muddy water.

We have not often found this disease among the better classes, which may be explained by the fact that they have little personal contact with infected soil.

To sum up, we have, favoring the growth and spread of uncinariasis in Porto Rico, fine climate, proper humidity, water-soaked soil, a perfect culture medium, topography favorable to the spread of larva by heavy rains, dense shade, density of population, agricultural life, bad sanitation, and habits conducive to infection.

Regarding the topography of the island, it is often likened to a choppy sea. It is said that Columbus, in describing it to Queen Isabella, took a silk handkerchief, crumpled it in his hand, and dropped it on the table, saying that was its appearance.

As to climate as an etiologic factor, we heartily agree with George M. Giles, I.M.S., when he says:

> There is far too strong a tendency to impute everything to climate. Climate is the scapegoat on whose shoulders not only the laity, but also medical men, are only too ready to lay the blame of all diseases whose causation they may not clearly understand. It is a well-sounding word, and its mere pronunciation ensures a comfortable feeling that all is well accounted for, and what is better, quite inevitable; for whatever be our faults, we cannot help the climate, and once the causation of a disease has been gathered to its all-embracing arms, every one feels absolved from all responsibility in the matter. In reality, however, mere climate has wonderfully little to do with production of disease, and a foul water-supply will do more to raise the deathrate than all the changes of climate to be found between the equator and the poles. Nothing shows this better than the uniform good health enjoyed by bodies of men under the most diverse conditions of climate whenever the requisites of good sanitation can be and are fulfilled. Bombay is rapidly becoming, from being one of the most insalubrious, one of the healthiest large cities of the world. London was once very malarious, now malaria is unknown in England save in parts of the fen country, yet the climate remains the same.

We believe the climate of Porto Rico to be one of the most balmy and healthful. Excessive rainfall is certainly not a prominent feature of this country. Bright, sunny days are the rule and breezes blow almost continuously throughout the year. The temperature is shown by the following quotation from the census of Porto Rico (1899): "The annual temperature at San

Juan ranges in different years from 78° to 82° F. The mean monthly temperature ranges from 75° in January to 82° in August."

The local medical profession and the laity believe that insufficient and improper food is the most important etiologic factor in the causation of this "anemia." Especially do they attribute its increased prevalence to the distress following the hurricane of August 8, 1899, but we have already shown that it was steadily increasing before that event. Moreover the deaths from anemia during the year 1898 (preceding the hurricane) amounted to 22.13% of the total, while during 1899 (the year of the hurricane) it was 22.5%, a difference of but .37%. In 1902, for the last four months, we find it 30%, although the condition of the poorer classes was far better than at the time immediately following the hurricane when the percentage was lower.

We believe ourselves qualified to make the assertion that the question of insufficient and improper food is of very little importance in this disease. We have repeatedly seen it in persons who always had good and sufficient food, and patients have been cured, and remained cured, while living on the same food as they ate previous to treatment.

A case bearing on this point is that of a boy, who showed no symptoms on leaving Porto Rico, where he lived as the poorest live, but who developed a profound anemia a month and a half after reaching Glen Island, N. Y., where he had wholesome and generous food, such as he had never before eaten. He nearly died, but was cured by thymol several times repeated and followed by iron.[2]

Imbued with the common idea that meats are not a tropic food, the observant American coming to Porto Rico is greatly surprised at the high esteem in which meat is held as a food. It holds a very prominent place on the tables of all who can afford it.

To the laborer or "peon" it is a luxury, eaten at intervals varying from weeks to months, and this fact is always cited as conclusive proof of the lack of proper food among the class furnishing the anemia cases.

The following quotations from "Practical Dietetics," by Thompson, will effectually refute this idea:

"The northern Eskimo, who has absolutely no starchy or saccharin food, eats fat with his proteid diet, and is therefore enabled to acquire energy, to resist extreme cold, and to take very long and fatiguing sledge journeys; yet he is no stronger, nor as strong as the central African negro who lives upon a diet of manioc and plantains."

Again he says: "In the West Indies, in the islands of the Pacific, and throughout central Africa, many nations eat bananas as their staple article of food, and maintain good physical development."

As the Porto Rican peon has rice, beans, bananas, and sugar in abundance, he cannot be said to have the anemia of starvation. Such statements are misleading and not true.

We have frequently examined the blood in cases of fever on this island, and have arrived at the conclusion that malaria is not prevalent in Porto Rico, except on the coast, and even there pernicious malaria is not nearly so frequent as generally believed. Besides, "anemia" is, by the confession of all, a disease specially prevalent in the mountainous interior.

In review, we are impelled to believe that the symptom, anemia, in Porto Rico, in a vast majority of cases, is caused solely by uncinariasis, while not denying that some few "anemias" in Porto Rico are symptoms of other wellknown diseases causing this condition.

Concerning the parasite, no more need be said here than that the nematode is a new species, first identified by Dr. Ch. Wardell Stiles, zoologist of the U. S. Public Health and Marine-Hospital Service. He gave them the name, *Uncinaria americana*. Many specimens have been sent him from Porto Rico, all of which have been of this variety. We omit their description as this eminent zoologist has published a full technical description of them.

Pathology.—In proceeding to study this disease pathologically, we naturally turn to consider the mode of production of the anemia.

There are three factors to be considered:

1. Direct abstraction of blood by the parasite.

2. The digestive disturbances caused by the chronic retrograde tissue changes in the mucosa, that result from the wounds produced.

3. The hemolytic toxin theory.

The first and second have been very thoroughly discussed by all writers on this subject. There is no doubt that they both contribute to cause the resulting anemia.

Our own observations have convinced us that a toxin of hemolytic nature is developed by the parasite; that the same is absorbed into the blood and exercises its destructive action directly upon the hemoglobin; and that it is responsible for some symptoms and pathologic conditions not alone accounted for by the anemia.

Our reasons for believing thus are the following:

1. Nervous symptoms all out of proportion to the grade of anemia present.

2. The presence of a remarkable eosinophilia, a phenomenon found in other parasitic diseases.

3. The rapid change for the better in the mental condition of the patient, while the treatment has not yet affected the grade of anemia.

4. The relative immunity which some persons enjoy, notable examples of which are often found among the Porto Rican soldiers. Some individuals have a large number of worms and little corresponding anemia.

The fact of this immunity is well brought out by Jacoby and Zinn, who give ample proof that the mere harboring of the parasite does not always cause anemia, and that negroes of South Africa seem less liable to the evil results of infection.

If this anemia is due to the extraction of blood and indigestion the negro would lose as much blood and nourishment as his white brother and have the same resulting anemia. It would seem then that the black possesses a racial immunity, which is in perfect accord with our investigations in Porto Rico, where after much search and many examinations we have never found anemia due to uncinariæ in a full negro, except in one case, although sometimes they harbored larger numbers of the parasite than whites suffering from profound anemia.

5. Lussano found in the urine of uncinariasis patients a poisonous substance allied to ptomains. He evaporated the urine at a temperature of 60° to 70° C. until it became of the consistency of syrup, then extracted the toxin by absolute alcohol and dissolved this extract in sterile water.

He made subcutaneous injections of it in hares, continuously for eight days, causing a diminution in the number of red cells, poikylocytosis, and rapid formation of fibrin, all of which disappeared upon cessation of the injections.

The parasites were then expelled from the patient, and a similar preparation of urine caused no effect.

6. Bohland showed a breaking down of albumin due to a poison, and his work was substantiated by Tenholt and Peiper.

7. That a toxin is frequently produced by intestinal parasites is proved by the fact that *Bothriocephalus latus*, which is not a blood sucker, causes an intense anemia, admittedly by its toxin.

Finally, in addition to these reasons for advocating the hemolytic toxin theory, we do not believe that the worm can suck the blood to sufficient extent to cause such profound anemia, even aided by indigestion, considering the blood-regenerating powers of the human organism. In this statement we are supported by

various authors and by the many cases of uncinariasis with but very few worms, yet with marked anemia.

The constant perforating and reperforating of the mucous membrane of the intestine soon leaves it in a state of chronic inflammation with many tiny ulcers, visible as ashy-gray, red-centered nodules, 8 to 10 mm. in diameter. Surrounding induration is common. In old cases fewer worms seem to be attached. As a rule, almost all worms are found within two meters of the pylorus, and sometimes have half their bodies buried in the membrane, the mucus covering the entire worm. In one autopsy (Case 58), about 100 worms were found in the stomach, which, under the circumstances, could not have regurgitated from the duodenum. Others were thickly distributed throughout the jejunum. It should be noted here, that while they occur in the duodenum, by far the greatest number are found in the jejunum.

Amyloid degeneration of the villi and peritoneal adhesions have been found. The stomach is sometimes dilated and shows chronic inflammation. The spleen is not swollen in this disease, save when there is concomitant paludism or other extraneous influence. The liver is not enlarged.

Although from the heart-symptoms during life we fully expected to find an enlarged organ, one of perfectly normal size was found. The literature, however, describes a diffusely enlarged organ, without direct reference to the left ventricle, or there is noted hypertrophy and dilation, chiefly of the left ventricle.

Soft dark clots were found in the heart and great vessels, but no pathologic processes were noticed on the valves. The parenchyma of the heart was very anemic and decidedly yellow. The changes in the marrow are identical with those found in pernicious anemia.

Great pallor of the skin, muscles, meninges, cerebrum, lungs, and other organs above mentioned was specially noticeable.

There is usually extensive dropsy, chiefly anasarca, but hydrothorax, pericardial and pleural effusion, ascites, edema of the brain, and hypostatic edema of the lungs, all occur in varying proportions, according to the general anasarca present.

Arrested or retarded development is a common result of the disease in children. Case 18, according to his father's statement, had been anemic for eight years, and though 16 years of age, appeared to be only 8 or 10 years old.

We were struck by the exact accord of our clinical observations of central nervous symptoms with Billings' report of the spinal changes in pernicious anemia. Patients with little anemia have complained of disproportionately marked spinal nervous symptoms except spastic paraplegia, which leads us to believe that the toxin exerts a degenerative influence on the spinal centers similar to that exerted by the unproved but highly probable toxin of pernicious anemia.

The pathologic condition of the blood is most important in studying a disease causing such severe anemia. The blood as a whole is pallid and very liquid, coagulating slowly. In severe cases the color is not unlike washings from fresh beef. It is to be most strongly emphasized that there are two keys to the actual condition of the patient: (1) The percentage of hemoglobin; (2) the degree of eosinophilia. The hemoglobin percentage begins to fall before a corresponding fall takes place in the number of red cells. This is one of the reasons why we cannot think with Boycott and Haldane that the percentage of hemoglobin is relatively low because of an excess of plasma. Not only does the hemoglobin percentage fall first, but its fall is rapid and excessive, even to 30%, while the red cells yet count normal or nearly so (Cases 60, 64 and 71). Extreme reduction of the hemoglobin, even to 10% or 12%, is common; 7% to 9% is found, and it is noteworthy that the red cell count is always comparatively higher than the hemoglobin percentage, to such an extent that it is a valuable diagnostic point between this disease and pernicious primary anemia, which has a high color index.

Treatment causes a rise in the number of red cells, long, often months, before the hemoglobin percentage reaches normal.

The use of the hemoglobinometer gives us all the information necessary in the examination of the blood, save that given by the differential count of the white cells. We have come to the conclusion that the counting of the red blood cells, while interesting and scientific, is of little practical importance in the clinical examination of the blood in this disease, as the deleterious effect upon the blood is most keenly felt by the hemoglobin.

Low red cell counts are very common; below 1,000,000 in bad cases, and generally from 1,500,000 to 2,000,000 in average cases. The rise in the number of red cells is rapid under treatment and antedates the hemoglobin in its return to normal.

Extreme grades of poikylocytosis and polychromatophilia are the rule in severe cases. Also large numbers of macrocytes and microcytes are seen, a very distinctive feature. Normoblasts are very common, and are practically far in excess of megaloblasts, contrary to our former opinion. Myelocytes are sometimes seen.

The blood was carefully examined many times in many cases, and although we found various types of plasmodium malariæ in malarial cases not complicated by uncinariasis, only once did we find it in our series of uncinariasis cases. This was a beautiful squat crescent as described by Craig, typical of estivoautumnal fever.

In the consideration of the white blood cells we repeat the statement made in 1900,[3] that leukocytosis is not a symptom of uncinariasis as stated by Manson. Boycott and Haldane state that leukocytosis is observed in the presence of eosinophilia. Our results do not agree with this statement which caused us considerable surprise.

Case 61 presented 53.5% eosinophilia and only 6,400 white cells. Attention is invited to a careful inspection of the white cell counts, and the eosinophile records in the table appended. Low counts with high eosinophila are noticeably frequent. Estimations were made with the Thoma-Zeiss apparatus.

The differential counts are only second in importance to the estimation of the hemoglobin. They give us an idea of the nature of the process, of its severity, and especially of the progress of the disease.

Leaving aside the lymphocyte counts, which on the whole are normal, we turn to the eosinophiles.

Before drawing conclusions, let us classify, in so far as possible, the cases in which differential counts were made:

1. Cases showing an eosinophile count of less than 15%, but more than 10%. These may be subdivided into:
   - *a*. Those with but one count, on admission and before treatment, viz., 1, 14, 20, 32, 33, 74, 81, 88, 93, 95.
   - *b*. Those with two counts, one before treatment and the other after treatment, had expelled a great number of uncinariæ, showing a rise in the second eosinophile count over that recorded on admission, viz., 2, 71, 86.
   - *c*. Same as *b*, but that a fall or no change is noted in the second count, viz., 65, 70, 89.
2. Cases showing an eosinophile count of less than 10%.
   - *a*. Those with but one count on admission and before treatment, viz., 5, 24, 28, 36, 49, 62, 64, 75, 76, 87, 91, 92.
   - *b*. Those with two counts, one before treatment and the other after treatment, had expelled a large number of uncinariæ, showing a rise in the second eosinophile count over that recorded on admission, viz., 3, 13, 68, 84, 85.
   - *c*. Same as *b*, but that a fall in the second count is seen, viz., 69.

3. Cases showing a high eosinophilia (above 15%) before treatment, viz., 22, 23, 60, 61, 66, 67,90, 98.

4. Cases showing a high eosinophilia (above 15%) some time after beginning treatment, but without a count before treatment, viz., 4, 15, 19, 40, 41, 42, 43, 57, 77.

5. Cases showing low eosinophilia (below 15%) under the same conditions, viz., 8, 12, 44, 78, 82, 83.

6. Unclassified, viz., 9, 17, 18, 29.

From these data we may, with caution, make the following deductions:

A. Uncinariasis is a disease marked at some period of its course at least by eosinophilia. In all cases, a proper interval, generally a week, was left after administration of thymol to ensure its thorough elimination, that the differential count might not be influenced by the drug, other wellknown causes of eosinophilia being absent.

B. In those who have suffered but a short time from the disease, or whose blood regeneration is still active, a high eosinophilia is to be expected. Such cases are 23, 61, 66, 67, 90. Case 22, with 16.8%, and Case 98, with 17.3%, are exceptions to this statement, yet they can hardly be said to negative the rule, as they are but little above the arbitrary limit of 15%.

C. In chronic uncinariasis or in those who have been for a long time subject to profound anemia, the eosinophile count is more apt to be low than high. An exhausted or malnourished condition of the bone marrow may explain this condition. Such cases are those cited under headings 1 and 2, and possibly others.

Apparent exceptions to this rule are Cases 5, 18, 62, and 74, but the statements of patients are often inexact concerning the beginning of the disease; in fact, such data are most difficult to determine on account of the insidious onset.

D. After treatment in chronic cases and those in the later stages of the disease, a rise in eosinophiles may be expected, and is of good prognostic import. It may be due to a more active regeneration in the bone marrow. Cases illustrating this are 2, 3, 13, 68, 71, 84, 86, and probably others in which the data are lacking, which would enable us to include them.

E. When, however, there is a fall of eosinophiles, accompanied by lack of improvement in physical signs, death may often be the result. Care must be taken to distinguish this from the final fall in eosinophiles which marks the establishment of the blood equilibrium and the return to health.

In general, also, a slow rise of eosinophiles marks a long convalescence, as is frequently seen in the old whose recuperative powers are limited. Illustrative cases are 12, 44, 69, 78, 82, and 89. Cases 12, 69, and 82 are improving very slowly; Case 44 is almost sure to terminate fatally. In Case 78 the patient nearly died during a period corresponding to an eosinophile count of 1%; Case 89 remains unimproved.

Cases 22, 24, 49, 76, all terminated fatally, and, with the exception of Case 22, all the patients had a very low eosinophile count.

Absence of eosinophilia is often cited by authors, and its importance discredited. The error is evidently due to drawing definite conclusions from too few cases.

Capps[4] reports a case, stating that seven days before death the eosinophile count was 7.6%; 17 days previously it had been 13%. He attributed the fall to the expulsion of many parasites. It fell as the patient grew worse, in perfect accord with our statements as to the significance of the eosinophile count.

F. There is a final return to normal after the patient is cured. Such cases are 8, 29, 65, and 70.

Diagnosis.—Microscopic examination of feces forms a positive and simple means of diagnosis and should be made in all cases of obscure anemia. Its technic is neither filthy nor offensive, as may be thought by those who have never practised it. A small portion of feces is placed on a slide and thoroughly mixed with water, unless sufficiently liquid to spread; a cover-glass or another slide is then dropped on, and the specimen is ready for examination. The ova, once known, are not easily forgotten or confounded with other things.

In case a microscope is not available a clinical picture of the symptoms justifies the administration of a full dose of thymol and the examination of the resulting stools. If the case be uncinariasis the parasite may be easily seen by the naked eye, like small bits of grayish or reddish-brown thread, ½ inch to ¾ inch in length. If the case be not uncinariasis no harm has been done.

The presence of eosinophilia with anemia demands examination of feces, as this disease is commonly confounded with many diseases which its protean nature causes it to resemble, especially beriberi.

All our cases were diagnosed by demonstration of the ovum in the feces.

Prognosis.—This disease, so generally considered in Porto Rico as practically incurable, may be cured in the vast majority of cases if the patients are properly treated. Recovery occurs more readily in recently infected cases, and in the young and hardy subjects. Old age, great debility, and serious coexisting diseases are unfavorable elements. Patients having reached the stages of great emaciation or chronic diarrhea, react very slowly or not at all.

We had cases in which all the uncinariæ were expelled, but the blood-regenerating functions were lost and the patients gradually died of exhaustion.

The percentage of eosinophilia is the great prognostic sign; favorable if high, unfavorable if low or absent.

Patients suffering with uncinariasis are more liable to intercurrent affections which are frequent causes of death; especially must they be watched for acute dilation of the heart. From it some of our patients died after the anemia had begun to improve.

Symptoms.—It is our purpose to present here the clinical signs as we have observed them, not only in the cases herein reported, but in daily contact with the disease in all its stages. We will describe them under their natural groups, bringing into prominence those which we believe to be of practical value, and paying less attention to minute and inconstant symptoms which some observers have emphasized too strongly.

Fever.—A slight rise in temperature, 1° to 2° was seen in a few cases. It was unaccompanied by chill, and was very irregular in duration and appearance, usually disappearing in a few days without special medication. Malaria was excluded clinically and microscopically.

Skin.—First noted by physician and layman alike is the pallor of the skin. It is a dirty, pasty, grayish-yellow in the dark Porto Rican; more ashy in lighter complexioned persons. It is not waxy like that of renal disease, nor of the transparent whiteness of tuberculosis. As difficult to describe as the facies of typhoid, yet after a short acquaintance we learn to recognize it in the same manner.

At Fort Slocum, N. Y., during muster and inspection, one of the writers, while passing between the lines of nearly 700 soldiers, picked out one with this peculiar tinge. On later examination of the man his stools were found to contain the ova of the uncinaria, although the blood count showed 5,400,000 red cells and 95% hemoglobin. It was thought that the man had contracted the disease in New York, but a history of three years' service in the Philippines better explained the origin. (Case 98.)

The pallor appears early, generally coincident with the fall in the percentage of hemoglobin, and color is not regained until this percentage rises. While the degree of paleness is dependent upon the hemoglobin, we are of the opinion that its peculiar tinge, as differing from that of renal disease or tuberculosis may be due to the toxin, either by a selective action on the skin, or its elimination thereby, or both.

The skin is dry and harsh. Duprey[5] claims that atrophy is an early symptom. In cases in which the

patients have had edema, the skin may show minute linea trophica. The face has a seamy, wrinkled appearance of age, contributing largely to the characteristic facies.

In about 5% of our cases there was an itching eruption of very small papules and vesicles, most severe on the legs. It is probably more frequent than this, as past attacks of it are apt to be forgotten by the patient during the long course of the disease, and the account of it difficult to obtain.

Scratching breaks these vesicles, exposing them to infection, and is often responsible for the socalled "anemic" ulcer, occasionally found on the ankle and lower third of the leg among our patients. Syphilis, varicose veins, diabetes, etc. must be eliminated as causative factors.

Nervous System.—Peculiarly interesting is the characteristic facies, due to a combination of the skin changes, with the apathy and dense stupidity so prominent in this disease. The expression is one of hopeless hypochondria, and of much greater age than really exists. It is invariably present in cases of any duration and frequently reaches a stage appearing not unlike the later stages of general paresis.

The mental condition is well illustrated by the folfowing cases:

In Case 25, the patient when addressed, gazed stupidly at the speaker, then with a listless drawl, answered with apparent difficulty, pausing several seconds between each word. His answers showed such a lack of comprehension and memory, that it was impossible to obtain an intelligible history of his case. Previous to admission, a diagnosis of peripheral neuritis with partial paralysis had been made.

In Case 65, the patient laid down in the streets to die, but was picked up and brought to the hospital. She was not unconscious but her conversation was very inaccurate and contradictory. There was great hypochondria and loss of memory; she did not remember her name, nor how many children she had borne. On questioning her after a few weeks' treatment she laughed at her former statements, and gave a good account of herself. She stated that she remembered nothing of her entrance to the hospital, nor of our examination of her.

Such cases as the foregoing are by no means rare.

Neurasthenia is almost invariably present, and melancholia frequently so. Neuralgia occurs in some cases.

Paresthesia almost always occurs some time during the course of the disease; such as formication; tingling sensations, especially in the legs; burning of the palms and soles; sensations of heat and cold; hyperesthesia; and anesthesia. One complained of a cold wave which, he stated, began every forenoon in his feet and slowly ascended over the entire body. This was unaccompanied by fever.

Vertigo, headache, pains in the chest and limbs, are very early and constant symptoms, forming the chief complaints of the patient. As a rule the patella tendon-reflex is diminished and frequently absent though it may sometimes be exaggerated.

Diminished sexual power in the male is present in all cases, increasing as the disease progresses, until absolute impotence supervenes.

Several of our patients on entrance, presented a resemblance to peripheral neuritis, and such diagnosis had been made in one case as stated previously. The patient was unable to walk, but we found this to be due to extreme weakness, degrees of which were noticed in all cases, and which we consider proportionately too great for the amount of muscular atrophy and degeneration found postmortem. Weakness referred to the knees is one of the first subjective symptoms.

Diminished resistance to changes of temperature is a prominent feature. Insomnia is far more frequent than somnolence, but the latter, when present, is very noticeable.

Circulatory System.—Another of the early subjective symptoms is a sense of oppression in the chest with an increasing disability to perform severe exertion without palpitation. As the disease progresses, palpitation becomes constant, accompanied by ringing in the ears, flashes of light before the eyes, dizziness, and an occasional fainting spell. The patient is often annoyed and unable to sleep on account of the forcible beating of his heart.

The area of dulness is generally increased to the left, sometimes to the right, due to a moderate hypertrophy or dilation, or both, though extensive dilation is not infrequently met, and constitutes a great danger to the sufferer.

A peculiar fact noted in many of our cases, was the location of the apex beat beneath the nipple.

The heart-beat is heaving and tumultuous, in severe cases, causing a bulging of the intercostal spaces. Pulsation in the neck can usually be seen at a distance. Venous pulsation is not uncommon. The pulse is variable, generally augmented in frequency, small, short, and compressible, sometimes dicrotic.

The anemic heart-murmur is usually heard over the entire heart area, or even the entire chest, with its area of maximum intensity over the left third intercostal space, 1 to 1½ inches from the sternum. Early in the course of the disease it is soft and purring, later becoming loud, harsh, and masking the first sound. During the progress of cure it again becomes soft, gradually passing away. It was present in nearly all our cases in men, but frequently absent in women, in whom it had a softer character when present.

The "bruit du diable" is often heard, and may simulate the murmur of aneurysm.

Pain is complained of over the region of the heart, and sometimes radiating over the chest.

Edema is first noted as a transitory swelling around the ankles, then progressively involves the legs, scrotum, abdomen, arms and face until, in extreme cases, the entire skin is stretched and shiny. It may vary greatly at different times in the same patient, according to the condition of the blood and circulatory system. Hypostatic congestion of the lungs, and effusions into the pleuras, pericardium, and peritoneum may accompany the general anasarca.

A most peculiar edema suddenly presented itself in Case No. 44. The leg from the knee to the ankle was so swelled as to become fusiform in shape; neither the foot nor any other part being involved. It disappeared under the use of adrenalin chlorid in large doses.

Respiratory System.—Here we find no prominent symptoms, save an occasional passive congestion of the lungs, due to circulatory disturbances, which may give rise to some cough. There is almost always some dyspnea when the circulatory system becomes sufficiently affected.

Digestive System.—The tongue is flabby, tooth-indented, and in most instances has a slight grayish coatting, which, however, is quite variable. Irregular spots and streaks of brownish or black color were seen in about one-third of our cases. The marking resembles somewhat that made by sucking a lead pencil. Attacks of slight catarrhal stomatitis may occur during the course of the disease.

Uneasiness or oppression in the region of the stomach is an early manifestation, but as a set of symptoms the early disturbances of the digestive tract are generally so eclipsed by the serious anemia, debility, and failing heart action that it is only by cross-questioning that we are much impressed by what is undoubtedly always present—an indigestion. Later it becomes more pronounced, accompanied by more or less constant pain in some portion of the abdomen. Nothing is more irregular than these pains; seldom do two cases present the same features. They run the whole gamut of character and location, though the most common seats are near the umbilicus and in the hypogastric region. They may be spontaneous or increased on pressure. We consider these pains too irregular and indefinite to warrant the great importance that has been given to them.

Appetite is extremely variable and capricious differing widely at different times in the same case. Either constipation or diarrhea may be present, more frequently alternating. Obstinate diarrhea is so often the rule in the last stages that a large number of deaths from uncinariasis are returned under the headings "diarrhea," "colitis," "enterocolitis," or "gastroenteritis."

Eructations, heart-burn and meteorism are complained of, depending upon the degree of indigestion. Nausea is a rather frequent symptom, and vomiting occurs irregularly, but presents no distinctive feature.

Earth-eating is believed to be a rare symptom in Porto Rico, being popularly considered a despicable habit. Only one such case was observed by us, and, while others may have existed, there could not have been many without our knowledge.

One should not fix attention too closely on the damage to the intestinal mucous membrane, as many symptoms referred to the digestive system and laid to this cause are of nervous origin; nervous dyspepsia is a common condition.

A changed color of the stools from supposed hemorrhages has never been noted by us, nor has there been noted any bloodstreaked mucus in the stools as reported by many authors. If any blood is passed it is too small in quantity to influence the color of the stool. In the examination of the stools at the bedside and microscopicly we have never noticed anything to make us believe that the stools contain an appreciable quantity of blood, or have a characteristic brownish tinge that several authors claim to be distinctive of uncinariasis. Charcot-Leyden crystals were observed in the feces of most patients, but we were not able to draw any definite conclusions from their presence.

Genitourinary System.—The urine is pale lemon or straw color, with slight inoffensive odor; specific gravity, 1,005 to 1,012; reaction, acid. Traces of albumin are found in some cases. In Case 3 it was marked, accompanied by hyalin and granular casts. Albumin and casts disappeared completely under treatment.

In women the menstrual flow ceases as the anemia becomes profound, though conception takes place in many advanced cases. Pregnancy is dangerous, and, as might be expected, miscarriage is frequent; six cases of stillbirth took place in the hospital. Children carried to full term are generally born weaklings. Lactation is scanty or suppressed.

Eye.—Aside from circulatory symptoms referred to the eye, such as flashes of light, these patients commonly complain of a dimness or haziness of vision, which clears up under treatment.

Nystagmus was seen in one case, but was not believed to be due to this disease.

We were unable to make a study of the eye ground in these cases. It would undoubtedly prove very interesting.

Course of the Disease.—While temporary improvement may take place under vigorous reconstructive treatment the general course is progressively downward; it may be months or a number of years, as cases of 8 and 10 years are often met.

Spontaneous cure may take place if the patient be removed from chances of constant reinfection and placed in the most favorable surroundings. Such cure must be a very rare exception, especially in Porto Rico.

Death from uncinariasis may take place by exhaustion, or by some intercurrent affection, as dysentery, dilation of the heart, pneumonia, tuberculosis, etc.

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[*To be concluded.*]

THE SIGNIFICANCE OF THE CONVULSION IN IDIOPATHIC EPILEPSY.

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However little we may know of epilepsy as a disease, much thought and investigation have led me to believe that the epileptic convulsion is not the dreadful, direful, calamitous thing it seems to be, but a physiologic process designed for the patient's relief, and which, when adequate, rescues him from the overwhelming effects of an intoxication that might otherwise result in death. The epileptic convulsion is a shield, a defense, a safeguard, against the pernicious effects of an intoxication known as epilepsy. It is not a part of the disease. It is not a part of the intoxication. It is Nature's method of meeting the condition and averting impending danger, and status epilepticus is really an intoxication so deep and so profound that even repeated convulsions are inadequate and without avail. This unsupported statement may not carry conviction, but let us go further.

Nature has many moods, but none of these is playful, or objectless, or incidental, or without design. She may speak a foreign tongue, but she always speaks to some purpose, and her movements, though seemingly useless and oftentimes misunderstood, are a part and parcel of that great plan whereby the masses of living germs which constitute the human body are protected from the hostile attacks of other microbes of less importance. It is a microbic war on either side and, while it varies in intensity, it never ends. From the cradle to the grave there is no cessation, and it is only when the human germ falters or the struggle becomes unequal that the condition is thrust into the foreground and rises to the significance of a disease. It is this inherent quality of the human germ, (if I may so call it) which prompts it to fight for its own existence and which supplies it the means and material for overwhelming its enemies that we call Nature, for want of a better word, and this it is, in its largest and most comprehensive sense, that harmonizes this vast community of interests, known as the human body, and binds them into a solidarity which stands of itself, for itself, and against the world at large. This is the "struggle for existence" in its primitive and vital form. This is the "unending fight for life" reduced to its basic principles, and the evidences of this struggle, when discoverable, become the facts upon which the physician relies, and should rely, for his guidance and direction.

There is nothing haphazard about Nature's methods; nothing is left to chance. There is deepseated system in every move she makes; every indication of disease is crowned with a motive; every symptom has a purpose.

The pain occasioned by the hand coming in contact with a redhot stove is not meant as a punishment for carelessness or as a test of fortitude or endurance; Nature's design is deeper than this. There is not only a cause for every ache, but a reason as well, if we can but discover it. And every symptom has its reason as well as its cause.

There is a purpose behind the excessive watery discharges of diarrhea. There is a purpose behind the rise of temperature in fever. There is a purpose behind the flocking of the white blood-corpuscles to the point of injury. There is a purpose behind the malarial chill and there is a purpose behind the convulsion of epilepsy. Nature is ever mindful of her children, and many of the socalled symptoms are not so much evidences of disease as of Nature's efforts to reestablish health. Nature is never at ease while a foreign invader is on her shores, nor is she less active in the face of local rebellion or civil strife. For thousands of years she has waged war against disease, and despite the great advancement made by med-

icine and surgery, she sees no good reason yet for beating her sword into a ploughshare or concluding that her mission is ended.

Symptoms are not so much a proof of disease as an evidence of a struggle, and in overlooking this fact and ignoring or misunderstanding Nature's plan, we often mistake the struggle for the disease and rush recklessly into the fray, striking friend and foe alike; with the result that while the disease may be destroyed, Nature is left a cripple. Symptoms are the index to the situation, and may frequently be encouraged to advantage, but never attacked, for though we may not readily understand, it is safe to conclude that Nature is working in some practical way and the symptom is the clue to the help she needs. It is for us to assist rather than injudiciously beat down the batteries she has already planted for her defense.

The disease itself is oftentimes obscure and indistinct while the symptom stands out in bold relief and challenges attention, but the thoughtful man will not be led astray by this. To smother a symptom is like concealing guilt or compounding a crime, and yet this is done repeatedly in the treatment of epilepsy. The convulsion is only a symptom, but it is so largely in evidence and occupies so much of the visual field that it has frequently been considered the disease itself and treatment been directed accordingly.

I said that the convulsion in epilepsy is a symptom; it is more than this—it is the patient's salvation. It is a physiologic process by means of which Nature seeks to neutralize a poison which otherwise threatens life. In fighting all forms of intoxication or infection Nature seeks either to neutralize, evict, or destroy, and the means by which these results are accomplished are physiologic. The secretion of certain antitoxic substances in the blood during the progress of those diseases known as "self-limited" is not the result *of* infection but a sword-thrust *at* infection. It is not germ suicide, but physiologic germ destruction. Nature possesses a neutralizer for every toxin and an antidote for every infection, but in limited quantities, and the success with which she copes with her arch-enemy, disease, depends upon the amount and quality of the toxin or the virulence of the infection. This is what is meant by immunity, and in most instances Nature is all-sufficient and the danger is met and averted without our conscious knowledge; but there are times when the struggle is unequal, and in seasons of such distress she needs assistance, not antagonism.

The epileptic convulsion bears the same relation to epilepsy as vomiting does to acute irritation of the stomach. They are both efforts to relieve. One ejects the deleterious product, the other neutralizes it. One is encouraged—but what can be said of the other?

The discovery of the cause of epilepsy is a problem for the future. It has not yet been solved. Its origin is obscure, its nature unknown; it evades the pathologist and eludes the student of physiology. Scores of searchers have dreamed that it was found, and others have fancied that they held it firmly within their grasp, but in the light of scientific investigation the substance faded to a shadow and was gone. Scarcely a disease known to medicine has received so much attention with so few results as epilepsy. The master minds of the nineteenth century sought diligently to discover its secret, but it bid defiance to them all. It has been a bloodless battle, but heads have whitened, and eyes grown dim, and hearts have faltered, and ambition despaired during all these years of thankless toil and profitless investigation. But other men have stepped into their places and taken up the work where they laid it down, and the fight goes on. Epilepsy is now in a state of siege, surrounded by closely-drawn and steadily-advancing lines of scientific research. It has been sapped and mined and tunneled and cross-tunneled, and though it guard its secret never so well it must surely be soon divulged. This much perhaps we know—that it is caused by an autointoxication, but knowing even this, what a dreary waste still stretches away before us.

I do not stand alone in nonallegiance to the theory which holds that the convulsion of epilepsy is due to an automatic brain cell explosion; that the automatic cell explosion with its attending convulsion constitutes epilepsy and all there is of epilepsy. This theory teaches that the motor cells in the brains of epileptics possess a peculiar quality, by virtue of which they store up more, and more, and more, and still more energy, until a definite point of compression is reached and they explode, only to repeat the process later, without any definite object and without any apparent cause. Those who accept this theory believe that the disease is in the cell itself, but do not specify whether the disease consists in storing up a surplus of energy or in exploding after it is stored.

The accumulation of energy cannot be called a disease unless grossly exaggerated, and this is scarcely possible, because there is no evidence that epileptics generate more motor energy than others, and consequently have a larger quantity on hand which must be accommodated somewhere, or that they do not expend it as rapidly as others with similar advantages of bodily exercise, and so accumulate a large surplus which must be stored away against the day of explosion. On the other hand, the explosion cannot be the disease, unless it represents an unstable condition of motor cells which renders them incapable of containing a normal amount of nervous energy without automatically releasing it whenever it reaches the explosive point, determined by the extent of disease in that particular cell; and in this case the explosive point could scarcely be the same in *all* the cells of the motor region, nor even in two cells lying side by side, and a continued series of explosions involving isolated regions would occur, varying in time and intensity, and without relation or sequence, instead of the well-defined convulsion of idiopathic epilepsy. Whatever relation this phase of the theory may bear to other convulsions, it certainly fails to explain the convulsion of idiopathic epilepsy.

Again, according to this theory, logical and consistent reasoning would lead us to the conclusion that the severity of the convulsion would be determined by the amount of energy stored up in the cell, and the amount stored up would be determined by the explosive point. The explosive point would be determined by the pathologic condition of the cell, and the pathologic condition would vary with the amount of disease involvement present in the different sections of the motor area. When the explosive point was high a greater amount of energy would be stored in the cell; the time between convulsions would be longer, because the larger the amount of energy which the cell would accommodate before exploding the longer would be the time involved in its generation, and the convulsion would be more severe, for the longer the time involved in generation and the greater the quantity of energy stored, the larger the amount liberated by the explosion and correspondingly emphatic would be the convulsion. When the explosive point was low the opposite conditions would prevail, less energy would be stored, the time of its generation, and consequently the period between convulsions would be shorter, and the convulsion, bearing a due proportion to the amount of energy liberated, would be light. But do any such relations in fact exist between the frequency and severity of convulsions? Does the frequency of convulsions determine in any manner the degree of their severity? Does the severity of convulsions decide the time and frequency of their occurrence? Are convulsions at long intervals always severe, or frequent convulsions always light? By no means. On the contrary, convulsions may occur only once or twice in a year and be so light as almost to escape notice, or they may occur every day and with

extreme severity. Those who have observed them most, believe that they are more likely to increase in severity as they increase in frequency, and this condition the theory of automatic cell explosion cannot explain.

If it is meant by this theory that there is no unusual accumulation of nervous energy and that the explosion is not the result of defective inhibition or pathologic instability, but that the motor cell consists of specific chemic elements bearing certain definite relations to each other; that their function is the production of nervous energy, which is accomplished by their chemic reactions upon each other; that the introduction of a new and abnormal chemical into the cell produces a marked change in the chemic reactions, with a sudden and enormous increase in the amount of energy generated, and that by reason of this excessive and rapid generation this motor energy is liberated explosively through the nerve processes, resulting in a convulsion, then the theory becomes that of autointoxication and the automatic explosive theory, as a theory, is itself exploded.

Epilepsy, as I understand it, is an autointoxication with its resulting vasomotor disturbance. That is the starting point. Whether the toxin is an unusual or abnormal secretion, or half-formed element of metabolism, or product of some ductless gland, half neutralized, or not at all, time and patient, untiring investigation alone can tell. This much has been solved—that the presence of this poison, whatever its nature or source, results in a vasomotor spasm, general and complete. The bloodvessels are contracted and the heart for a season stands still. The vasomotor center, ever watchful and vigilant, has scented impending danger, and the whole circulatory system has been securely locked to prevent further invasion of the poison into its channels until provisions have been made for its destruction. This is the first step.

As a result of this spasm of all the bloodvessels of the body possessing muscular fiber, cerebral circulation is *nil;* the brain is deprived of oxygen, and the patient falls unconscious. The second step is the convulsion, *and I verily believe that without it, consciousness would never be regained.*

The preceding phenomena: the vasomotor spasm, the complete asphyxia, the unconsciousness, are all the result of the epileptic toxin, what follows is Nature's effort to neutralize the poison; to counteract the disastrous effects already produced; to remove a condition which threatens death. The autointoxication, by reason of the vasomotor spasm, has produced a condition of autoasphyxia, and the convulsion follows as a physiologic sequence, just as it follows every condition of sudden and complete asphyxia from whatever cause the latter may arise. An antitoxin must be generated and generated quickly, and heroic measures only are efficient. To do this is the object of the convulsion, just *how* it does it can only be stated in theoretic terms.

This condition of autoasphyxia means a sudden loss of oxygen to the tissues and a very material increase in the amount of carbon dioxid, which, as it generates and accumulates in the motor cells of the brain, causes either an abnormal production of motor energy, or what is more likely, a paralysis of inhibition, with the sudden liberation of energy normally stored in the brain cell, and the convulsion follows.

The convulsion following the asphyxia of epilepsy differs little or none from the convulsion following the asphyxia of suffocation or strangulation. Opportunities for comparison are, unfortunately, rather infrequent because, in the very nature of things, sudden or violent suffocation or strangulation does not usually occur under circumstances favorable to scientific observation, as the cases coming under notice prior to death are generally those in which asphyxia is never complete, and so slowly produced, that the convulsion is not evoked, and death comes, if it comes at all, from general toxemia or from exhaustion. That the convulsion does occur, however, in all cases of sudden and complete asphyxia is undoubtedly true, and the similarity between it and the convulsion of epilepsy is not only startling but remarkably suggestive. Wharton and Stillé, Vol. III, page 358, recognize this fact and are led to say speaking of suffocation, "Death, thus criminally produced, has often been attributed to convulsions;" and Dr. Harris, after careful investigation, divides the phenomena of asphyxia into several stages. During the first, he says, there is hyperpnea, then dyspnea, followed by the convulsive stage, when the whole muscular system becomes convulsed, succeeded by relaxation, exhaustion and death.

The first result of this sudden liberation of energy is the tonic convulsion, with total suppression of respiration, and during this period, and by virtue of this universal spasm, the increase of carbon dioxid is enormous, and of itself is sufficient to neutralize the epileptic poison, relax the vasomotor spasm, transform the tonic into a clonic convulsion, and by stimulation of the respiratory center, introduce oxygen again into the tissues. Upon the introduction of oxygen into the circulating blood the convulsion diminishes in severity and soon disappears.

Whether or not carbon dioxid is the only element set free during this period of vasomotor spasm and subsequent convulsion, or liberated during this brief but complete suppression of all bodily functions, I do not know. Of this much we may be certain: Carbon dioxid can produce convulsions, and, subsequently, in the presence of oxygen, can relax the tonic convulsion it has itself produced; it can and will relax vasomotor spasm, and can and does neutralize many toxins. The further consideration, however, of the significance of the production of carbon dioxid in (idiopathic) epilepsy is reserved for a subsequent discussion.

That there is virtue in the intense muscular activity of the convulsion, with its abundant production of carbon dioxid, is proved daily by the fact that active bodily exercise is one of the best therapeutic measures employed in the treatment of epilepsy, and if this exercise could be made, in a practical way, to approach the muscular activity of the convulsion, the epileptic toxin might be neutralized as rapidly as produced, and Nature thus be rationally assisted in her efforts toward maintaining health.

Again, that the relaxation of vasomotor spasm is another of the prime objects of the convulsion is evidenced by the fact that of all the drugs used in epilepsy, those tending to produce vasomotor dilation, such as the nitrites, have been most efficacious.

This is the epileptic cycle. A poison which irritates the vasomotor center; complete vasomotor spasm; cerebral nonoxygenation; unconsciousness: then comes universal convulsion; further increase of carbon dioxid; relaxation of vasomotor spasm; neutralization of poison; return to consciousness, and, after a period of rest, a feeling of bodily comfort unknown before the attack. This is the cycle according to Nature's plan. This is the cycle when unhampered and unobstructed by vicious and irrational treatment.

That the treatment of epilepsy along the line of controlling the convulsion has been frequently practised, and that to this one thing alone is due many, if not all, of the lamentable effects of epilepsy, cannot be gainsaid. Most of the treatment instituted for the relief of epilepsy has been nothing more nor less than an attack upon the convulsion, and especially is this true of patent medicine, and while it may give most flattering results, so far as the nonappearance of the convulsion is concerned, there follows in its wake a long train of distressing results: irritability of temper, violence, maniacal attacks, mental enfeeblement, moral depravity, complete dementia. If there is any virtue in robbing a patient of his intellect in order to conceal the evidences of disease, then this method of treatment is to be commended, otherwise not. Per-

sonally, I doubt very much whether the tendency of epilepsy is to irritability of temper, maniacal disturbance and mental enfeeblement. I can much more readily believe that all these deplorable conditions are the results of misdirected treatment, rather than of the disease itself.

The convulsion is Nature's method of meeting the condition; of averting evil and affording relief, and it throws a flood of light upon the rational treatment of epilepsy. The cure for well-established epileptic conditions is unknown—it is a problem for the future to solve. When we know the cause, its nature, and from whence it comes, we can hope to cure the disease or, at least, to prevent the accumulation of the cause. Until then we can only give relief. The convulsion as a therapeutic factor deserves careful study and thoughtful consideration, for just so soon as we can, by the use of drugs, fulfil the mission and accomplish the object for which the convulsion is intended, just so soon will the convulsion become unnecessary; and just so soon as it becomes unnecessary it will fail to appear. This will by no means be a cure of the disease, but if we can, by supplying the therapeutic means of neutralizing the epileptic poison, prevent not only the convulsion, but the entire attack, until such a time as scientific research shall put its finger on the real cause and indicate the measures to be taken for its annihilation, shall we have worked in vain? The convulsion points the way, and careful, patient investigation, made by means of the light it sheds, gives promise of a rich reward. In the light of our present knowledge of epilepsy the only rational treatment is not to *prevent* the convulsion, but to *replace* it; not to make its occurrence impossible, but to carry out its mission and accomplish its object by therapeutic measures. If it is a habit, as some believe, it is a very good one and well worth preserving until we provide something to take its place.

This, then, is the significance of an epileptic convulsion. It is a conservator of life. It stands between an alarming autointoxication and possible death, and points the way by which the epileptic can secure relief. It is not an enemy that must be annihilated at any cost. It is not a dangerous foe that must be totally obliterated or mutilated beyond recognition. Attempts to throttle the convulsion are misguided and react injuriously upon the patient, and yet there are those who mistake the convulsion for the disease, and who plan continually to prevent its occurrence. The bromids have gained their prominence in the treatment of epilepsy because of the effectiveness with which they attack the convulsion. We were led to believe that the nonappearance of the convulsion was a signal of victory. We thought by administering large doses of the bromids and steadily increasing them until the convulsion was prevented we had cured epilepsy. We used the bromids as a club to beat the brain into insensibility, and when the patient failed mentally, morally, and physically, and the convulsions finally occurred more frequently than ever, we explained it by saying that tolerance to the drug had been established, and that this deplorable mental condition was the natural product of the disease.

It took us long to learn that the bromids by their interference with digestion, not only provoked the very condition we wished to avoid, but by long and excessive use destroyed the intellect. Only those who have had the care of the epileptic insane know fully the ravages wrought by former bromid treatment. There is no shorter road to that condition of living death, known as dementia, than by the bromid route, and many have been innocently ticketed along that line. Do we fully recognize our error now, or is there still an occasional tendency to lose sight of the epilepsy in violently fighting the convulsion?

In the treatment of epilepsy the time has come to think, and what a wonderful field for thoughtful investigation it offers. In all the province of medicine there is no such incentive for labor as here. That the soil has so long proved barren is no cause for discouragement or despair. New methods of cultivation may produce better results; but what is more to the point, there are some spots still untilled, and in one of these—the significance of the epileptic convulsion—the ground only has been broken; the crop is yet to be grown.

THE ABUSE OF INFLATION AND MASSAGE OF THE MIDDLE EAR.*

BY

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of Detroit, Michigan.

It is characteristic for our time that any method which has aided in combating a human ailment is also taken up and employed by those who are either unable to understand the proper indications for the method in question, or else who take advantage of the ignorance and credulity of the masses for mercenary purposes by employing a certain method in cases entirely unsuitable for the same.

I desire to discuss a subject which has forced itself to my attention, as it has done also to that of others, because I think that it is time to call a halt to the indiscriminate treatment of nonsuppurative middle ear affections without proper indication, or without a thorough knowledge, and consequently often with disastrous results. The subject which I am referring to is inflation and massage of the middle ear.

When a patient comes to one's office for treatment, complaining of disturbances on the part of the ear, it is our first duty to see whether the patient suffers from a general affection or not.

The wife of a physician consulted me on account of noises in the ear. Patient was weak and anemic. In order to establish the permeability of the eustachian tube a catheter was inserted. The patient fainted. As the hearing was pretty good, local treatment of the ear was advised against, and a tonic soon restored the patient to normal condition. That this patient, or a patient suffering from similar conditions, might, under circumstances, have been subjected to a regular course of massage and inflation, I doubt little.

It is amply exemplified that the treatment of the middle ear can sometimes be confined almost entirely to the treatment of the nose and the nasopharynx and the throat. The results of the establishment of a free passage in the nose and the throat, or the removal of growths in the nasopharynx and the establishment of sound conditions in the throat are amply known.

Were it not for the lack of understanding which we meet sometimes even within the ranks of our own profession I would not annoy you by again calling your attention to the adenoid growths. How can we expect the aid of the laity if some of us still foster an entirely wrong conception about adenoids and enlarged tonsils and nasal obstruction? They are rather negligent toward their patients who let the opportunity pass to do a great deal for them by insisting on a timely and careful attention to pathologic conditions of far-reaching consequences.

Experiences in regard to the lack of understanding on the part of the parents suggested to me the idea to draw up the following letter, which I intend to send—somewhat modified as to the individual case—to the parents, or to those in charge of the little patients who come under my care suffering from adenoids or enlarged tonsils:

Your child is suffering from a growth in the nasopharynx (adenoid vegetations) and from enlarged tonsils. The health of your child is menaced hereby, because the presence of these abnormal conditions is not only a danger to the ear of your child but furnishes also a source for general disturbances of a

* Read before the section on Surgery of the Michigan State Medical Society, June 12, 1903.

serious nature. As the treatment of these conditions is practically without any danger, I ask you to call at my office for further information.

In regard to the tonsils, Bosworth's textbook is excellent authority. We meet, however, conditions established in the ear which are not amenable to treatment in the general way, nor can they be influenced by the treatment of the nose and throat to a very great extent, although in many cases the concomitant treatment of the nose and throat is of importance if only in an auxiliary way.

In treating nonsuppurative and noninflammatory conditions of the middle ear, we can work on the same through the eustachian tube or through the drum membrane and the ossicles.

The following case illustrates several points of interest:

Miss M. H., aged 27. When 10 years old hit by a snowball in right ear. Did not notice any particular lasting disturbance. Spring of 1893 noticed deafness in right ear. This patient consulted a number of physicians in regard to her ears.

Dr. No. 1, spring of 1893 to fall of 1895. Ear inflation and self-massage. Hearing distance measured by watch, 55 inches in left ear, 7 inches in right (the doctor said on patient's report that the 55 inches represented 10 inches more than would have been expected from the normal ear).

Dr. No. 2 had patient under treatment in winter and spring of 1895 and 1896. Operation on right side of nose. Hearing not particularly treated. No improvement.

Dr. No. 3, June, 1896, to March, 1899. Inflation and treatment daily for 2 months, then every other day for a couple of months, besides massage of the ear was used. Strong ether-vapor inflations. In spring of 1897 went to Arkansas and had typhoid fever. Later, massage used. Patient did not lose much hearing during this period.

Dr. No. 4, June, 1899, to January, 1900, and later. Used vapor inflations, as patient says. Grew steadily worse.

Dr. No. 5, February, 1900, to September 30, and later. Hearing watch, 16 inches in left and 4 inches in right ear. Was treated by rapid massage. Improved hearing 30 inches to 36 inches in left ear and 7 inches in right. Rose rapidly in the beginning; 3 treatments a week until later, 1 treatment per week. Went down in 4 days in September. Patient says she took digitalis at that time and that she blamed it for partial loss of hearing at that time. Tried same treatment for several weeks. Watch, 14 inches in left and 4 inches in right. Throat treated by Dr. No. 4 during this period.

Returned to Dr. No. 4 from December, 1900, to September, 1901. Throat treated; light ear treatment with massage and inflation.

Then patient saw me, Dr. No. 6, in October, 1901. I restricted my treatment to occasional application of Lucae's pressure probe, improving the hearing slightly and keeping it at a certain stage.

Examination with the Siegle speculum showed that the drum membrane was very easily movable, not only in the posterior upper quadrant but also in the anterior lower quadrant. This circumstance induced me not only to desist from any treatment by inflation and massage, inasmuch as such would affect the drum membrane. I resorted to Lucae's pressure probe, carefully controlling the status of hearing by tests, and I could notice, as my records show, a slight improvement.

Whether this improvement is due to the local treatment or to the improvement of the general condition of the patient I should not like to determine with certainty. I desire to state that a mere examination of the drum membrane as to its mobility excluded for me absolutely any treatment which would engage the drum membrane to any considerable extent. Being aware of the fact that I was differing somewhat from previous treatments and bearing in mind one of our duties as practitioners, "nihil nocere," I gladly followed the suggestion of my patient, who desired a consultation, and recommended her to one of our foremost aurists in the East, who wrote to me, among other things, "Under favorable conditions, and with but a moderate degree of local treatment, I believe that the hearing can be somewhat improved. . . . In the meantime, however, patient was advised to go temporarily to another climate. I have advised her to go to you for the use of the pressure probe."

I was very glad that the eastern colleague agreed with me as to the advisability of only very selected and occasional local treatment. I do not doubt if I had continued the inflations that the hearing would have diminished considerably. I am not yet convinced that the treatment by massage, in some cases, is more of an indirect nature in stimulating the circulation in the tissues of the middle ear, and this massage carries with it a certain danger to the hearing, by producing a flabby membrane and perhaps by loosening the joints between the ossicles. I think that we should resort, if we can possibly do so, to stimulating the circulation in the tissues of the middle ear by other means.

Dr. Watson, of Edinburgh, in an article entitled: "The Treatment of Deafness of Middle-Ear Origin," says:

> The principles of treatment of this affection are: 1. The promotion and maintenance of vigorous circulation in the middle ear, with a view of (*a*) increasing the resisting powers of the tissues, and (*b*) promoting the absorption of morbid products where possible. I believe that not enough is attempted in the way of judicious stimulation of the middle-ear structures. The present practice appears to me to be too much restricted to momentary stimulation effected by the use of Politzer's bag or the catheter, etc."

In middle-ear affections of a nonsuppurative character we are sometimes, undoubtedly, sailing between Scylla and Charybdis, and only very judicious individualizing and careful control of our treatment, and above all, the use of the Siegle speculum in order to establish the mobility of the drum membrane, are essential factors in treating these cases. We know that we can, by the aid of the tuning-fork test, make a differential diagnosis between affections of the middle ear and the sound perceptive organ proper, and it is not necessary for me to speak at length upon the importance of such an investigation. A certain percentage of affections of the ear are termed sclerosis of the middle ear. The attention of the profession has been called to this disease by a number of authors, and lately mostly by Siebermann.

The worst ears that come to us for treatment are those in which we can make out no pathologic changes. As it has been expressed by another aurist, those ears are the worst because the patient does not hear anything and the physician cannot see anything; and yet, some benefit may be derived by recognizing this affection and by not injuring the ear any more by local treatment.

Lucae treats at some length the subject in an article entitled "Vibratory Massage in the Treatment of Progressive Deafness, with Especial Consideration of my Elastic Pressure Probe,"[1] and quotes Ostmann's verification of his own claims, saying: "The application of the Lucae pressure sound is especially indicated in those cases of ankylosis of the ossicles where the membrana tympani is relaxed; pneumomassage should be used where the membrana tympani is tense and difficultly movable, and especially when it is determined that the application of the pressure sound produces a tension of the ossicular tendons."

Like in the case cited, the most important part of such an ankylosis is the rigidity at the oval window, which subject has invited considerable attention on the part of Panse.

Dr. Musehold[2] speaks of the massage by air waves, which he says do not work purely mechanically, but "physically." He probably means physiologically, or else I am mistaken, unless he will point out the difference of indiscriminate mechanical and discriminate mechanical treatment and calls the latter physical. His results are no doubt encouraging. He mostly tries c^1 g^1 and also deeper and higher tunes. His stroboskop is different, as we see, from the pneumomassage. He says that the results by his sirene are lasting for days, weeks, even months, whereas in the results by Lucae's treatment this is not the case to such an extent.

Lucae[3] describing his otostroboskop speaks, however, more of the value of his instrument in regard to the physiologically diagnostic value in connection with the pneumomotor and Siegle's speculum.

Dr. Clarence John Blake,[4] in an article, "Tension Anomalies in the Sound-Transmitting Apparatus of the

Middle Ear," treats the subject matter in a very lucid way. Dr. Blake[5] gives the following advice:

" . . . for in all that pertains to this question of tension-anomalies, and their treatment, it should be borne in mind that a little help is sometimes of great importance to the individual who receives the improvement, while but a small percentage of the normal hearing is a large percentage of the hearing which the patient has at command. In the light of the brilliant surgical successes and major achievements in otology, the minor possibilities of help must not be forgotten, for to aid toward wholesome and useful living is as much one of the duties of the medical profession as is the saving of life itself."

Our attention may be called to the abuse of drugs, which may give rise to symptoms which not only may mislead us in our diagnosis, but may injure the ear more or less permanently. For instance, the use of quinin may produce deafness and noises in the ear.

In conclusion, I summarize, as suggestions for treatment of noninflammatory processes of the middle ear:

1. The use of the Siegle pneumatic ear speculum, especially for diagnostic purposes, is an absolute necessity.

2. Our treatments should continuously be controlled by hearing tests.

3. Local treatment of an injurious nature should absolutely be desisted from.

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A CASE OF INFECTIOUS DERMATITIS IN CHRONIC MORPHINISM, ACCOMPANIED BY AN UNKNOWN DIPLOCOCCUS, RESEMBLING M. GONORRHEA.[1]

BY

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The following case is presented on account of its interesting clinical and pathologic aspects:

Clinical Report (Dr. Lyon).—Ong Chang Co, a Chinaman, aged 20, born in Hong Kong, entered Bilibid prison on March 14, 1903, to serve a sentence of two months in the carcel. I was called to see him immediately upon his arrival, the inspector having found that he was suffering from a large skin lesion, hideous to look at, and which the inspector, having no knowledge of medical science, regarded as leprosy. Upon viewing the man for the first time I found that his chest, the anterior aspect of both arms, both thighs, and the right leg were covered with a peculiar eruption. In places scales had accumulated, forming horny projections of fully 1 inch in height, extending, as may be seen from the accompanying photograph, over an enormous area. Beneath these scales were ulcerated surfaces, giving off a peculiarly foul-smelling pus. The area on the chest was about 8 inches in diameter, beneath which for a distance of about 6 inches was a peculiar aggregation of large, well-defined, white scars. These were also found on the arms and legs, and appeared as if made by searing with a hot iron. On the abdomen there were but few marks, in fact, none below the level of the ribs. These marks followed no regular lines, but appeared over varying portions of the chest, arms, and legs, those on the chest being depressed and those on the arms and legs raised. The man was in great pain and complained bitterly. It was hard to elicit from him where the pain was located or to obtain any history of the case, as he spoke only a Macao Chinese dialect. After considerable trouble a Chinese interpreter was obtained and we learned to a certain extent his history, which was as follows:

His parents had always been healthy; there was no hereditary disease in the family; neither parent suffered from tuberculosis or leprosy; he had 7 brothers and sisters still living and well, although one parent had died "from old age, presumably." He was emaciated, unable to eat or sleep. We learned that he had been in the habit of using morphin, not our refined therapeutic preparation, but a crude, unrefined morphin, much used by the Chinese of the lower classes. To use this he took a hypodermic syringe containing the morphin in water, and injected the mixture, partially dissolved and partially suspended, beneath the skin. This was repeated 5 times in the same place at each dose, the injections being repeated 3 to 6 times a day, according to his desires. For some time he had no bad effects, when he noticed a small pimple, about ⅛ inch in diameter, which grew and spread, and from that time on whenever the morphin was taken a pimple resulted. These were very irritating and painful and he scratched and rubbed them a great deal. Eventually the pimples crusted over, but as the condition remained the same underneath, abscess formation constantly taking place, a scaly exudate formed. He did not dare to remove this, but allowed it to remain without washing or cleansing it in any way. When his chest became too sore to use it further he turned to his arms, and as they in turn became infected, to his thighs and right leg. He said that had he continued he would have proceeded to use the left leg. Often it was hard for him to use the needle on any other portion of his body and he returned to the chest after it had healed slightly. He had been using the morphin in this way for about 6 years. The present enormous eruption has existed for about 8 months.

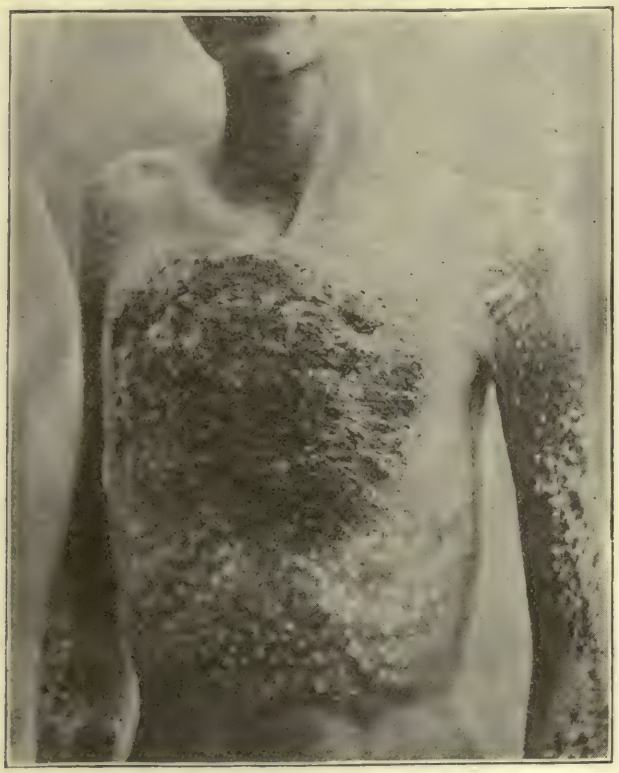


Upon admission to the hospital his temperature was normal. He called constantly for morphin, and seemed in great agony. He was thoroughly cleaned up and dressed with an application of ichthyol ointment, 10%. The next morning a number of the scales came away, and we were able to examine the nature of the lesions more carefully. The ulcers themselves consisted of small, round, punched-out lesions, with a smooth margin, in some cases the margin slightly overlapping the floor of the ulcer. There was no tendency to coalescence of the original ulcers, although the scales had united to form a practically continuous mass. The pus or exudation was of a grayish-green color, occasionally tinged with blood. There were lesions on the right heel, but evidently of a different character, the man informing us that his heel had been run over by the wheel of a carromata.

Aside from the skin condition before recorded, there seemed to be but little the matter with the man, and the diagnosis of an infectious dermatitis resulting from hypodermic injections, was made. His lesions were dressed with an ointment consisting of bismuth subgallate, zinc oxid, starch, and ichthyol in vaselin. The ointment was washed off every morning and the entire surface of the body thoroughly cleaned with mercuric chlorid, 1:2,000, after which the affected parts were redressed and the patient returned to bed. During the first three days he suffered constantly for the lack of morphin, and as he appeared very weak, he was placed upon strong tonic treatment of iron, arsenic, and strychnin. From the first he began to improve. On March 21, seven days after admission, the scales had more than half disappeared from his chest, and the arm was fairly clear. At no time was it found necessary to give him more of the opiate. On March 31 the chest was comparatively clear, save where a small piece of tissue had been removed for examination, and for two small pustules that had broken out. These were cleared off and the patient carefully washed and redressed. On April 1 another crop of pustules appeared on the chest, but April 3 they had disappeared, leaving clean, healthy-looking ulcers, which rapidly healed. On April 2 the condition had so far improved that the use of the ointment was stopped. The left arm was entirely well, and the right arm, with the exception of one small spot near the wrist, was in like condition. Both thighs were healed, and save for one spot, the right leg. A dry dressing of bismuth subgallate was substituted and con-

[1] Presented to the Chicago Pathological Society, June, 1903.

tinued until April 9, at which date all dressings were removed, there being no surfaces left uncovered by the skin. One small



pustule redeveloped on April 7, but was healed on the morning of April 9.

During the time he has been under treatment, he has steadily gained in weight. His general condition has much improved, he is stronger and now claims he feels no desire to use the morphin again.

The accompanying illustrations will show more clearly than words the extent of the body involved. The first one

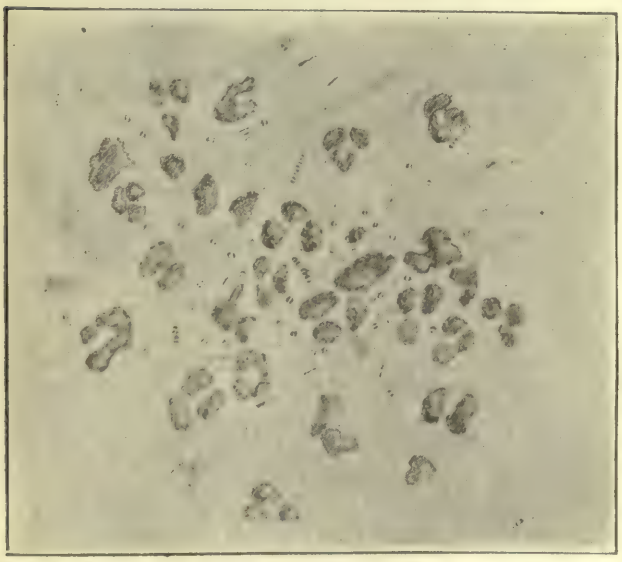


Fig. 3.—Smear from purulent exudate-ulcer on chest. The drawing somewhat exaggerates the variation in size observed between the diplococci.

gives a general view of the entire body, his condition upon receipt; the second, a closer and more distinct view of the chest, showing clearly the eruption and the zone of inflammation surrounding the old, healed lesions. This also shows excellently the depressed character of the lesions upon the lower portion of the chest and upper abdomen and the raised character upon the shoulders. As may be seen, the area involved was a most extensive one.

We have seen a number of cases of chronic morphinism, attended usually by the common hypodermic lesions, often dark-colored and in many cases accompanied by minute abscesses, but in no ordinary case has it been observed that so extensive an area was involved, nor have lesions of this character, with hard horny scales, ever been seen.

Inquiry among Chinese known to be users of the drug has brought out the fact that there are in Manila at the present time a number of persons suffering from a like complaint, induced in a like manner. In many cases, persons living in the same house and indulging in this vicious habit will all be infected alike. Unfortu-



nately, we have been unable to see more than one other of these cases. This patient was treated at this hospital before I assumed control and nothing of special importance bearing on the subject is at hand. I have conversed with the patient and have seen his scars. His lesions were by no means as serious as those of Ong Chang Co and he was fortunate enough to have come under attention earlier in the course of the trouble. The general characteristics of the scars, however, persist. It is very hard to get these Chinese to talk about their condition; therefore it has been impossible to secure further data regarding outside cases to submit at the present time. It is hoped, however, when this patient leaves the hospital and prison, as he shortly will, at the expiration of his sentence, that he may be induced to present other cases for our observation.

Pathologic Findings (Dr. Wherry).—Sections of tissue taken from the chest showed that the edge of the ulcer was formed by the epidermis, which was greatly thickened, the

cells of the malpighian layer showing many mitotic nuclei. The floor of the ulcer was in the derma, which showed chronic inflammatory changes—congestion of and increase in the number of bloodvessels, proliferation of the capillary epithelium and fixed connective tissue cells, small hemorrhagic extravasations and marked polymorphonuclear infiltration.

No bacteria were found in sections stained by eosin and methylene-blue and by Gram's method.

Coverslip preparations and successive cultures on agar slants were made from the purulent secretion at the base of the various ulcers on the chest, forearm and knee. An examination for tubercle bacilli and of fresh material in 1% caustic potash solution was made without results. The agar slants, after 24 hours' incubation, were covered with numerous pinpoint-sized, transparent colonies of the diplococcus described below. Later, on some of the slants, a few scattered colonies of *Staphylococcus pyogenes aureus*, *Staphylococcus pyogenes albus*, and a polymorphous bacillus appeared. Pure cultures were obtained from these isolated colonies.

The coverslip preparations when stained with Löffler's methylene-blue or carbol fuchsin diluted 1:10 show numerous kidney-shaped diplococci, resembling gonococci, and a few polymorphous bacilli.

The diplococci are scattered about in the mucopurulent secretion and appear to be, for the most part, extracellular. They occur singly in irregular masses containing hundreds of cocci and sometimes in chains of 18 to 20 or more. They vary slightly in size, and may be in close apposition with a barely visible cleft or separated by an interval corresponding to one-half the width of the diplococcus. When the pus is fixed by heat and stained with Löffler's methylene-blue solution, the diplococci when in close apposition measure 1 to 1.5 μ in diameter. When pus is stained by Gram's method care must be taken to avoid misinterpreting the results, for the cocci lying in the thicker portions of the preparations or near cell nuclei, retain the stain; while, by careful focusing, many can be seen in the thinner portions of the preparation which have completely given up the stain.

The anilin gentian violet used was simultaneously tested with *Staphylococcus aureus* and *B. typhosus* to prove its efficiency. When stained from agar slant cultures the organism also loses the stain by Gram's method. When decolorization is incompletely carried out, the diplococci, when imbedded in mucus, are surrounded by a distinct unstained halo.

The characteristic morphology is retained in growths on artificial media and here the tendency to grow in chains is emphasized. In the condensation water of agar slants and in bouillon the chains may reach a considerable length, the organisms being arranged with the line of cleavage running transversely to the long axis of the chain. The variation in size and staining power observed in preparations of the purulent exudate are also seen in recent (48-hour) agar and bouillon cultures.

Cultural Characteristics.—The organism is characterized throughout by the delicacy of its growth upon the ordinary media prepared according to the directions of the Committee of American Bacteriologists, with a reaction of 1% acid to phenolphthalein, (Leibig's beef extract was substituted for the meat juice usually employed in the preparation of bouillon, agar and gelatin).

Upon agar slants, kept at 30° to 37° C., growth appears in 24 hours as a finely granular streak, almost transparent, showing the tendency of the organism to grow in minute separate colonies, the edges of the streak being marked by rows of minute, discrete, whitish colonies. No further growth takes place even during eight days' incubation, and the colonies never become confluent. The culture is not dead, however, as proved by transplantation after two weeks' growth.

The organism grows more luxuriantly upon agar .5% acid to phenolphthalein. Here the circular, white colonies, always discrete, may attain a diameter of .5 mm. in four or five days. They show an elevated, bossed center, and a well-defined edge, at first smooth, later crenated.

In *bouillon* no growth is visible in 24 hours, but after 48 hours minute flocculi can be seen suspended in the liquid. Later slight precipitation occurs, but there is no increase in the clouding of the fluid.

In *gelatin*, kept at incubator temperature, the growth appears after 48 hours as numerous discrete, whitish flocculi. No liquefaction takes place, for an eight-day culture solidifies readily when the temperature is lowered.

Litmus milk is rendered acid in 48 hours, but no coagulation occurs during eight days' incubation.

On *potato* no visible growth appears during four or five days' observation.

No visible change is produced in *glucose litmus agar*.

Inoculation Experiments.—One cc. of a three days' old bouillon culture of the diplococcus was injected into the abdominal subcutaneous tissue of a common red monkey of the Philippines. No result in eight days.

Two cc. of a 48-hour old bouillon culture was injected into the abdominal cavity of a common wild rat with negative results.

Thinking that the polymorphous bacillus observed in some of the coverslip preparations might exert a synergetic action, this organism was studied. It proved to correspond in its variable morphology, its staining reactions, and cultural characteristics with the pseudodiphtheria bacillus.

Two cc. of a mixture of 48-hour old bouillon cultures of this organism and the diplococcus were injected into the abdominal subcutaneous tissue of the monkey used in the first experiment. In two days an area of local reaction, about ½ inch in diameter, appeared, but two days later all evidence of local reaction had disappeared.

General Considerations.—We had in mind the case of multiple abscess in a girl due to an organism resembling the gonococcus, reported by H. G. Wells, of Chicago, at the meeting of the Society of American Bacteriologists, 1901. This organism was obtained from the circulation on a number of occasions, and on intravenous injection was found to persist in the blood of the rabbit for weeks. It was our intention to take cultures from the blood of our patient, but the pressure of other work interfered until it was thought too late, for after two weeks' antiseptic treatment no diplococci or bacilli could be found. The subsequent eruption of small acneiform pustules was due to *Staphylococcus albus*. It is not likely that the diplococci entered the circulation in our patient, for there was absolutely no glandular enlargement, no elevation of temperature, and the posterior aspect of the body and limbs remained clear throughout.

On reviewing the probable pathogenic relation of the organisms found in this case, the following points seem worthy of consideration: The diplococci occurred in large numbers in the purulent exudate of widely separated ulcers. Other micrococci were not demonstrated in coverslip preparations, though a few colonies appeared in agar slant preparations. Again the pseudodiphtheria bacillus was not constantly present, being observed in but a few of the ulcers examined. The fact that no organisms could be demonstrated in the tissue taken from an ulcer which had been thoroughly washed out would seem to indicate that the organism concerned did not penetrate into the deeper layers of the skin, and that they were transferred either by the hypodermic needle or by scratching from one focus to another.

That the animal inoculation experiments failed is no indication that the diplococci were not concerned in the pathologic process, for in the case under consideration the organisms were implanted upon human tissues of lowered vitality, and in all probability were aided to a greater or less extent by pyogenic cocci and the pseudodiphtheria bacillus.

So far as the literature at hand permits, this diplococcus seems to correspond fairly well with the description of *Micrococcus catarrhalis* of R. Pfeiffer (Pflügge, Mikroorganismen, 1896, ii, 154). It differs from the description of this organism and from the diplococci we have isolated recently from a case of chronic catarrhal bronchitis in its somewhat smaller size, the greater ease with which it can be cultivated on the ordinary media, and in the greater longevity of the cultures.

THE ANTISEPTIC QUALITIES OF COFFEE.*

BY

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AND

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In the course of some chemical work in the summer of 1902, our attention was directed to the antiseptic qualities of coffee. A cursory examination of some old medical literature showed that coffee, even long ago, was reputed to possess qualities of this sort. Naturally enough, the older men appeared to have known more of the deodorizing qualities than of any antiseptic properties. Thus early in the eighteenth century, coffee was used as an agent to prevent putrefaction. We found too, that in comparatively recent times, several series of experiments had been made to test exactly the antiseptic properties. Inasmuch as the question seemed to have passed out of general consideration, it was felt that it might be of interest to go over this work, with a view to bringing it into notice again. The fact that some of the early references are not easily accessible was considered a justification for quotation from these works. For purposes of convenience, rather free translations have been made when necessary.

The first reference to the antiseptic qualities of coffee which we were able to find occurs in a curious pamphlet entitled "The Virtue and Use of Coffee with regard to the Plague and other Infectious Distempers, containing the most remarkable Observations of the Great Men in Europe concerning it, from the first Knowledge of it

* Read before the Academy of Medicine of Cincinnati, April 6, 1903.

down to the present time" by R. Bradley, London, 1721[1]. On page six we find the following passage:

It is remarked by several learned men abroad, that coffee is of excellent use in the time of pestilence, and contributes greatly to prevent the spreading of infection. And one of them in a letter to me, observes that in some parts of Turkey where the plague is almost constant, it is seldom mortal in those families who are rich enough to enjoy the free use of coffee, but that the poorer sort who want that benefit, seldom escape. Again, the same person observes that coffee is not subject to be destroyed by an insect, or is it subject to rot, as most other seeds and grains will do; and therefore, justly concludes that it is of great virtue and use in all distempers, which are supposed to be occasioned by insects, or unwholesome air. And it is likely, if the true virtue and use of coffee had been known in London in 1665, when the plague raged there, that Dr. Hodges and other learned men of the time would have recommended it.

In 1832, Dr. Christian Conrad Weiss, of Freiburg, published a little book with the title "Coffea Arabica, Suggested as a Preventative of Contagion, Because of Its Destructive Effects Upon Animal Exhalations."[2] On page 67 he says:

The use of coffea arabica for sprinkling or fumigating various substances emitting bad odors might be preferable to the remedies now in use, as its effects are as powerful as they are rapid, and the empyreumatic product which remains is at least not disagreeable. Wood vinegar was formerly recommended for the most varied purposes, but its highly unpleasant odor prevented its frequent use. This drawback would not exist in the case of coffee. A slight addition of empyreumatic caffeic acid to fluids in which substances liable to decay are to be preserved, ought to increase the effectiveness of these fluids to a marked extent. Still it is not the purpose of this article to deal with spreading the use of coffee to this extent. The greatest interest of physicians ought to center in the question whether this agent is destructive to all sorts of animal effluvia. If it accomplishes nothing more than the purification of the air of closed rooms or the preservation of this air from contamination by animal infection, coffee still would be sufficiently useful, especially when we consider its cheapness and its ready application in the sick-room. The more that people are crowded together by poverty and exposed to the dangers and inconveniences of poverty, the more useful it would be.

If contagions are not independent individual organisms, but belong to animal effluvia, their transformation ought to be effected by the same agent which is able to destroy the effluvia themselves. The transference of these contagions from one person to another might be prevented by continuous generation of coffee vapor in the vicinity of the patient. From the above comparison it easily follows that among all the remedies which possess this power without harming the patient, there exists none more powerful than that here recommended. In a case where the transference of contagion from one person to another might be doubtful, and where there might be a reciprocal relation between the animal organism and the air surrounding it, and to judge from our present experience, this supposition seems quite plausible, we should have to try in the same way to prevent the contagious effluvia arising from the patient, from being absorbed by the air and from being spread by exhalation.

Weiss endeavored to isolate the active principle from coffee by heating it in a retort and collecting the oily distillate, but the method did not throw any light upon the question. He believed that the deodorizing power of coffee vapor was not effective by concealing the odor of putrefaction, but that it was absolutely destructive.

In 1832 Schmidt published an article on fumigation by coffee.[3] Since his time other observers have called attention to the same fact. Walsh mentions experiments carried on in France which demonstrated that the odor from roasted coffee rapidly destroys odors of putrefacation, but we have not found a description of the experiments. In 1851, Paul[4] called attention to this same fact which is also well recognized in the orient. Barbier,[5] writing from Algiers, says that on one occasion he was called to make an official autopsy. When he reached the place he was almost overcome by the stench from the body. One of the judges sent out for roasted coffee which he threw about the room by the handful, against the walls, on the floor, and over the body. The odor of putrefaction disappeared at once. Barbier says that he had occasion to use coffee as a deodorizer many times after this first experience with it, and always with success. Like Weiss, he asks whether the odor of coffee could not be used as a means of disinfection. In 1871 coffee was recommended as a preservative for photographic plates. In 1873, Story, in a letter to the London *Lancet*[5] again called attention to the deodorizing properties of coffee.

In 1885 Oppler,[6] a surgeon in the German army, discovered that ground coffee has a marked effect in retarding or preventing decomposition. His original experiments consisted in the addition of ground roasted coffee to blood and to urine, but were later extended to other substances. He found that meat could be preserved indefinitely by mixing it with finely ground coffee, and he suggested that it would be possible to prepare a concentrated food which would combine the nutritive value of beef with the stimulating qualities of coffee. He also tried coffee as a dressing for wounds. Pus formation did not occur in some cases, and in others he noticed there was only a slight amount when the dressing was removed, but the pus was entirely odorless. In a preliminary article he says:

In the use of finely ground coffee I believe I have found a remedy which ought to satisfy all the demands of preliminary antisepsis on the field of battle. My experiments to determine the efficacy of coffee in preventing decomposition are not yet completed, but from them I am convinced that roasted coffee inhibits decomposition of animal tissues and fluids, and keeps blood and urine from decay. If antisepsis on the field of battle must of necessity be directed toward the formation of a protecting antiseptic crust over the wound, it seems to me that coffee fully meets this demand. In spite of its antiseptic qualities, however, coffee might be considered objectionable as a dressing because by agglutinating with the organic fluids it would form a crust, and by retention of secretions prove injurious. But this very property of pulverized coffee of forming a solid scab recommends it for use on the field of battle, where the first requisite is to protect the wound antiseptically.

He urges as a further recommendation that coffee would require no special preparation and would always be at hand.

Oppler's work, as he himself acknowledged, was not conducted from the standpoint of a bacteriologist, and his paper led to an investigation by Heim[7] to determine whether the antiseptic qualities of coffee were sufficiently marked to warrant its use for practical purposes. For his work he employed silk threads which had been soaked in bouillon cultures of the test organisms, and were then exposed to the action of coffee. He concluded that while the action of the infusion inhibited or checked the growth of bacteria, it was not powerful enough to give its use a practical value, especially in the case of the pus cocci.

Following this came a careful investigation by Luderitz.[8] During his work he employed two methods—first, the use of nutrient media containing varied strengths of coffee; second, exposure of small quantities of bouillon cultures to coffee infusions made from different quantities of coffee. At intervals a small quantity of the coffee was examined by the Esmarch roll-plate method. A brief summary of some of the general results is given to show the ranging susceptibility of different forms to coffee:

I. Anthrax	growth inhibited by .01% coffee in nutrient gelatine. growth checked by .6% coffee in nutrient gelatine. bacilli killed by 3 hours' exposure to 10% infusion.
II. Cholera	inhibited by .05% checked by 1.0%. bacilli killed by 4 hours' exposure to 10% infusion.
III. Streptococcus pyogenes	inhibited by 0 1%. checked by 1.0%. bacilli killed by 10% infusion in 1 day.
IV. Typhi abdominalis	inhibited by 0.5%. checked by 3.0%. bacilli killed by 10% infusion in 2 days.
V. Staphylococcus pyogenes	inhibited by 0.5%. checked by 2.0% bacilli killed by 10% infusion in 6 days
VI. Proteus vulgaris	inhibited by 0 5%. checked by 2.5% bacilli killed by 10% infusion in 4 days.
VII. B. prodigiosus	inhibited by 0.6%. checked by 9%. bacilli killed by 10% infusion in 4 days.

Of the seven varieties studied the susceptibility of anthrax is greatest. Anthrax spores in three instances were destroyed by 10 days' exposure to 10% coffee,

in one instance it required 15 days. This is longer than the time given by Heim (who was inclined to believe that the resistance of the anthrax spores used during his experiments was diminished) but it is still quite remarkable.

Sucksdorff,[9] in the course of investigation of the influence of food upon the number of bacilli in feces, also called attention to the difference in tea and coffee infusions as to their antiseptic qualities.

The latest contribution to the subject was the work of Prozorowski[10] in 1893, upon the effect of coffee and two coffee surrogates made from rye and acorns upon pathogenic bacteria. He found that the rye and acorn coffee substitutes had little, if any, effect upon the species of bacteria used for the experiments, but that coffee possessed antiseptic qualities. His general results agree with those of Heim and Luderitz, but he found that coffee in the strength used on the table will kill spores of anthrax in nine days.

There seems to be a general popular belief that coffee has some protective power in times of epidemic, probably on account of its stimulating qualities. Daniel Drake, in his essay on cholera, advises physicians who are called out at night or in the early morning, during the time of cholera, to drink a cup of strong coffee before they leave their homes. In 1833, during the cholera epidemic in New York, the physicians issued a manifesto urging people to abstain from wine and beer, and to drink only strong black coffee. In the malarial districts of the South, coffee has been used as a prophylactic.

Coffee was recommended by Monti in cases of typhoid in children and in cholera infantum. Frankl,[11] in 1872, reported several cases of cholera infantum in which coffee was given with marked benefit, after the other remedies popular at that time had been given without good result. Guillasse[12] reports a series of cases of typhoid fever treated by the administration of black coffee at regular intervals. He states that the improvement in the general condition of the patients was very striking. It is probable that in both of these instances the good effect was due to the stimulating effect of the caffein rather than to any antiseptic quality of the coffee itself. A summary of our experiments is as follows:

An infusion of green coffee was prepared by grinding the beans and steeping the powder in sterilized water. The resulting greenish fluid proved to be an excellent culture medium for bacteria, which developed with such rapidity that in 24 hours it was swarming with long motile bacilli. The acidity of the fluid was increased, probably due to the formation of butyric acid, the odor of which was plainly perceptible after 48 hours. A constant evolution of gas from the powder in the bottom of the flask was also noticed.

Powdered green coffee was steeped in an infusion of roasted coffee of about the strength ordinarily used at the table. After 24 hours the fluid was perfectly clear. Microscopic examination showed that there were no motile bacilli. There was no gas formation in the powdered green coffee, evidencing that the coffee infusion from the roasted beans acted as an antiseptic.

A series of experiments was made to demonstrate that roasted coffee inhibits putrefaction. Finely ground coffee was mixed in varying proportions with eggs, which had been stirred until the yolks and whites were intimately mixed. The mixtures were worked with the hands until the coffee had been thoroughly stirred in. No effort was made to prevent the entrance of bacteria from the skin. A mixture of the proportions, coffee, one part, eggs, two parts, by weight, formed a gummy mass, which was allowed to remain uncovered on the laboratory table during the month of August. No odor of putrefaction could be noticed as the mixture dried, and there is none at the present time, after seven months. The experiment was repeated with smaller quantities of coffee. In as small a proportion as one part coffee to ten parts of egg, putrefaction at summer temperature was much retarded. If boiling water, in the proportion of ten parts to one part of coffee, does not extract more than 2.8% soluble material, as we found in preparing infusions, the amount of soluble matter extracted by the eggs must have been smaller, and the experiment demonstrates the antiseptic property of roasted coffee. Chopped beef was also mixed with ground roasted coffee in different proportions and allowed to dry. It was found that putrefaction was retarded or prevented. A mixture of one part coffee and three of beef prepared seven months ago is still without odor of putrefaction. It remained moist for several days after it was prepared, so that the preservation was not due entirely to the desiccating action of the coffee, which absorbs moisture readily.

Milk contains a larger number of bacteria than any other article of food. Investigations by the Rockefeller Institute in New York showed that some of the worst samples from groceries contained more than 500,000,000 bacteria to the cubic centimeter, to a large extent bacteria of putrefaction. Ground coffee was added to milk and to mixtures of eggs and milk. In each instance the specimens kept longer than the samples to which no coffee was added.

Urine, like milk, is an excellent culture medium for bacteria. One part of coffee was added to 10 parts of fresh urine, which had a specific gravity of 1,020. A portion of the same urine was exposed to the air for purposes of control. In 24 hours the untreated urine was alkaline in reaction, ammoniacal in odor, and swarming with motile bacteria. The urine containing the coffee was still acid in reaction, and no motile bacteria were found on microscopic examination.

Cover-glass preparations from the two specimens stained with methylene-blue were very striking and demonstrated how effectively coffee prevented the development of bacteria. The specific gravity of the urine containing coffee was 1,026, showing that some of the solids of the coffee had been dissolved. It was also found that coffee inhibited the fermentation of glucose by yeast. Two saccharometers were filled, one containing glucose and yeast, and the other a solution containing the same proportion of glucose dissolved in coffee of the strength ordinarily used at the table, and yeast. Fermentation went on more slowly in the solution containing coffee.

Effects of Coffee on Cultures of Bacteria.—In the preparation of the infusions, roasted coffee was ground in an ordinary mill, which was set to produce as fine a powder as possible. Ten grams of this were stirred into 100 cc. of cold water, and the liquid was boiled for five minutes and allowed to cool before filtering. The resulting infusion, when made up to 100 cc., had about the color of coffee as used at the table. A determination of the solid matter in several infusions showed that they contained from 2.11% to 2.80% solid matter. This fact should be borne in mind when a 10% infusion is spoken of, which in reality is about 2.5%. The infusions are always slightly acid in reaction. In one infusion it required 3 cc. of a decinormal sodium hydrate to neutralize 10 cc. of the liquid. In terms of hydrochloric acid, therefore, it contained .108%, or practically a $\frac{1}{10}$ of 1% solution.

When one of these infusions is allowed to stand for several days exposed to the air it becomes covered with various moulds but it never becomes turbid with bacteria. In this regard, the antiseptic principle of coffee resembles formaldehyd, which permits growth of moulds but destroys bacteria.

Agar was prepared in the ordinary manner except that 10% coffee infusion was substituted for the water. The agar was neutralized in the usual manner, in some instances with sodium bicarbonate, in others with sodium hydrate. Enough of the alkali was added to make the medium slightly alkaline. The agar lost the coffee odor in neutralization.

Agar was prepared in a similar manner, except that 5% coffee infusion was added.

Both kinds of agar were tubed and sterilized three times and inoculated with *B. typhi abdominalis*, *B. coli communis*, *B. anthracis*, *B. pyocyaneus*, *Staphylococcus pyogenes albus*, *Staphylococcus pyogenes aureus*, and various forms of nonpathogenic bacteria, such as *prodigiosus*, *sarcina*, *megatherium*, etc. All of the slants showed active growth after 24 hours' incubation.

Gelatin was prepared in the usual way, except that 10% coffee infusion was substituted for the water. The tubes were inoculated with the same varieties of germs. Here again growth was active after 24 hours. These results showed conclusively that bacilli of various kinds, especially those most susceptible to the action of coffee, such as anthrax and typhoid, grow in media containing coffee if these media have been neutralized. It is thus altogether probable that the neutralization of the coffee destroys the antiseptic property of the coffee itself. In order to submit this question to a more conclusive test, the following series of experiments was made:

Bouillon cultures of various bacteria were made from stock cultures, and examined after 24 hours to be sure that growth had taken place. Ten percent coffee infusion was made by the method already described. Inoculations were made into this coffee from the active bouillon cultures. The coffee was then inoculated for 48 hours, after which reinoculations into sterile bouillon were made. No growth occurred in this bouillon after even prolonged incubation. This series included tests of typhoid, anthrax, *B. mallei*, *B. coli communis*, *B. icteroides*, *Staphylococcus pyogenes albus* and *Staphylococcus pyogenes aureus*, *B. pyocyaneus*, and various nonpathogenic forms. As a final test, however, plates were poured under the following conditions:

Inoculations of sterile coffee infusion from active bouillon cultures were made and incubated for 48 hours. A loop of very large size was then made, and gelatin inoculated and plates poured. No growth had occurred on any plate after six days.

The same experiment was then repeated with inoculated coffee which was incubated for 96 hours. It was thought advisable to allow so long a time as this to elapse, so that every chance could be given the bacteria to grow. This second series of plates, like the first, remained absolutely sterile for six days. The cultures used in these experiments were anthrax, typhoid, *B. pyocyaneus*, *B. mallei*, *B. icteroides*, *Staphylococcus pyogenes albus* and *Staphylococcus pyogenes aureus*, *B. coli communis*, *Streptococcus pyogenes*, *M. agilis*, *M. citreus*, *Spirillum rubrum*, *Micrococcus aureus*, *B. prodigiosus*.

In attempting to find an explanation for the action of coffee on bacteria our attention was naturally first directed to caffein. In order to determine whether this substance had any marked antiseptic properties, a series of experiments was made by mixing caffein with egg albumen. The quantities of the alkaloid used were greater than the amounts contained in the coffee in the series of experiments mentioned, by which eggs and meat were preserved indefinitely. It was found that putrefaction was retarded slightly, if at all. Experiments with caffein-agar also demonstrated that the most important constituent of coffee has only feeble antiseptic qualities. These conclusions agree with the results of Oppler's experiments. As already stated, infusions made from green coffee became turbid from bacteria in 24 hours, when exposed to the air. Green coffee contains relatively more caffein than roasted coffee. Sucksdorff called attention to the fact that tea infusions do not possess any antiseptic qualities. It is not probable, therefore, that caffein plays any part in the action of coffee upon bacteria.

For many years the physiologic effects of coffee were supposed to be due, partially at least, to an oil described by Bernheimer under the name of caffeone, or as it is sometimes called caffeol. A number of researches led to the belief that this oil produced marked symptoms when administered to man or to animals. A summation of the evidence is given in articles by Hare and Marshall,[13] and by Reichert.[14] The researches of these investigators led to conclusions which are diametrically opposed. The existence of Bernheimer's caffeone as an active constituent of coffee has been questioned by chemists in recent years, especially by Erdman,[15] who has published the latest contribution to the literature of the subject. In his work he employed large quantities of roasted coffee, which he distilled with steam. From 180 kilograms of ground coffee he obtained only about .056% of an oily liquid, strongly acid in reaction. Examination of this oil showed that it contained a large amount of furfur alcohol. After final purification a small amount of a light yellow oil was obtained which smelled strongly of the aroma of coffee. It was only slightly soluble in water at ordinary temperature. Chemical examination showed a marked amount of nitrogen. Erdman was able to produce the odor of coffee by heating together caffetannic acid, caffein, and cane-sugar, three constituents which occur in relatively large amounts in green coffee. From any two of these substances, however, he did not succeed in obtaining the odor of coffee. There is no reason to suppose that this oil described by Erdman present in minute amount in coffee and almost insoluble in cold water, is concerned in the antiseptic properties of coffee. The modern trend of opinion ascribes the activity of coffee, when taken as a beverage, to caffein.

The caffetannic acid in coffee has been suggested as the antiseptic substance. It must be remembered, however, that green coffee contains a large amount of unaltered caffetannic acid. This shows that it cannot have any special effect upon the growth of bacteria. Agar prepared from coffee infusion from unroasted beans was used as a culture medium in an endeavor to separate the different kinds of bacteria found in green coffee.

In his work on the effects of coffee and two coffee surrogates upon bacteria Prozorowski reached the conclusion that the feeble antiseptic power of coffee made from acorn and rye substitutes was due to the slight acidity of the infusions. Infusions from roasted coffee are always slightly acid. In the examination of one infusion, from 10 grams of coffee boiled for five minutes with 100 cc. of water, it was found, as stated, that the acidity in terms of hydrochloric acid was only about 0.1%. This acidity is not great enough to be considered in itself an explanation of the antiseptic qualities of coffee. Heim, Luderitz and Prozorowski found that anthrax spores lost their vitality when exposed to a solution corresponding to a socalled 10% infusion in from 9 to 14 days. That it cannot be a mere acidity as the active germicidal agent is shown by the following facts:

In 1881 Koch demonstrated that anthrax spores were still alive after exposure to 1% sulfuric acid for 20 days. Hydrochloric acid 2% destroyed the spores only in 10 days. Tannic acid 5% did not kill them in 10 days. The experiments with coffee-agar in which the acidity was neutralized demonstrated that the antiseptic principle must be acid in nature. It is possible that it was decomposed by the slight excess of alkali present during the process of sterilization. In each instance during the preparation of this agar it was noticed that with the addition of the alkali all odor of coffee disappeared.

All observers since the time of Weiss have ascribed the antiseptic qualities of roasted coffee to certain empyreumatic products. The structure of caffetannic acid renders it probable that among these products are compounds allied to the phenols. To these Bernheimer ascribes the effects of roasted coffee upon bacteria. The growth of moulds upon coffee infusions suggests that the antiseptic qualities of coffee may partially be due to an aldehyd. Weak solutions of formaldehyd often show growth of moulds. The presence of furfur alcohol in the distillate obtained by Erdman also suggests that occurrence of a certain amount of aldehyd is not improbable. The final

solution of the question must await more definite knowledge of the changes which coffee undergoes during the process of roasting.

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ON THE TOXICITY OF METHYL ALCOHOL IN EXTRACTS AND MEDICINES.*

BY

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On February 18, 1903, I was called to see J. H. R., who had "gone blind." I had known him personally for 8 years. His family history was good; his health excellent. He was a watch-tinker by profession, aged 44. He was an inebriate and gave the following history: For several days, being unable to obtain whisky, he had been drinking lemon extract; on February 17 his sight began to fail and he stopped drinking. On the morning of February 18 the central vision was gone, but he retained some peripheral vision, and by noon he was blind. I called at 6 p.m. The clinical picture was characteristic. The mental faculties were but slightly impaired. The pupils were widely dilated and he could not distinguish light. A light held 6 inches from his face did not change the pupil and could not be seen. He said everything was black. There was frontal headache, nausea, rapid pulse, labored breathing, and great restlessness. He was cyanosed and scared. An ophthalmoscope was not at hand and the retina was not examined. His condition grew rapidly worse, his suffering became agonizing, and he died at midnight after a short coma—apparently of respiratory paralysis. It was a classic picture of methyl alcohol poisoning.

I at once secured a number of samples of the brand of lemon extract he had been using, distilled it, and upon examination found it to contain methyl alcohol. A coroner's jury found that death was caused by "drinking lemon extract."

With the assistance of my friend, Mr. E. W. Baker, I made a series of investigations of various culinary extracts and was surprised to find that many of them were made from methyl alcohol, although professed to be made according to the pure food laws of Illinois. I called the attention of our Pure Food Commission to this fact and sent samples of the particular extract to Dr. E. N. Eaton, State analyst, at Chicago, requesting a report of his analysis, and after considerable delay he reported that they contained methyl alcohol, stating, however, that "our food law has no specific statute on lemon extract—a ruling of the commission requires 5% oil of lemon. If our law made the pharmacopeia method of preparation the standard, we would not need to bother ourselves about the toxicity of methyl alcohol as the pharmacopeia stipulates cologne spirits"—intimating that their duties ended by requiring 5% oil of lemon.

There is a widespread impression among the people here that lemon extract is poisonous. This impression is due to a number of deaths resulting from its overuse. Cases similar to the one I have reported have occurred at intervals in the last 5 years. Dr. Duffield, of Pittsfield, Ill., reported to me the case of a man who drank lemon extract and was found dead. Dr. J. Smith Thomas, of Pleasant Hill, reported the case of a man who drank lemon extract at night and was found dead in bed in the morning. Dr. W. E. Miller, of Columbus, Ill., reported a case of methyl alcohol poisoning similar to the one I have reported. I have received reports of death from drinking lemon and other extracts at Beverly, Ill., Baylis, Milton, etc., in all, no less than 10 authentic cases in this immediate locality from that cause in the last few years. It is likely many more deaths have occurred which were not reported. In all these cases death was caused by methyl alcohol.

The use of methyl alcohol in culinary and medicinal extracts is of recent development. This is evident from the fact that very few cases of its poisoning are reported prior to 1897. The first case reported, to my knowledge, was by Mengin, in 1877, of a convict who drank methyl alcohol and lost his sight. This case is mentioned in recent monographs of de Schweinitz and Casey A. Wood. Medical literature is, however, free from such reports, and not until 1897 was the attention of the profession called to the subject. Since that time the cases have increased in alarming frequency. Its use in culinary extracts and in beverages such as peppermint essence, Jamaica ginger essence, lemon extract, etc., seems to have emanated from Baltimore, for it was in that vicinity that the first cases of blindness and death were reported from drinking Jamaica ginger in "dry towns." This fact, that most cases of poisoning occur in "dry towns" or in places where other liquor cannot be secured, will account for the want of clinical observation in medical centers, and it may also, in a measure, account for the "difference of opinion" which our Pure Food Commission says exists among "medical authorities" concerning its toxicity.

In reply to some letters of inquiry on the toxicity of methyl alcohol as to personal observation I have received negative answers from Dr. W. Simon, professor of chemistry and toxicology, College of Physicians and Surgeons, Baltimore; Dr. Justin Steer, Washington University, St. Louis; Dr. Frank M. Fuller, professor of chemistry and toxicology, Keokuk Medical College, Dr. Frank Billings, president A. M. A., Chicago, Ill.; Prof. John H. Long, Northwestern University, Chicago.

This dearth of such clinical observation in medical centers is significant.

The decided toxicity of methyl alcohol is very generally conceded by the medical profession everywhere except by those "experts" who are hired by manufacturers to prove its harmlessness.

The primary effect of the ingestion of methyl alcohol is that of the grain alcohol, it will produce drunkenness in proportion to the amount taken, but the symptoms are produced more slowly. This is the report to me of persons who drank a quantity. The poisonous results are shown in the following compilation:

1. The first report of methyl alcohol poisoning that came to my notice was reported by Dr. A. G. Thompson,[1] entitled "A Case of Complete Blindness Due to Acute Poisoning from Overuse of Jamaica Ginger." Dr. Thompson did not seem to know what element in the Jamaica ginger could have produced the blindness, and could not account for it, but this same case was reported later by Dr. Thompson[2] and the blindness was shown te be due to methyl alcohol.

2. Dr. H. Gifford[3] reported "A Case of Blindness by Ingestion of Wood Alcohol," in which blindness was permanent.

3. In a report by Dr. Casey A. Wood[4] before the Chicago Ophthalmic and Otological Society of 2 cases of methyl alcohol amaurosis from inhalation while working in a beer vat with "shellac" dissolved in wood alcohol.

4. Reports by Raub:[5] (*a*) "Blindness from Methyl Alcohol." A man on the night of October 4, 1898, drank 2 to 5 teaspoonfuls of methyl alcohol, and on the following morning his vision was impaired—improved for a time, then gradually faded away and was lost. (*b*) Also a case in which 3 men in the U. S. Navy who on July 4, 1898, drank a quantity, and were received on the hospital ship July 5. One was unconscious, and died in a few hours. Another suffered from gastro-enteritis only, while the third was semiconscious, pupils widely dilated and remained so. On July 8 he partially regained consciousness, but was totally blind. Under treatment he partially regained his vision, but it was subsequently permanently lost.

* Read before the Illinois State Medical Society, Chicago, 1903.

5. Dr. Edward Stiner,[6] of Pittsburg, reported a case of "amblyopia following the intoxicating use of Jamaica ginger," in which he does not seem to be aware of the probable presence of methyl alcohol in the Jamaica ginger, but in an editorial on this same case and others in the same journal,[7] "Jamaica Ginger Drinker's Amblyopia," the cause is shown to be methyl alcohol.

6. Dr. Herbert Harlan [8] reports cases of blindness and death from drinking Jamaica ginger, essence of peppermint, etc., demonstrating the presence of methyl alcohol.

7. Dr. John Dunn [9] reports 2 cases of amblyopia following the use of Jamaica ginger.

8. Expert testimony by Dr. H. V. Wurdemann,[10] of Milwaukee, shows blindness from inhalation and ingestion by mouth of methyl alcohol. After reporting a number of cases of poisoning, he concludes by saying "from the foregoing it seems that it (methyl alcohol) will produce blindness of a characteristic type, which is sudden and in most cases complete."

9. Dr. Swan M. Burnett[11] reports several cases of methyl alcohol poisoning, and classes it as a "dangerous poison," and suggests that its use should be prevented. He says that "the country is flooded with a poison dangerous to vision and life itself under various and unsuspected forms in the use of wood alcohol."

10. In a paper read before the Section of Ophthalmology of the fifty-second meeting of the American Medical Association, entitled "Blindness from Drinking Bay-rum, etc.," by Dr. H. Moulton,[12] he says, "those who record cases of blindness due to this cause mention in all 30 persons who drank from 1 dr. to 2 drs. to an ounce or more of the substance, and were made sick by it. Fifteen, or 50%, lost their sight. An analysis of 15 cases of wood alcohol blindness and an analysis of 12 cases of blindness due to Jamaica ginger, etc., shows the striking identity of important symptoms." His references will be found in the *Journal of the American Medical Association*, Vol. xxxvii, pages 1448–1449. In the discussion Dr. Hiram Woods, of Baltimore, said "there can be no question in regard to the identity of symptoms in the Jamaica ginger, bay-rum, and methyl alcohol cases. I am not familiar with any form of blindness which gives the clinical features that all these cases show." Drs. A. B. Hale and Casey A. Wood, of Chicago; Dr. Edward Jackson, of Denver, and Dr. R. W. Miller, of Los Angeles, agreed to the identity of symptoms.

11. Dr. E. G. Hoitt [13] gives the report of a family of six who drank a quantity of wood alcohol at night and in the morning four were dead, at Marlboro, Mass. One, the mother, was ill a long time and was lost track of. Another was a boy aged 14, who escaped by vomiting the substance.

12. Dr. S. W. Abbott [14] gives a report of 3 men who drank a quantity of colonial spirits, and all of them died soon afterward. Dr. Abbott thinks such articles should be labeled "poison," adding that "the grasping spirit of commercialism vs. the public health and safety" has defeated many a life-saving measure of recent years. Drs. A. E. Paine, B. H. Hartwell, A. W. Buck and Mead also reported cases in the same journal.[15]

13. A reprint sent to me by Dr. Reid Hunt [16] gives the results of a series of 28 experiments made by him with methyl alcohol or Columbian spirits and with ethyl alcohol. From his experiments he deduces the following:

"The action of methyl alcohol differs from that of grain alcohol in that the symptoms are produced more slowly and the duration of intoxication is more prolonged. While ethyl alcohol could be given to animals in doses sufficient to produce intoxication for months, or even for almost a year, without causing marked anatomic or functional disturbances, methyl alcohol given in small doses every other day was tolerated for only a few weeks. The animals remained comatosed for days, did not eat, and died, although the administration of alcohol was discontinued.

"The highly important discovery has been made that methyl alcohol differs markedly from ethyl alcohol in that it is but partially oxidized in the body and that its administration leads to the formation within the body of a markedly poisonous acid (formic acid). When methyl alcohol is given to an animal or man formic acid can always be found in the urine. The formic acid is excreted very slowly. This is probably the cause of blindness, which so frequently follows methyl alcohol poisoning in man. Highly differentiated nerve structures are especially likely to suffer when exposed to the action of a poison for a long time."

Dr. Hunt's conclusions are that "however pure the preparation (methyl alcohol) may be it is totally unfit as a substitute for grain alcohol in any preparation which is to be taken internally, and especially in preparations which are to be taken for any length of time." Dr. Hunt also states that there is no material difference in the action of the purified and of the crude methyl alcohol.

It is interesting to note the difference in the results of experiments of Birch-Hirschfeld with methyl alcohol and those of de Schweinitz with methyl alcohol on monkeys. (Dr. Hunt's Report.)

Birch-Hirschfeld describes experiments with methyl alcohol on 3 monkeys. Small doses were given every 1 or 2 days. When it became evident that the animals were at the point of death they were killed in order that the eyes and optic nerves could be obtained in good condition. The first was in a dying condition on the eighth day, the second on the fifteenth day, and the third on the eleventh day. Two monkeys had marked degenerative changes in the retina and one was totally blind.

In de Schweinitz's experiment he gave a small monkey 3.75 cc. of 95% alcohol for 6 months. At times as much as 7.5 cc. of alcohol was given every day for several days. The animal was repeatedly very drunk, yet no disturbance of vision could be made out. The animal was finally killed. No degenerative or inflammatory changes were found in the eyes or optic nerves.

It is particularly important to note that the action of methyl alcohol differs widely in different individuals. This is aptly described by Dr. Casey A. Wood, who says, in a recent letter, that "the majority, perhaps, of those who drink it escape without permanent damage. The individuals differ as to the effects of the poison. Suppose six men go on a spree together and consume about the same amount of columbian spirits, lemon extract, Jamaica ginger, essence of peppermint, or any other liquor containing say, 8 ounces of methyl alcohol in all; one of them will probably die within 48 hours of marked intestinal and cerebral symptoms; one other will be very ill, but recovering, will become totally blind in a few weeks, while the other four will suffer about as they would from a drunken orgie with ordinary alcohol."

In a recent letter from Dr. Hiram Woods, of Baltimore, who seems to have had more experience in this direction than any one else, he is unable to explain the fact that "methyl alcohol is often taken with impunity for some time and then becomes poisonous," and that "to some persons it seems innocuous always, while a minute dose is toxic to others." This first question is probably answered by Dr. Hunt. A few cases of methyl alcohol poisoning are reported from using it externally in the bath, etc.

I have by no means exhausted the literature proving the toxicity of methyl alcohol, for our journals are frequently reporting cases of death and blindness, explainable and unexplainable, which are clearly traced to methyl alcohol. In this immediate vicinage no less than 12 deaths have recently occurred, which are now known by me to be due to methyl alcohol, mostly in unsuspected forms, as lemon extract, etc. Some damage suits are now pending against manufacturers of Jamaica ginger, etc., for alleged poisoning, but so far as I know none have succeeded in securing damages. Dr. Hiram Woods writes me that the case tried last February which resulted in a hung jury has since been settled out of court.

There can be no doubt that methyl alcohol is used extensively in the manufacture of our culinary and medicinal extracts, spirits, essences, etc. This is abundantly proved by my own investigations as well as those of others.

The Bulletin of Pharmacy, Detroit (March, 1903), reports 5 deaths from the substitution of methyl for ethyl alcohol in drug stores. Three of these deaths occurred in Albany, N. Y., and two in Columbus, Ind.

Reports of the Health Department of New York City show an extensive substitution there as well as reports of Boards of Health elsewhere.

The reports of its substitution are so numerous that it is useless to enter into a bibliography of the subject. In fact in many cases little effort seems to be made to conceal its use. This is, no doubt, because of our defective food laws and the inertia or indifference of our Boards of Health and Pure Food (?) Commissions. It is easy to find fault but it seems to me that even a superficial consideration of this subject will show the urgent necessity of some action to protect the public health.

A review of this paper will show:

1. That methyl alcohol is an active and dangerous poison.

2. That it is capable of producing and has produced in numerous instances death and permanent blindness even when taken in small quantities (Burnett 5.6 cc., dram .1½—Raub 7.5–18.5 cc., dram 2–5).

3. That it is used extensively in substitution for grain alcohol and in the manufacture of extracts, spirits, and medicines, intended for internal use and that its use is not suspected by the consumer.

If, in the face of the evidence presented to us daily, anyone should deny its toxicity we may certainly be justified in considering him beyond the reach of argument.

The use of methyl alcohol has proved lucrative and so long as that is so it will be used extensively. A series of what are called facts are produced to prove its harmlessness but the cases of blindness and death give them the lie. If it is not poisonous I see no reason why it should escape a federal tax.

I will close with the following suggestions to our Pure Food Commissions and Boards of Health:

1. To require every manufacturer to publish on every package the formula of the preparation as is done in England.

2. To prosecute every one failing to do so.

3. To recommend a federal tax on methyl alcohol so that its substitution for ethyl alcohol will not be profitable.

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SPECIAL ARTICLES

HISTORIC NOTES ON THE LAWS GOVERNING CIVIL MALPRACTICE IN THE ANCIENT TIMES AND THE MIDDLE AGES.[1]

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The question of civil malpractice is of interest to both the medical and legal professions, and of recent years many rather unusual cases involving medical liability have been tried in various courts of the United States. That the physician and surgeon have been held liable for their actions by the courts of justice is as old as law, and it occurred to me that publishing a few scattered notes made on the history of this subject might not be without interest, although I must concede that the question treated in the following pages is only superficially discussed.

Among the Egyptians the law punished very fully any too imprudent or audacious physician, and in the seventh volume of "Histoire de la Legislation" de Pastoret says that "General rules had been established for the treatment of patients. These were the result of carefully made observations which were guarded by the priests in books that were so respected that they were solemnly carried in the processions taking place on days of public fête. An absolute prohibition did not exist preventing the physician from applying a new truth, but if, far from obtaining the salutary effects that he expected to procure he caused the death of his patient, he was obliged to pay his tribute for the misfortune or the boldness of having sacrificed the life of a citizen, by being beheaded. On the other hand, he was never liable to a patient confided to his care when he followed the rules laid down in the Sacred Books."

The same authority says that the Greeks also admitted medical liability, and Tourdes quotes an example related by Plutarch of a certain physician of Ephesus, by name Glaucus, who, having left his patient to go to the theater, was condemned by Alexander to be put to the cross, because the patient having imprudently eaten during his absence, died.

In Roman law, the principle of medical liability was admitted, and this is proof positive, since it is so formally stated in the old texts. This can easily be understood, since at Rome any one could practise medicine who so wished, and generally speaking, the slaves practised the healing art, which was a source of large income for their masters. These physicians, or perhaps it were better said empiric practitioners, had no other end than the gain of money, and there was, consequently, a double motive for making them liable for mistakes committed in the exercise of their practice. On the one hand, there was no guarantee offered by a diploma attesting to serious studies and a certain science, while on the other, there was a complete lack of devotion and scientific disinterestedness.

A physician who gave his services to a patient was responsible to the master if the latter were a slave and he fell under the jurisdiction of a suit, lege Aquilia, or under the application of suit for the hire of labor. The first clause of the law Aquilia covered in point of fact those cases in which another's slave had been killed without right. It was quite sufficient that a slave had been mortally wounded. The physician who, after having operated upon a slave, abandoned the after-care and allowed him to die, was at fault according to the terms of the law, which ran as follows "Præterea si medicus qui servum tuum secuit, dereliquerit curationem, atque ob id mortuus fuerit servus, culpæ reus est." (Instit. Liv. IV, tit. III, § VI.)

There was also error on the part of a physician who by ignorance killed his patient by administering a medicine *mal a propos* and which caused the latter's death, as the following text shows: "Imperitia quoque culpæ admuneratur; veluti si medicus ideo servum tuum occiderit quod cum male secuerit aut perperam ei medicamentum dederit." (Instit. Liv. IV, tit. III, § VII.)

Wounds which were not fatal but which were sufficiently serious to be damaging to the master of the slave were comprised in the third clause of the law Aquilia. The direct application of the law Aquilia was only allowed when the detriment resulting was caused *corpore corpori*, for example, when it was applied to a physician who had wounded or killed a slave by the performance of an operation upon the latter. But it was not applicable to the one who had only been the cause of the detriment and who had not caused it by his proper body, as for example, a physician who had prescribed a medicine *mal a propos*. In this case the Juris consults gave the application of the law, that is to say, introduced by interpretation following the example of that of the law, and procuring by the manner in which it was drawn up by the prætor, the same results.

According to Accarias, the professional services of a physician could become the object of a hire of labor when it was a question of a slave, and Proculus declared that a physician who had badly cared for a slave could be sued either *ex lege* Aquilia, or *ex locato*. The following is the exact text: "Proculus aeit, si medicus servum imperite secuerit, vel ex locato vel ex lege Aquilia competeri actionem." (D. Liv. IX. tit. II, 7, § VIII.)

The direct application of the law Aquilia could not be applied to a physician when the victim was a free man, and Ulpien says that "a man has not the right of ownership of his limbs." Now, in order to obtain a direct application of the law Aquilia, it was necessary that the person injured should have also his patrimony involved. But a free man who had become the victim of errors committed by a physician could have the direct application of the law Aquilia accorded by the prætor who procured the same effects, excepting in that which concerned the pecuniary reparation of the injury. In the latter case, the value of human personality was not considered. The

[1] Read by invitation at the annual meeting of the Massachusetts Medicolegal Society, June 9, 1903.

reparation could only include the tort resulting from expenses involved for the cure, from incapacity to work and, lastly, the funeral expenses.

Now, although the texts are perfectly affirmative regarding the admission of the principle of medical liability in Rome, it is more difficult to say whether or not it was frequently applied, and it would appear that the contrary was more likely the case if one considers with what violent indignation Pliny affirmed that in Rome a physician enjoyed the most complete immunity, as he states in the twenty-ninth book of his Natural History as follows: "Nulla proeterea lex, quoe puniat inscitian; capitale nullum exemplum vindictoe. Discunt periculis nostris, et experimenta per mortes agunt; medicoque tantum hominem occidisse impuniter summa est. Quin imo transit convicium et intemperantia culpatur: ultroque qui periere arguuntur."

The Roman laws were not, however, as severe as Montesquieu has upheld in his immortal work entitled "*Esprit des Lois*," in which he says that "the people were desirous of having physicians punished for their negligence or their ignorance. In this case they condemned a physician who occupied a certain social position to exile, while death was the sentence applied to the one occupying a lower social condition." This great writer committed an error, for the law to which he makes allusion (D. Liv. III): "Ad legem Corneliam de Sicariis . . . " did not punish negligence, ignorance, or lack of attention, but the crime, the grave mistake committed with the criminal intention of producing death.

Medical liability was rigorously followed out in the ancient Germanic law, to such an extent that before undertaking the cure of a patient the physician was obliged to give a security in order to guarantee the indemnity in case he was unsuccessful. A physician who, while bleeding a free man, wounded him was liable to pay his family a compensation of 150 ducats in gold. In case of the death of the patient, the physician became the property of the family, who could use its right of vengeance as it saw fit. "Si quis medicus, dum fleotomiam exercet, ingenuum debilitaverit. Cl Solidos coactus exolvat; si vero servum hujusmodi servum restituat (in lege Ervigiana post exolvat leguntur: si vero mortuus fuerit proprinquis continuo tradendus est ut quod de eo facere voluerint habeant potestatem)."

A physician could not bleed a free woman unless her husband or some of her near relations were present, because the law said: "Difficillimum non est sub tali occasione ludibrium interdum adscrescat."

In Beugnot's edition of the "*Assises de Jerusalem*" will be found many important remarks regarding the liability of physicians in the middle ages.[1] A physician called to attend a serf, and by his ignorance causing the death of his patient was condemned to pay the value of the serf, and was obliged to leave the city, and I here quote an interesting paragraph:

"C'il avient par aucune mésaventure que je naffre un mien serf ou serve, ou aucune autre personne le naffre, et je i amene un meige et celui meige s'accorde o mei a pris noumé et me dit au tier jor, puisqu'il ot bien veu la plaie, que bien le garet sans faille; et il aveint puisque il le tailla malement ou por ce que ne devet étre taillé et il le tailla et porce il mourut et porce que il devet tailler la plaie par la levure et l'apostème donc et il le tailla de travers et por ce mourut: la raison juge et commande en ci a juger que celui meige doit amender le serf ou la serve par droit tant comme il valait au jour qu'il fut naffré, ou tant comme l'acheta celui de qui il estait car ce est dreit et raison par l'assise. Et deit la cort celui meige congeer de la vile ou il fist cele mauvaise megerie."

According to this text the physician, after having seen the wound promised to cure the patient, but following a badly conducted operation which resulted in the death of the patient, the physician was declared liable for this unfortunate occurrence. The text then goes on so as to cover those cases in which a wound became gangrenous because the physician did not give the patient daily attendance and it declares the former liable for this accident. In the same way it holds the physician liable for any imprudence committed by the patient because he did not indicate in what ways the patient should care for himself. And, lastly, the text speaks of damages due in case the victim was a serf. The physician after having promised to cure him employed bad drugs and did not succeed in his object. The patient was maimed forever. The physician was obliged to take the serf for himself and to pay to his master the sum that the serf had cost him. In case the physician could not pay the entire sum he was obliged to leave the serf with his master and only pay "celui serf ou cele serve vaura de mains por ce qu'il est mahaignes par sa coulpe."

When the victim was a free man, the liability of the physician was very much greater. If it were a question of simple wounds or of bad treatment which did not cause death, not only the physician had no right to demand any fee, but he had his right hand cut off. In case of death of the patient the physician was condemned to the gallows: "Mais se il avet se mahaign fait a un crestien ou a une crestienne, la raison juge qu'il det perdre le poing destre et ne det plus estre damages for tant que ce il avet rien pris de celui por le meger si est tenus dou rendre par dreit. . . . Et se celui miege avet enci malement mege come est dit dessus aucun franc home ou aucune franche femme et elle en moret la raison juge que celuy meige det estre pendus et . . . it a det estre dou seignor par dreit. Mais ce il avait riens receu dou mort si det estre rendu as parens dou mort des choses dou meige car ce est raison et dreit."

The text adds that before being put to death the physician should be taken through the streets of the city in order to serve as an example to his colleagues.

It happened that on account of fear regarding their liability, physicians refused their services to patients, or if they gave them they demanded a guarantee releasing them from any responsibility should the case terminate unfavorably. Guillaume de Tyr tells us that Amaury I, feeling that his strength was leaving him, demanded medicines from some Syrian physicians. These they refused, and he was only able to obtain them from the Latin physicians after he had given his promise that they need not be disturbed, no matter what issue the disease might take.

In the ancient French law the liability of physicians and surgeons was distinctly held. Denizart established a hierarchic difference between physicians and surgeons and declared that the latter were subordinate to physicians. He admitted the liability of surgeons and declared them held for tort toward those they might maim by their ignorance, and attributes to physicians the power of examining the facts of the case in order to ascertain whether the surgeon was reprehensible or not. He goes on to say that: "When a surgeon has conducted the case according to the rules of his art, he should be paid for his operations and for his care and dressings although the patient may not have been cured, even if one was obliged at a later date to do an amputaton of some fractured limb, the cure of which the surgeon had undertaken."

Efforts were made in France by Charles VI, Henry IV, Charles VII, and Louis XIV to formulate laws to control the practice of surgery, but these were apparently only partially successful. It is not without some interest, perhaps, to add that, so far as I have been able to discover, Henry IV of France was the first to create what would at the present time be called a medicolegal expert. These experts were selected from among the most capable surgeons. It is also positive that about the middle of the sixteenth century certain cities appointed what might be termed expert surgeons, for the purpose of examining the wounds of patients seriously injured and to see that the attending surgeon treated the patient properly; for otherwise the patient could bring suit for tort should it be shown that there had been malpractice. That this is a fact will be found from the following quotation that I make from the "Treatise on Surgery" by Felix Wurtz, a noted surgeon of Basle, whose fame was widespread at about 1560:

"Un Chirurgien ne doit point permettre a un chaqun de voir, ou metre la main aux blessures de ses patiens, ce que neantmoins plusieurs ont accoustumé de faire. Ce n'est pas que je veuille blasmer la coutume de plusieurs Villes bien

[1] The ideal type of feudal law is that so graphically depicted in the works which pass under the title of the Assises de Jerusalem, and which profess to describe the usages of the curious product of the Crusades, the Latin kingdoms of Palestine.

policées, ou les Magistrats font ordinairement visiter une fois, ou deux, toutes les blessures considerables, par les Chirurgiens jurez; ou contraire, je soustient qu'elle est extremement necessaire et qu'elle se devroit establis par tout, enfin que si quelque un est mal pensé, ainsi qu'il arrive assez souvent, il en puisse faire ses plaintes à la Justice."

The mistakes committed in the rules of practice should be appreciated by men engaged in that profession, and Denizart quotes a judgment which acquitted a surgeon who was accused of having given bad treatment, only after having heard the testimony of expert surgeons. The case was as follows:

A surgeon sued a patient, who had a broken arm, for the payment of his fee. The arm had either been set badly or too early, and having been inconsiderately moved by the patient, gangrene appeared. The patient refused to pay the bill. The court then ordered some expert surgeons to examine the question as to how the accused had acted and if the operation and his dressings were in conformity to the rules of his art. After having heard the declarations made by both the surgeon and the patient, they returned a verdict in favor of the surgeon and as a final consequence the court ordered the patient to pay the surgeon's fees.

This same writer mentions another case, in which the surgeon was sued in the criminal court and was condemned to pay £15,000 damage and interest, because the ignorance of the surgeon was proved by the findings of the experts called in on the case.

Charondas, a wellknown lawyer who flourished in the middle of the sixteenth century, said that a surgeon was liable for accidents which might occur to his patients if they came from his mistake. He mentions a case of a surgeon who was taking care of a patient afflicted with a venereal ulcer, but an accident occurred during the treatment which caused the death of the patient. For this mishap the surgeon was brought to justice as having been the cause of the death. Charondas, during the trial, held that since neither deceit nor ignorance on the part of the surgeon could be shown in the treatment employed for the cure of the ulcer, the surgeon could not be held responsible for the accident which occurred later.

Papon, a wellknown judge who lived during the regency of Catharine de Medicis, says that although a patient may die, the physician should not be held liable unless he was found ignorant or too hardy in his treatment, and that consequently a legal examination should be held in order to ascertain the true circumstances of the case, and if the physician is found to have committed a mistake he should be punished by the courts. This same author then relates the case of a physician who gave to a patient a potion which was either capable of killing him or of saving him in a very short time, and the patient died from its effects. The physician was, however, easily acquitted, but he was admonished by the court never to repeat the same treatment under penalty of being severely punished.

Jean Duret, a physician of some note, who lived during the last half of the sixteenth century, declared that a physician was liable if he showed himself an idiot in both the theory and practice, or if he showed himself too audacious, and Raymond de l'Eglise upheld that a physician was liable not only for his temerity and his neglect of a patient, but also for his ignorance as well. Brillon, whose classic dictionary was published in 1711, also held that physicians were liable for their acts. He based his opinion on Papon and another writer, who declared that a physician was liable either for a slight mistake or for a very slight mistake, and he relates several judgments in which the principle of medical liability is upheld.

The public was far better protected against nostrums and quacks a few hundred years ago than it is at the present time, as will be seen from the following: In the reign of Edward VI, Grigg, a poulterer in Surrey, was put in the pillory at Croydon and again in Southwark for cheating people out of their money by pretending to cure them by charms, or by looking at them, or by casting their water. Many other quacks have at various times been subjected to punishment. Anthony was punished for his Aurum Potabile; Arthur Dee for advertising medicines to cure all diseases; Foster for selling a powder for the cure of chlorosis; Tenant, a urine caster, who sold pills at £6 apiece; Aires, for selling purging sugar plums; Hunt, for putting up bills for the cure of diseases in the streets. The Council in the reign of James I dispatched a warrant to the magistrates of the city of London to arrest all reputed empirics, and cause them to be examined by the Censors of the Royal College of Physicians. Several were arrested and acknowledged their ignorance. In the reign of King William, a certain Fairfax was fined and imprisoned for injuring persons by his Aqua Cœlestis, while in Stow's Chronicle it is recorded that a water caster was punished for exercising his quackery. He was set on horseback with his face to the horse's tail, which he held in his hand, with a collar of urinals about his neck, led by the hangman through the city, and was whipped, branded and then banished.

The old French jurisprudence felt some hesitation in pronouncing for or against medical liability and Merlin believed that suits brought against physicians were rarely successful. He mentions a number of judgments which acquitted the physician. The Parliament of Paris in 1696 gave the following judgment in one case, the Court saying: "That surgeons are not liable for their remedies as long as they have showed no evidence of ignorance or rashness in their practice." And in summing up the case on which the Court had rendered judgment the Advocate General Portail said: "There is only one case where suit can be brought against the medical profession, and that is when deceit has been practised, in which case it is a true crime."

In 1596 the children of a surgeon who had wounded a patient while bleeding him were condemned to pay £150 damages by the Parliament of Bordeaux, and in another case a surgeon was condemned, because he cut a child for stone in the bladder without the advice of a physician, to pay damages amounting to £60, with the injunction of the Court never in the future to cut another patient for stone without the consent of some physician who was approved by and who had been received by the Faculty of Medicine.

Many other cases could be cited, but I think from what has been said in this short paper that medical liability has been sustained by all the Courts of former times. The question of criminal malpractice I have entirely left aside, hoping at a future date to discuss the history of this important subject.

THE WORLD'S LATEST LITERATURE

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4. Dangers Attendant on Attempts at Gaining the Interval in Operations for Appendicitis. RICHARD H. GIBBONS.
5. The Fourth of July, 1903, Casualty List.

1.—Pneumonia and Pleurisy in Early Life Simulating Appendicitis.—J. C. Griffith reports several cases, and reviews the recent literature of the subject. There is a decided uniformity in most of the statements. The tendency to refer the pain to the abdomen is greater when the disease is situated in the lower part of the thorax, but there is reason to believe it may also occur when it has attacked the upper portion. It is more deceptive when the right side is affected. With the pain is abdominal tenderness and distention and constipation. These with the vomiting, which quite commonly ushers in pneumonia in childhood, easily simulate the clinical picture of appendicitis. Distinction is to be made by giving due consideration to the sudden rise of temperature to 103° or thereabouts and the tendency to maintain this degree, the acceleration of respiration out of proportion to the pulse and pyrexia, the relaxation of the abdominal walls between the respirations, the diminution of tenderness on deep pressure with the flat of the hand, the possible presence of cough. No operation for appendicitis should ever be performed until after careful and repeated examinations of the lungs. [H.M.]

2.—See *American Medicine*, Vol. V, No. 20, p. 771.

3.—See *American Medicine*, Vol. V, No. 23, p. 900.

4.—See *American Medicine*, Vol. V, No. 22, p. 860.

5.—The Fourth of July, 1903, Casualty List.—The *Journal* has attempted to collect all the information possible con-

cerning the year's outbreak, and publishes a list of 415 tetanus victims arranged according to States. Doubtless many are omitted. Pennsylvania leads. The Southern States are free from deaths of this sort. Three hundred and fifty-eight of the cases were reported as due to blank cartridge or toy pistol wounds; 17 to giant crackers. Fourth of July tetanus is an extremely virulent type, with short incubation and brief duration. The mortality is about 95%. Antitoxin was generally administered too late to be effectual. Only one bacteriologist reports tetanus germs in the cartridges and no inoculations were made. The bacilli are present in street dirt. The materials of the cartridges are subjected to processes in their manufacture that would necessarily sterilize them. They carry in the organisms from the skin surface. The burning, tearing, and bruising of the tissues is of particular import. The only way to prevent tetanus is to prevent the use of blank cartridges. The ideal way is to forbid their manufacture. Another method is prohibiting their sale. The difficulty lies in the enforcement of existing laws. The part played by the lay press in urging vigorous action and warning the people is entitled to the highest commendation. Education of parents as to the seriousness of apparently slight wounds is called for. Many physicians are culpable for not attempting to remove wads and other foreign material in the wounds. Prophylactic use of antitoxin should be urged. Aside from tetanus there were 3,983 injuries; 2,461 were due to blank cartridges and cannon crackers. [H.M.]

Boston Medical and Surgical Journal.

August 27, 1903. [Vol. CXLIX, No. 9.]

1. The Invalid's Egypt. F. GORDON MORRILL.
2. The Treatment of Degenerative Diseases of the Nervous System by Massive Doses of Strychnia, with Special Reference to Tabes Dorsalis, Progressive Muscular Atrophy, Optic Nerve Atrophy and Pseudomuscular Hypertrophy. GRAEME M. HAMMOND.
3. A Brief Summary of the Surgery of the Esophagus. SAMUEL J. MIXTER.
4. Inferences to be Drawn from the Examination of the Gastric Contents. ELLIOTT P. JOSLIN.

1.—The Invalid's Egypt.—F. G. Morrill discusses the health resorts of Lower and Upper Egypt, the seasons at which it is best to visit them, and the precautions that must be taken to guard against diurnal changes in temperature, etc. One who wishes to obtain the best results from the climate should arive in Cairo not later than December 1, go directly to Assouan, a place without a rival, remain until the middle of March or later, when he may safely go to Cairo by river and after a short stay at Ghezireh, Helouan or Mena House make his way to Ramleh where the hotels are open to April 1. About the middle of April is the best time for sailing. [H.M.]

2.—Massive Doses of Strychnin in Degenerative Diseases of the Nervous System.—G. M. Hammond reports several cases showing improvement or arrest of the degenerative process, a rare result. Certain cases of tabes have been benefited by other means, but he knows of no other cases retinitis pigmentosa and pseudomuscular hypertrophy which have been arrested by any means whatever. In progressive muscular atrophy the process has rarely stopped spontaneously, but the author's case even regained some muscular power. Of course, neurons cannot be recreated, but it seems that the cell can be restored if the degeneration is partial. He generally begins with $\frac{1}{40}$ gr. or $\frac{1}{30}$ gr. 3 times a day, increasing by $\frac{1}{600}$ daily until $\frac{2}{3}$ or $\frac{1}{2}$ gr. 3 times daily is reached. The massive doses can be continued for months at a time without subjecting the patient to strychnin poisoning. All but two of the cases reported had been under observation a year. [H.M.]

3.—Surgery of the Esophagus.—Samuel J. Mixter, in a brief summary, states that the chief causes calling for surgical interference are: Congenital malformation, such as double esophagus and esophageal pouches; impacted foreign bodies; malignant disease; syphilis, and cicatricial stricture. Spasm is not included, for it is not truly a surgical affection, though generally relieved by mechanical means. Among congenital malformations he mentions a case in which necropsy upon a boy of 10 showed 2 esophageal tubes—one extending from the pharynx to near the stomach; the other from the stomach to near the pharynx. These communicated by but a small opening. He believes congenital pouches are more common than is generally supposed. The ideal treatment is by excision of the pouch if it is accessible, otherwise the passage of suitable bougies may afford surprising relief. The best bougies come from Paris, and are woven like urethral bougies, with aline tip and are highly polished. In the hands of an expert laryngologist many foreign bodies may be removed from the esophagus. This failing, esophagotomy or gastrotomy is indicated. Nothing new is offered concerning malignant or syphilitic disease of the esophagus. Cicatricial strictures are often difficult to treat, owing to multiple strictures, resulting pouches, tortuous canal, etc. Dilation by bougie failing, Abbe's bowstring method and Dunham's method of having a thread swallowed are highly commended. Delicacy of manipulation is insisted upon in any treatment of the esophagus. [A.B.C.]

4.—Inferences from Gastric Contents.— E. P. Joslin considers the diagnosis of gastric diseases much easier than is usually thought. The data for diagnosis are motility, secretion, fermentation, mucus, blood, and pus. Five of these can be detected by gross observation, while chemic tests for the remaining are extremely simple. Lessened motility may be due to weakness, displacement, ulcer, cancer, or pyloric obstruction. Vomiting of large quantities of food or of food eaten more than 7 hours previously, suggests dilation. The stomach tube may be passed to ascertain whether the stomach is empty. An hour after an Ewald breakfast the residue should not be more than 3 ounces. When secretion is normal the fasting stomach is empty; with hypersecretion varying quantities of juice up to several ounces can be removed. If secretion is absent the contents resemble a mixture of bread and water after a test-meal. Günzburg's test is the safest for HCl. Excess may be due to a neurosis, a benignant stenosis, or associated with an ulcer. Chronic ulcer may exist without free HCl, and cancer with it. HCl is diminished in catarrh and absent in atrophy and sometimes from a neurosis. Fermentation is proof of diminished motility. It is recognized by the frothy upper layer of stomach contents when allowed to settle. Sarcinous fermentation can be recognized by the odor. It occurs in the presence of HCl. Lactic acid bacilli grow only in its absence. The odor then leads to conclusions as to the presence of HCl. Chronic catarrh of the stomach is rare. Gastric mucus is intimately mixed with the food; mucus adhering to the tube is from the mouth, throat, or esophagus. Blood is obtained in cancer, ulcer, achylia gastrica, and even from the healthy stomach, due to straining or too forcible aspiration of the contents. Coffee-grounds vomitus is usually associated with cancer, but may occur in ulcer. Pus is common in catarrh. In the absence of mucus it points to cancer or ulcer. [H.M.]

Medical Record.

August 29, 1903. [Vol. 64, No. 9.]

1. The Syphilitic Affections of the Heart and Aorta. LEONARD WEBER.
2. Peritonitis (Peritoneal Adhesions) Caused by Muscular Trauma. BYRON ROBINSON.
3. The Quick and the Dead; A Plea for Urn Burial. W. J. CONKLIN.
4. Hydrotherapy in the Treatment of Chronic Diseases. FREDERICK M. ROSSITER.
5. The Suprapubic Operation for the Radical Cure of Varicocele, with a Report of 18 Cases. ROBERT M. THORNBURGH.

1.—Syphilitic Affections of the Heart and Aorta.—L. Weber recalls that 40 years ago the heart was looked on as exempt from syphilis; now we recognize that coronary sclerosis and degeneration of the muscle under 50 years of age are often syphilitic. Whether any particular occupation predisposes the infected to heart disease is not yet known. There is nothing in the sclerosis and degeneration different from that due to other causes. Endarteritis and periarteritis may develop in the smaller vessels of the heart when neither the large trunks nor aorta show any sign of disease. Later we see atheromatous patches in aorta, coronary and pulmonary arteries and interstitial myocarditis. In other cases the dilated heart will show patches of fibrous growth, and occasionally a gummatous tumor. Sometimes extravasated blood separates the muscle fibers, breaking them into fragments. Quite a number of cases of sclerogummatous disease of the coronary arteries manifest themselves mainly by the symptoms of angina pectoris. Next in frequency and importance to the sclerosis must be placed syphilitic aortitis with its sequels, degeneration

of the semilunar valves and aneurysmatic dilation. The prognosis is not always as bad as it looks at first sight. Some cases respond favorably to specific treatment. Temporary improvement may result from using iodids, but it will soon pass away unless mercury is combined with them. Inunctions should be used whenever possible; when not, bichlorid hypodermically or biniodid by mouth. Advanced cases of aortitis are less amenable than a cardiac disease. [H.M.]

2.—Peritoneal Adhesions from Muscular Traumatism.—Byron Robinson has made observations in 485 necropsies. The object of his paper is to demonstrate that muscles, such as the psoas, levator ani, diaphragm, iliacus, muscles of the abdominal wall, etc., with which the various abdominal viscera come in contact, may produce trauma, causing peritoneal adhesions, which compromise visceral function and give rise to disease and invalidism. The regions most frequently affected are in order of frequency the splenic, sigmoid, appendicular, duodenal, lesser peritoneal, right colic, left colic, and pelvic. Necropsies upon 60 children showed practically no peritoneal exudate in those under 3 years of age, and none in those who had not yet walked. The writer's conclusions are that peritoneal adhesions cause about one-third of all obstructions of the intestinal tract. Peritoneal adhesions disorder the common function—peristalsis, secretion, and absorption—of 5 abdominal visceral tracts, viz., the intestinal, genital, lymphatic, urinary, and vascular, by inducing excessive, deficient, or disproportionate secretion, absorption, and peristalsis—ending in insufficient elimination and malnutrition. They derange the special function of the genital tract, viz., menstruation and gestation, ending in dysmenorrhea, abortion, and sterility. They damage the function of the nervous tract by traumatism; sensation and motion are disorderly and dragging, compression and dislocation end in pain and neuroses. [A.B.C.]

3.—A Plea for Urn Burial.—W. J. Conklin discusses the various methods of disposing of the dead in ancient and modern times and the rebirth of cremation in Italy in the past century, its endorsement by sanitarians and the growth of the custom in various countries. The ancients burned, the modern plan is to oxidize with superheated air. The danger of contamination of soil and water, the time consumed in decomposition, the cost, the danger of desecration, the danger of exposure at the grave, the withdrawing of numerous tracts of land from cultivation are some of the objections to earth burial. The only objection to incineration is that it destroys the evidence of crime. [H.M.]

4.—Hydrotherapy in Chronic Diseases.—F. M. Rossiter sums up the advantages of water in treatment of disease. It is always at hand, is cheap, can be used successfully in more diseases than any other remedy, and no known drug produces such a variety of physiologic effects. Much odium has been brought on the treatment by unskilful use. It is employed much more in Germany than here. It is barely mentioned in the medical schools, there is no efficient hydriatic clinic, and no nurses are trained to apply it. It is absolutely necessary to know anatomy and physiology, especially that of the nervous and circulatory systems and the skin. Nearly every organ is in reflex relation with the skin immediately over it, and many with remote portions. Effects depend on whether heat or cold is employed, the degree of each, the force of the douches, and the duration. Rossiter gives a list of the hydriatic procedures in use. The various effects are tonic, sedative, antispasmodic, nutritive, eliminative, diuretic, expectorant, antipyretic, antiphlogistic, hemostatic, emmenagogic, analgesic, vasodilator and constrictor, and hypnotic. In treating gastritis it is important to know whether there is hyperchlorhydria or hypopepsia. Cold water taken during peptic activity inhibits the flow, before meals it excites it. The ice-bag or cold compresses to the epigastrium before meals increased the flow. Prolonged hot applications after meals diminish the flow. Drinking hot water or brief fomentations relieve pain due to fermentation and hyperacidity. The wet girdle is effective in constipation. Hydrotherapy has given the most gratifying results in heart disease. In insomnia due to anemia an ice-bag to the precordium with cold friction will give immediate sleep. [H.M.]

5.—Suprapubic Operation for the Radical Cure of Varicocele.—R. M. Thornburgh reports briefly the histories of 18 operative cases, and adds 15 additional cases operated upon after the first report, making a total of 33 cases. He likewise mentions some 44 other cases operated upon by other army surgeons. The rule laid down in army practice is to operate when the varicocele is as large or larger than the sound testicle. The site for operation is prepared in the usual manner, except that after the primary shaving and scrubbing, 4 grams of oleate of mercury is rubbed into the region, followed by a sterile dressing saturated with oleate of mercury. This is to combat stitch abscess, as described by Maylard. In brief the operation is described as follows: Introduce the finger into the external ring of the affected side, and with the knife make a nick in the skin directly over the tip of the finger. With this nick as a landmark an incision 3 cm. (1.3 in.) long is made, parallel to Poupart's ligament. The deep fascia is cut through, and blunt dissection exposes the cord. The sheath of the cord is picked up between mouse-tooth forceps and torn open. The whole cord is easily raised and brought out of the wound, and a ligature carrier is placed beneath it. The vas is recognized and separated from the rest of the cord downward to within an inch of the testis, and for about 6 or 7 cm. in an upward direction also. The testis can readily be brought into view by gentle traction on the cord. The vessels are tied with No. 3 cumolized catgut ligatures, the vessels between them (5 cm. to 6 cm.) excised, the stumps inspected for oozing, the ends approximated and the ligatures tied to each other, forming a support for the testis. The cord and vas are dropped to the bottom of the wound and the latter closed by continuous retention and approximation sutures of No. 1 cumolized catgut. In the opinion of the writer it is unnecessary to isolate and save the spermatic artery and a vein. This was formerly done, but has been abandoned with equally excellent results. Excellent results were obtained in every case, a drop of pus appearing in but one instance. [A.B.C.]

New York Medical Journal.

August 22, 1903. [Vol. LXXVIII, No. 8.]

1. Relation of the Anesthetist to the Patient and to the Surgeon: With Some Interesting Experiences Upon Which this Paper is Partly Based. S. ORMOND GOLDAN.
2. The Iodin Treatment of Puerperal Sepsis. W. R. PRYOR.
3. The Treatment of Papilloma of the Larynx in Children. J. E. SUMMERS.
4. Regicides: Sane and Insane. E. C. SPITZKA. (Continued.)

2.—The Iodin Treatment of Puerperal Sepsis.—W. R. Pryor reports the results in 37 patients operated upon. In 36 cases streptococci, generally mixed with other germs, were found in the uterine cavity, while in all the cases streptococci were found in the serum or lymph, or free pus from the culdesac. By the application of massive iodoform dressings the author succeeded in sterilizing the pelvis—at least, so far as cocci were concerned. In all cases but one, not a single cocci could be detected in the second dressing. When the iodoform is brought in contact with a serous membrane it at once gives up its iodin, partly in obedience to the influence of heat and partly to the chemical action of the blood-serum. Local iodism is within a short time produced, and it is this which sterilizes the pelvis. In many cases iodin was found in the urine in 5 hours, in others in 2 hours. There were 37 operations; 27 patients had not been previously operated on, and only 1 died; while 10 had been cureted previously, and 3 died; thus confirming the author's belief in the mischievousness of mere curetment in these cases. In all operations, either enteroclysis or intravenous infusion of normal saline solution accompanied the operation for purposes of facilitating the elimination of iodin and toxins by the damaged kidneys. [C.A.O.]

3.—Laryngeal Papilloma in Children.—J. E. Summers reports 3 cases and reviews the literature of the subject. He advocates tracheotomy without attempting removal of the growths, the tracheotomy tube to be worn until the disappearance of the papilloma, generally a year or two. The general opinion is that intubation is unsuitable. [C.A.O.]

Medical News.

August 29, 1903. [Vol. 83, No. 9.]

1. Extirpation of the Urinary Bladder. FRANK HARTLEY.
2. The Prognosis of Tabes: An Analysis of 140 Cases of Locomotor Ataxia. JOSEPH COLLINS.
3. The Toxic Actions of Urotropin; with Report of a Case of Hematuria and Hemoglobinuria Following a Dose of 7½ grains. WARREN COLEMAN.

4. Observations on 18 Abdominal Sections, Performed within the Past Year, Including the Successful Removal of an Ovarian Cystoma Weighing 72 pounds. EDWARD N. LIELL.
5. The Effect of Erysipelas upon Atrophic Rhinitis; with Report of Case. LEWIS S. SOMERS.
6. Esophagoscopy. EDWARD A. ARONSON.
7. Indications and Counterindications for Prostatectomy. L. BAZET.
8. Moral Insanity or Degeneracy. F. H. STEPHENSON.

1.—Extirpation of the Urinary Bladder.—Frank Hartley enumerates the various conditions demanding extirpation of this viscus, and gives a general review of the reported cases. The latter contains numerous statistics concerning the various methods of procedure, the recovery-rate, mortality-rate, etc. The author reports the case of a girl of 18, who has suffered for 3 years from tuberculous cystitis. Drainage into the rectum and suprapubically had both in turn been resorted to, with temporary relief, but closure of the fistula in each case was done on account of the annoying condition. The symptoms reappearing and cystoscopic examination revealing a tuberculous condition of the bladder, extirpation of the latter was done, and the ureters implanted in the sigmoid, with complete recovery. Another case is reported in which total extirpation of the bladder was done in a young man of 18. The ureters were implanted in the sigmoid and recovery followed. Speaking generally of the treatment for exstrophy of the bladder the author says: "The best methods of treating this condition, provided the construction of a continent bladder is impossible, seem to be: 1. Cystectomy with the intestinal anastomosis of Maydl or Pozzi. 2. Vesicorectal anastomosis (Frank). 3. Extirpation of the bladder and urethral implantation of the ureters (Sonnenberg). 4. Extirpation of the bladder and vaginal implantation of the ureters (Pawlik). [A.B.C]

2.—Prognosis of Tabes.—J. Collins presents a study of 140 cases in which the length of time between the first symptom and the appearance of ataxia was 3 years and 5 months. These figures may be misleading, as patients often have little idea when ths disease began, and he believes the preataxic stage is oftener above 5 years than below. Eleven of the 140 cases died, the average duration of the disease being 13 years; four, however, were carried off by intercurrent disease. The factors that influence prognosis are the clinical and anatomic type, age and sex, and the individual, his occupation and treatment. The motor type is one of the most favorable, especially since the introduction of the Fraenkel exercises. The least favorable is that in which disturbance of the sympathetic system predominates. Death rarely occurs in crises, but these produce much exhaustion, and such patients are liable to become morphin victims. Tabes with profound atrophy of the muscles is apt to run a rapid course. With one or two exceptions, the writer has never seen the disease modified by blindness, which is an early manifestation, while ataxia is a late one. The prognosis is better when the onset is slow rather than abrupt. The disease advances more rapidly if it develops within 10 years after syphilitic infection than when later. Cervical and cervicobulbar tabes is more unfavorable than the common variety. Early involvement of the larynx is grave. The disease is more rapid in women than men, and in patients under 35. The prognosis is worse in those whose occupation necessitates standing or fatiguing use of the legs. There is no specific, but under a certain regime the disease seems to stop advancing. [H.M.]

3.—The Toxic Actions of Urotropin.—W. Coleman finds toxic effects rare. Toxic actions, especially strangury, occur with comparative frequency if the urotropin is not properly diluted. The toxic effects are not always correlative with the size of the dose. Individuals vary very greatly in their susceptibility. Urotropin has been known to produce the following: Irritation of the stomach, diarrhea, abdominal pain, measles-like rash, headache, and ringing in the ears, renal irritation, sometimes with albuminuria, strangury, irritant action on raw surfaces in the urinary passages, hematuria, and hemoglobinuria. The more important of these toxic actions have been produced by intravenous injections of formaldehyd. These actions are due to special susceptibility to formaldehyd, to interference with the usual disposition of formaldehyd in the body, or to the liberation of an unusual quantity of it. The effects usually disappear within a few days after withdrawal of the drug. [H.M.]

4.—Observations on Abdominal Operations.—E. N. Liell has performed 18 abdominal operations in a little over 12 months, 5 of them being for ovarian cyst. In one instance there was successfully removed from a married woman, aged 27 years, an enormous unilocular cyst of the left ovary, the contents of a turbid, syrupy consistence, measuring 6¾ gallons, and with the sac weighing 72 pounds. The adhesions were profuse, numerous bands necessitating ligation; the pedicle of the tumor was four inches broad, and was enucleated with a chain ligature of heavy, twisted silk, followed by a reinforced double loop ligature. As the adipose tissue was 3 cm. (1¼ in.) in thickness, he sutured the peritoneum separately with catgut; the fascia and muscle were brought into perfect apposition with heavy catgut and the remaining wound left to heal with granulating tissue. The wound was firmly closed at the end of 6 weeks. The highest temperature was 99½° on the third day, and 5 months after operation the patient was in perfect health. He also reports 2 cases of myomectomy for uterine fibroids, which operation he would choose for all single and multiple subserous tumors with well defined borders. Since the do-nothing treatment in cases of fibroma results in a mortality of 30% as compared with 5% through surgical interference, he considers the removal of these growths justified even in the absence of symptoms of pain or hemorrhage. Liell always uses silk as ligature and has never had a secondary hemorrhage. Catgut as a ligature is treacherous, the main difficulty being in tying it firmly so as not to slip, and also its liability to fray. [W.K.]

5.—Effect of Erysipelas upon Atrophic Rhinitis.—L. S. Somers reports that a man of 38 had been afflicted with atrophic rhinitis since early childhood. The accessory sinuses were not involved but the fetid odor from the nasal chamber was markedly offensive. The usual treatment by several consultants afforded much less than the usual temporary relief. The patient accidentally received a blow over the right eye, which merely broke the skin. Erysipelas immediately developed and involved the entire face, neck, nasal chamber, and pharynx. This disease ran its course in about 3 weeks and with its subsidence it was noticed that the rhinitis and fetor were much lessened. It now appears that the patient is entirely free from the repulsive odor, the scales and mucus have ceased to appear within the nasal chamber, and the mucous membrane presents an entirely different appearance. In other words the atrophic rhinitis has been almost entirely cured. He recites 2 cases of ozena which Francesco has reported as having been cured by erysipelas of the face and nasal chambers, accidentally contracted. The possibilities of Coley's fluid in the treatment of intractable cases of ozena are mentioned. [A.R.C.]

6.—Esophagoscopy.—Aronson was formerly a skeptic as to the value of the esophagoscope, but observation in the clinics Mikulicz and Rosenheim have convinced him of its value. A general history of the gradual development of esophagoscopy is given. He says the indications for esophagoscopy are: (1) To note the site and character of foreign objects within the esophagus; (2) to recognize local lesions, such as erosions, ulcers, etc.; (3) to note the character of an obstruction, if one is present; (4) to recognize new growths, benign and malignant; (5) to recognize a diverticulum, though this is not easy; (6) for differential diagnosis between organic and functional conditions of the esophagus; (7) last, but most important, for therapy, such as the extraction of foreign objects, local treatment of ulcers, erosions, etc. Among contraindications may be mentioned nervous patients, debility, patients with short thick necks, marked emphysema and dyspnea, myocarditis and uncompensated heart lesions, aneurysm and arteriosclerosis, kyphoscoliosis, liver cirrhosis with tendency to hemorrhages, acute inflammation of the esophagus. [A.B.C.]

7.—Indications and Contraindications for Prostatectomy.—L. Bazet holds that reaction is properly taking place against prostatectomy. This is due to too indiscriminate operation in the past. In properly selected cases the operation is fully indicated and when done the perineal route is inferior to none. In the first place all the combined methods for determining the size and character of the prostate should be employed. Mere rectal or combined rectal and abdominal examination is not sufficient. The metallic explorator, the cystoscope, the alivory explorator, the bicoudee sound, etc., should be employed. Should the prostate be found enlarged

and the symptoms are only dysuria and nocturnal frequency prostatectomy should be postponed. But if there is acute retention then he believes prostatectomy is indicated. Should, however, the prostate be small he would still probably wait. When the patient has reached complete and chronic retention and entered on catheter life, operation is always indicated unless there is some strong contraindication. In the stage of chronic *incomplete* retention he would operate if the prostate is large. But it must be remembered that among these cases are the greatest number of failures. Among the contraindications are mentioned great age, debility, infection, nephritis, etc. [A.B.C.]

CLINICAL MEDICINE

DAVID RIESMAN A. O. J. KELLY

REVIEW OF LITERATURE

Cryoscopy in Children and Adults.—The cryoscopic method is a practical application of a physical law which states that the more solid particles a solution contains, the lower is its freezing point, and *vice versa*. This cryoscopy of the urine furnishes valuable information as to the excretory activity of the kidneys. E. J. Giudes[1] has studied the cryoscopic conditions in children and in adults suffering from nephritis. He found that in children of 2 to 13 years the "larger depression" of the urine, that is its freezing temperature relative to molecular concentration gives a lower average figure (1.20 to 1.30) than in adult persons (1.30 to 2.30). The relation of total saturation to the percentage of sodium chlorid is nearly the same as in adults. The sodium-chlorid equivalent averages 10–20 in children, being lower than in later life. Bouchard's quantity equals 2,000–3,000 in children, while in adults it is 2,000–2,500. These cryoscopic magnitudes are subject to considerable daily variations in young children. Speaking of cryoscopy in Bright's disease. The author regrets that the method does not allow of definite conclusions as to the state of the diseased organs. Nevertheless, in renal surgery cryoscopy of the blood is being utilized with success. If, for instance, one kidney is diseased and the blood shows normal cryoscopic data, then the other kidney must be healthy, and the like. [L.J.]

The Causation of Tuberculosis in Children.—C. Price-Jones[2] says it is convenient to study the varieties of tuberculosis under 3 groups—pulmonary, alimentary, and general. He states that the facilities for infection by the human bacilli tuberculosis is much greater than for infection by the bovine or other varieties, and that it is possible that all cases of alimentary infection are by the human variety of the bacillus. To decide whether a child is ever infected by the bovine or other varieties contained in swallowed matters passing through the alimentary tract he has begun the bacteriologic study of tubercle bacilli from every case of undoubted alimentary tuberculosis. Regarding the frequency of this variety he quotes many statistics. In the East London Hospital for Children, 55 consecutive postmortems revealed 21 cases of tuberculosis, of which six were undoubtedly alimentary in origin. He believes that about 25% of all cases of tuberculosis in children in England are primarily alimentary. In America the percentage appears to be much less. It is desirable that the bacillus causing alimentary tuberculosis should be isolated and studied to determine (*a*) whether this is always the same organism, (*b*) whether it is identical or not with the organism of pulmonary tuberculosis, (*c*) what relationship it bears to the organism found in the milk from a cow with a tuberculous udder, and (*d*) to the other socalled varieties of the tubercle bacillus. This work is being done on the 6 cases in question, and the results are to be published later. [A.G.E.]

Suggestions for Reform in the Clothing of Infants.—K. Assmus[3] finds fault with the present method of dressing infants, which is a custom handed down to us which time has not reformed. He considers the different parts of the body insufficiently protected by it, the movements of the child interfered with, frequent changes are necessary because of the baby soiling himself, etc. He suggests instead a dress made up of an outer jacket closed all around the child's body, and a sack like a pair of pantaloons which are buttoned to the jacket; beneath these the body is covered by a shirt and a diaper having a detachable pocket—this is to hold an absorbent substance. The most useful substance in his opinion is turf moss, as it absorbs large amounts of fluids, at the same time destroying their odors. With this system of dressing, a healthy child need only be dressed twice daily, and as the system is inexpensive, it is certainly very suitable for the lower classes. Experience has taught him that skin irritations do no occur nearly as frequently with it as with the old system, and he also considers it the more hygienic of the two. [E.L.]

Tetanus with Hypoglossal Paralysis Cured by Subdural Injections of Behring's Antitoxin.—A. Holub[1] reports a case of tetanus occurring in a boy 10 years old, following an injury to the temporal region which became infected in 2 days. The symptoms of tetanus developed on the third day. On the seventh day there was general spasm. The lower part of the face was paretic; there was marked trismus. The tongue was pressed against the front teeth, but there was no deviation. The internal organs were normal; the reflexes were exaggerated; there was spasm of the cervical, pectoral and abdominal muscles. The upper extremities were relaxed, but the legs were rigid. The slightest external irritation produced typical tetanic convulsions. There was slight difficulty in swallowing, but no salivation. The pulse-rate and the respirations were increased. The abscess was cauterized, and 10 cc. of Parke-Davis's serum and .005 gm. of morphin injected. On the sixth day of the disease Behring's serum was injected between the fourth and fifth lumbar vertebra after the removal of 20 cc. of the cerebrospinal fluid. There were given in all 8 injections, extending over a period of 2 weeks. The patient recovered. The tongue, which at first showed no deviation, on the eleventh day of the disease was pushed to the left. About a month after recovery there suddenly developed pains in the lumbar region and the left leg, and slight fever. There was some tenderness over the site of the injections, and movement of the spine was interfered with. Kernig's sign was present on both sides. These symptoms disappeared by degrees in 3 days, and a second attack occurred on the fourth day, when there was also some bladder trouble. At the end of 3 days the symptoms again subsided, and there began an afebrile period extending over 4 weeks, in which the patient's condition was undisturbed, and during which the tongue returned to its normal position. Two months later the patient complained of sensitiveness to pressure and hyperesthesia of the skin in the ischiatic region. Holub believed the infection was a mixed one. The staphylococcus was found, but no Nicolaïer bacillus. He believes that there was a traumatic irritation of the meninges in consequence of the repeated lumbar punctures. The literature has been exhaustively studied. [J.H.W.R.]

GENERAL SURGERY

MARTIN B. TINKER
A. B. CRAIG C. A. ORR

EDITORIAL COMMENT

Varicocele.—It is well known that varicocele of greater or less extent exists in many young men. The etiologic factors usually ascribed are relative youth, sedentary life, constipation, relaxed animal fiber, etc. The patient often entertains needless fears of testicular atrophy and sexual impairment, and quacks and charlatans are wont to use the knowledge of the condition as a means for replenishing their exchequer. Varicocele may rarely cause serious atrophy of the testicle, and frequently the testicle on the affected side is some smaller and softer than its fellow, but serious impairment of the sexual function from this cause must be rare indeed. Statistics show that bilateral varicocele exists in about 8% of all persons afflicted with this condition, and that of the unilateral cases only about 8% appear on the right side. The vastly greater frequency on the left side is

[1] Russki Vratch, May 24, 1903.
[2] The Practitioner, August, 1903.
[3] Deutsche medicinische Wochenschrift, March 5, 1903.

[1] Wiener klinische Wochenschrift, April, 1903, p. 500.

ascribed to various anatomic conditions, such as pressure from the sigmoid flexure upon the left spermatic vein; increased volume of blood in this vein from the colic branches; the entrance of the left valveless spermatic vein into the left renal vein at a right angle, etc. Generally the wearing of a suspensory is sufficient to relieve any pain or dragging sensation in the affected testicle. Occasionally, however, operation is justified in case of small varicocele, on account of the hypochondriac tendencies of the patient. Operation is of course indicated when the varicocele assumes undue proportions. The 3 operative measures of established usage are: Subcutaneous ligation of the veins; ablation of a portion of the scrotum for the purpose of shortening that pouch and thus supporting the testicles; and the open scrotal incision. The last is the safest of these procedures and is the one usually employed. It appears, however, that in the practice of army surgeons in the United States a method different from any of these is being used to a considerable extent and with satisfaction. A circular was sent out from the Surgeon-General's office early in 1901 calling attention to the practicability and safety of the suprapubic operation for varicocele, and since then this method has been employed in a good many instances by army surgeons. In a recent article Thornburgh[1] reports having operated upon 33 army recruits in which the suprapubic method was employed. Mention is also made of 44 other instances in which this method was employed by other army surgeons with satisfaction. Briefly the operation consists in making a 3 cm. incision, extending through the skin and deep fascia, whose center is over the external ring of the affected side, parallel to Poupart's ligament. The cord is exposed, the vas dissected free to near the testicle, the latter together with the enlarged and tortuous veins, is brought up into the wound by gentle traction. The veins are ligated in two places with No. 3 cumolized catgut, the intervening segment of veins resected, and the cut ends approximated as in the open scrotal incision. The deep structures and skin wound are approximated with No. 1 cumolized catgut. Thornburgh had slight suppuration in one instance and this he attributed to the use of chromic catgut which was not readily absorbed and caused irritation. In army practice the recruit is operated upon when the varicocele is as large or larger than the testicle of the sound side, otherwise operation is not deemed necessary. The advantages claimed for the suprapubic site are more certainty of disinfection, lessened liability to stitch abscess and other infection, more favorable site for the application and retention of an aseptic dressing, and lessened probability of sinus formation.

REVIEW OF LITERATURE

Myosarcoma of the Stomach.—Moser[2] reports in detail the clinical symptoms and pathologic findings of 3 cases of myosarcoma of the stomach. All of them were operated upon, but in only 1 case can it be said that a cure followed the operation. A considerable portion of the stomach had to be removed with this operation, but 6 months afterward there were apparently no bad results remaining. Only 4 other similar cases were found by him in searching literature. [E.L.]

Riedel's and Kehr's Views Concerning Gallstone Surgery.—Kehr[3] does not operate on every case of acute cholecystitis as soon as diagnosed, but rather lets himself be guided by the degree of inflammation, the tenderness and size of the mass, the state of the peritoneum, etc.; he does not consider the size of the stone of much importance, but rather the degree of the infection and the symptoms of obstruction. He has seen many grave cases from small stones. In every case in which he operates, however, he examines the deep biliary passages, as many times a later biliary obstruction is thus prevented. He insists upon early operation in the case of obstruction of the bile ducts, especially where this has reached the chronic stage; an operation is necessary from the moment when the stone has entered the bile duct. He also differs from Riedel, who closes his gallbladder and bile-duct operation. Kehr insists upon draining every such operation, whether aseptic or infected. Many apparently aseptic cases, even though the bile be clear, are markedly septic. Secondary hemorrhage, escape of bile, and other conditions may arise, which can immediately be diagnosed in a drained wound. [E.L.]

[1] Boston Medical and Surgical Journal, August 27, 1903.
[2] Deutsche medicinische Wochenschrift, February 19 and 26, 1903.
[3] Münchener medicinische Wochenschrift, April 28, 1903.

GYNECOLOGY AND OBSTETRICS

WILMER KRUSEN FRANK C. HAMMOND

EDITORIAL COMMENT

Treatment of Mammary Cysts.—The treatment of cysts arising in the female breast, often more or less closely related in time to the menopause, but which may develop at any period after the age of 33, is a serious question to surgeons. The pathology of this condition, which is variously known as cystic involution, cystic degeneration, chronic cystic mastitis, or by one of several other names, is fairly well understood. The cysts are formed by the dilation, usually followed by coalescence, of the acini of some of the gland lobules. They vary in size from purely microscopic to those that are 2 or more inches in diameter and contain a clear, transparent or slightly colored fluid. Accompanying them is a conspicuous increase in the connective tissue of the gland. The differential diagnosis between a solitary, deep-seated cyst, tense with fluid, and a solid tumor is not infrequently a difficult matter, unless, as advised by Robert Abbe,[1] every doubtful tumor is pierced with an aspirating needle. In the case of multiple cysts the diagnosis is comparatively easy. Given the diagnosis of cystic breast there is a divergence of opinion as to the treatment to be adopted. Broadly speaking, some surgeons look upon the condition as wholly benign, while others believe it to be potentially malignant. Hence the treatment varies from aspiration, incision, and cauterization, excision of the cyst, or aspiration and injection of carbolic acid or iodin on the one hand to mammary amputation on the other. Abbe uses simple aspiration, and reports the cure of 41 cases thus treated during the past 8 years. How many of these cases were seen within the last few years, and hence have been under observation for comparatively a short time is not stated. Granting, however, that all are of sufficient duration to warrant calling them cured, the histologic findings in a number of reported cases of mammary cysts would seem hardly to justify his statement that the patient can be told she is well when the cyst is aspirated. The findings referred to are the evidence of malignant change in the cysts. J. C. Renton[2] reports 2 cases of multiple cysts in both of which cancerous degeneration of one or more of the cysts was found. The axillary lymph-nodes was removed in both of the cases, and the patients have remained well for 3 and 4 years. Renton emphasizes the importance of early operation in any patient over 30 years of age. A single cyst may be removed, and if examination shows it to be malignant, the breast can then be amputated. When multiple cysts exist, he believes that the whole breast ought to be removed. Greenough and Hartwell,[3] in a study of 30 specimens, found 3 in which the proliferated epithelium of a number of the cysts had undergone transition into adenocarcinoma. The writer has personally examined a specimen in which a scirrhous carcinoma clearly originated in a cyst. Other instances of malignant transformation could be cited. Which cysts will remain benign and which will become malignant? No one can tell. Considering the very few ultimate cures in cases of mam-

[1] Medical Record, August 15, 1903.
[2] British Medical Journal, April 11, 1903.
[3] Journal of Medical Research, June, 1903.

mary cancer, any condition that is known ever to develop into cancer should be looked upon with the greatest distrust. It is no small affair needlessly to amputate a breast, but until a cure for cancer is discovered, earlier operation, in the "precancerous" stage, if possible, is the only hope of lowering the present mortality.

REVIEW OF LITERATURE

Shortening the Round Ligament.—W. Alexander[1] considers that the most essential points of his operation are sometimes left out by other surgeons. The deep layer of the superficial fascia is sometimes mistaken for the aponeurosis of the external oblique. When in doubt, one should go deeper, for when the latter is really reached it is unmistakable. This should be aimed at outside the ring. When found, the structures over it should be removed so as to expose the canal and external ring. Sometimes the ligament is seen lying over the lower pillar. Sometimes it is necessary to cut the transverse fibers of the ring when the ligament bulges out. When freed it should be pulled out gently with the fingers, slipping one over the other so as to grasp it as near the canal as possible. In only 3% or 4% of cases is the ligament too frail to permit this. Alexander does this operation in the majority of cases for retroflexion and it is essential that the uterus be first straightened and then maintained in this straight position until healing has taken place. To this end he inserts a stem and Hodge pessary, the patient being kept on her back for 3 weeks, the stem being removed before she gets up. By means of the Hodge, the retrouterine ligaments become permanently shortened through relaxation. This should be retained for 2 or 3 months. The patient should be seen a week after its removal and if the fundus can be felt through Douglas' pouch it should be reinstated and kept there some months longer. The accident that requires to be most carefully watched is a miscarriage after operation. Confinements do not generally produce so much trouble. If there are adhesions the author first performs vaginal celiotomy, breaks these down with the finger and straigthens the uterus until brought into anteversion. This adds to the length, but not to the gravity of the operation. [H.M.]

Opitz's Diagnosis of Abortion from the Changes of the Uterine Glands.—Some time ago Opitz described certain changes of the glands of the uterine mucosa, and as he found them in the post-abortion curetings of 40 patients out of a list of 140 he considered them as being absolutely indicative of abortion. These changes consisted of increase in the number of epithelial strata, luxuriant proliferation into the lumen, a certain indistinctness in the staining of the nuclei and their contours. L. Seitz[2] has examined the curetings of 2 women, one of 31, who had never borne children nor aborted; she had suffered for years from bilateral gonorrheal adnexitis, and had menstruated regularly even just before the curetage; the other, a woman of 45, who had menstruated 21 days before the operation and had not had sexual relations since. In both, therefore, conception is excluded with positiveness, but in both cases there was found a picture identical to that described by Opitz. Seitz believes them diagnostic of a rare form of hypertrophic glandular endometritis, and warns against making a diagnosis of abortion by their presence alone. He does not consider them nearly as important as the presence of chorionic villi. [E.L.]

Morphium-scopolamin as an Anesthetic in Gynecology.—Physicians are constantly in search of an anesthetic which will render operations painless and yet avoid the nausea and vomiting so often following the use of ether or chloroform. Schneiderlin and Korff, with this object in view, have experimented with morphium-scopolamin, and recommend its use. S. Flatau[3] reviews much of their work, gives tables of comparison of the results obtained with different anesthetics, and concludes that for the generality of physicians for the purposes of operative surgery, and especially for the obstetrician, morphium-scopolamin as an anesthetic is unsuitable and dangerous. [W.K.]

[1] Medical Press and Circular, April 29, 1903.
[2] Zeitschrift für Gebürtshülfe und Gynecologie, 1903, xlviii, 53.
[3] Münchener medicinische Wochenschrift, July 14, 1903.

TREATMENT

SOLOMON SOLIS COHEN
H. C. WOOD, JR. L. F. APPLEMAN

REVIEW OF LITERATURE

Treatment of Laryngeal Tuberculosis.—Castex[1] directs that a patient attacked with laryngeal tuberculosis shall not use the voice; this is obligatory. During the first stage of the disease, hot compresses or hot flannel binders should be applied to the front of the neck and renewed frequently. Tincture of iodin is less useful. Vesicants are excessive. Croton oil has been used with advantage, a single application to the front of the larynx being all that is needed. Care should be taken not to allow it to spread over a considerable area. Croton oil should not be used in women; the pustular eruption produced by it often leaves cicatrices, beside being uncleanly. The laryngeal mucous membrane may be sprayed with one of the following solutions:

Sodium benzoate	3 gms.	(45 gr.)
Distilled water	100 cc.	(3½ oz.)
or		
Carbolic acid	1 cc.	(15 m.)
Glycerin, Distilled water, of each	500 cc.	(1 pt.)
or		
Menthol	1 gm.	(15 gr.)
Gomenol[2]	10 gms.	(2½ dr.)
Alcohol, 90%	70 cc.	(18 dr.)
Distilled water	150 cc.	(5 oz.)

Spraying may be repeated 2 or 3 times a day for 10 to 20 minutes. During the second stage, direct applications, intralaryngeal injections and insufflations are useful. M. Leduc employs the following powders by insufflations:

Diiodoform	8 gms.	(2 dr.)
Cocain hydrochlorate	0.06 gm.	(1 gr.)
or		
Diiodoform	8 gms.	(2 dr.)
Morphin hydrochlorate	0.03 gm.	(½ gr.)
Cocain hydrochlorate	0.06 gm.	(1 gr.)

The diseased area may be touched with an 80% solution of lactic acid, or a 20% solution of gomenol in sterilized olive oil every 2 or 3 days. During the third stage of the disease it is necessary to soothe the patient. Castex recommends the following gargle, 1 teaspoonful of which is added to half a glass of distilled water.

Cocain hydrochlorate	2 gms.	(30 gr.)
Morphin hydrochlorate	1 gm.	(15 gr.)
Antipyrin	10 gms.	(2½ dr.)
Neutral glycerin	60 cc.	(2 oz.)

[L.F.A.]

[In my experience the best combination of powders for insufflation into a tuberculous larynx, especially when there is painful ulceration, is:

Orthoform, Anesthesin, of each	1 part.
Suprarenal substance	2 parts.
Iodoform	2 parts.

Topically, a mixture of guaiacol (25%), menthol (10%), olive oil (65%) is often useful. Sometimes markedly good results follow the topical application of diluted formaldehyd-water (1% to 10% of the 40% solution of commerce, in therapeutic saline solution). Thorough cocainization is a necessary preliminary. S.S.C.]

Galvanocaustic Treatment of Prostatic Hypertrophy, after Bottini.—K. Vogel[3] publishes the histories of several patients operated upon with the galvanocautery with full and empty bladders. The first, a man of 71, died a half-hour after the operation without any apparent cause. His bladder had been filled with boric acid, and examination revealed that the incisions were very superficial, which was most likely due to the cooling of the knife through the liquid. The second patient was operated upon twice, the first time with full bladder without improving his condition, the second time with an empty bladder. Acute peritonitis was followed by death 48 hours

[1] Journal des Praticiens, Vol. xvii, No. 23, 1903, p. 361.
[2] Gomenol is a terpinol derived from melanlenca viridiflora.
[3] Deutsche medicinische Wochenschrift, March 19, 1903.

after the operation. The prostatic incisions were found deep enough, but evidently while arranging the knife for the prostate within the bladder, one of the natural folds of the posterior wall of the bladder had been caught and cut through at the same time. Vogel, therefore, recommends filling the bladder with air or with fluid; the latter could be permitted to run off after the knife is in position. [E.L.]

FORMULAS, ORIGINAL AND SELECTED.

Formalin Inhalation in Pulmonary Tuberculosis.—Carl Spengler[1] advises formalin inhalations to disinfect cavities in pulmonary tuberculosis and fetid bronchitis. He prepares a solution containing

Ether	75 cc.
Absolute alcohol	20 cc.
Formalin	5 cc.

Ten drops of this are placed in a tumbler, and about 10 or 12 inspirations made from it, the mouth being removed from the glass for expiration. The first inspirations should be superficial, the latter ones deep. The inhalations are made every other day at bed-time, and intermitted after a fortnight to be resumed in a few days and continued as before. [S.S.C.]

THE PUBLIC SERVICE

Health Reports.—The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended August 29, 1903:

	SMALLPOX—UNITED STATES.	Cases	Deaths
California:	Los Angeles....Aug. 8-15	1	
	San Francisco....Aug. 8-16	1	
	Sacramento....Aug. 1-8	1	
Colorado:	Denver....July 11-25	10	
Illinois:	Belleville....Aug. 15-22	1	
	Chicago....Aug. 1-22	28	2
Louisiana:	New Orleans....Aug. 15-22	1	
		Imported.	
Massachusetts:	Fall River....Aug. 8-22	9	
	Taunton....Aug. 1-22	5	
Michigan:	Detroit....Aug. 8-15		1
	Grand Rapids....Aug. 15-22	1	
	Port Huron....Aug. 8-22	3	
Minnesota:	Minneapolis....July 27-Aug. 3	1	
	In 7 counties at 11 localities	29	1
Missouri:	St. Louis....Aug. 15-22	4	
Nebraska:	Omaha....Aug. 8-15	2	
New Jersey:	Hudson County....Aug. 16-23	1	
Ohio:	Cleveland....Aug. 8-15	1	
	Dayton....Aug. 8-22	3	
	Hamilton....July 11-18	1	
	Should have been reported July 6.		
	Toledo....Aug. 8-15	1	
Pennsylvania:	Allegheny....Aug. 10-17	2	
	Pittsburg....July 25-Aug. 22	135	31
		1 imported.	
	Scranton....Aug. 8-15	1	
West Virginia:	Wheeling....June 1-30	9	3
Wisconsin:	Milwaukee....Aug. 1-8	3	3
	SMALLPOX—FOREIGN.		
Austria:	Prague....July 18-Aug. 8	8	
Belgium:	Antwerp....July 26-Aug. 8	5	2
	Brussels....July 26-Aug. 8		3
Brazil:	Rio de Janeiro....July 12-26		13
Chile:	Amtofogasta....June 1-30	5	3
China:	Shanghai....July 7-14	1	1
Colombia:	Bocas del Toro....July 28-Aug. 4		1
Germany:	Bremen....July 26-Aug 1	1	1
		Emigrant.	
Great Britain:	Birmingham....July 26-Aug. 8	3	1
	Dublin....July 26-Aug. 15	1	1
	Dundee....July 18-Aug 8	4	
	Leeds....July 26-Aug. 8	11	3
	Liverpool....Aug. 1-15	13	3
	London....July 26-Aug. 8	4	
	Manchester....July 26-Aug. 8	4	1
	New Castle-on-Tyne July 19-Aug. 8	13	3
	Nottingham....July 25-Aug. 1	6	
	Sheffield....July 26-Aug. 8	3	
India:	Bombay....July 1-28		24
	Calcutta....July 11-18		2
Mexico:	City of Mexico....July 18-Aug. 16	33	14
	Hermosillo....Aug. 11	Epidemic.	
	Magdalena....Aug. 11	Epidemic.	
	Tegucigalpa....Aug. 15	Present.	
Russia:	Moscow....July 18-Aug. 1	4	2
	Odessa....July 26-Aug. 1	1	
	St. Petersburg....July 18-Aug. 1	10	2
	Warsaw....June 20-July 18		8
Turkey:	Smyrna....June 21-July 19		16

[1] Deutsche med. Woch., May 7, 1903, p. 336.

	SMALLPOX—INSULAR.		
Philippine Islands:	Manila....June 13-July 11	9	
	YELLOW FEVER.		
Brazil:	Rio de Janeiro....July 12-26		4
Colombia:	Panama....Aug. 3-17	6	2
Costa Rica:	Limon....July 30-Aug. 13	3	4
Ecuador:	Guayaquil....July 18-25		1
		Sporadic.	
Mexico:	City of Mexico....Aug. 8-16	1	1
	Linares....Aug. 26	Epidemic.	
	Merida....Aug. 1-12	10	5
	Tampico....Aug. 8-15		14
	Vera Cruz....Aug. 8-15	53	15
	CHOLERA—INSULAR.		
Philippine Islands:	Manila....June 20-July 11	21	17
	Provinces....June 20-July 11	1486	1003
	CHOLERA—FOREIGN.		
China:	Hong Kong....July 8-15		1
India:	Bombay....July 14-28		2
	Calcutta....July 11-25		39
Straits Settlements:	Singapore....June 20-July 4		3
	PLAGUE—INSULAR.		
Philippine Islands:	Manila....June 13-July 11		19
	PLAGUE—FOREIGN.		
Africa:	Cape Colony....June 20-27	5	
Brazil:	Rio de Janeiro....July 12-26		2
China:	Amoy....June 11-18		840
		Estimated.	
	Funchau....July 8-15	Becoming epidemic.	
	Hong Kong....July 8-27	87	64
Egypt:	General....July 11-18	27	9
India:	Bombay....July 14-28		143
	Calcutta....July 11-25		17
	Karachi....July 12-26	2	1
Mexico:	Bagio....Aug. 17	3	
	Sequeros....Aug. 18	3	

Changes in the Medical Corps of the U. S. Navy for the week ended August 29, 1903:

BROWN, E. M., assistant surgeon, detached from the Naval Hospital, Newport, R. I., and ordered to the New York—August 22.

ELLIOTT, M. S, surgeon, detached from the New York and ordered home to await orders—August 25.

DRAKE, N. H., surgeon, detached from the New York and ordered to the Maine—August 25.

LEWIS, D. O., surgeon, ordered to the New York as fleet surgeon of the Pacific Squadron—August 25.

CURL, H. C., past assistant surgeon, detached from the Naval Hospital, Mare Island, Cal., and ordered to the New York—August 25.

DUBOSE, W. R., surgeon, detached from the Maine and ordered to duty in the Bureau of Medicine and Surgery—August 26.

MURPHY, J. F., surgeon, detached from the Monocacy and ordered to the Wisconsin—August 26.

THOMPSON, J. C., assistant surgeon, detached from the Chesapeake and ordered to the Naval Academy—August 27.

Changes in the Medical Corps of the U. S. Army for the week ended August 29, 1903:

GEER, First Lieutenant CHAS. C., now in the First Reserve Hospital, Manila, will be transferred to San Francisco for treatment in the general hospital.

HARVEY, Colonel P. F., will make not to exceed two visits to Fort Sheridan for the purpose of testing a new hospital corps drill.

MABEE, First Lieutenant J. I., will report at Vancouver Barracks for temporary duty.

BYRNE, Cololel C. B., will make a thorough inspection of the hospital affairs and sanitary conditions of Forts Snelling, Lincoln, Keogh, Yellowstone, Missoula, Harrison, Assinniboine.

HARRIS, First Lieutenant J. R., assistant surgeon, is granted leave for one month.

PORTER, First Lieutenant R. S., is detailed as a member of the examining board at Fort Leavenworth, vice First Lieutenant W. M. Smart.

MCCULLOCH, JR., Captain C. C., assistant surgeon, in addition to his present duties as attending surgeon and examiner of recruits in New York city, is assigned to duty as medical superintendent of the transport service in that city.

HEIZMANN, Colonel CHARLES L., assistant surgeon-general, and ARTHUR, Major WM. H., surgeon, are detailed as members of the board of medical officers appointed by paragraph 26 for the examination of candidates for admission to the medical corps of the Army, vice Brigadier-General Calvin De Witt, U. S. Army, retired, and Major Louis A. La Garde, surgeon, relieved.

BRECHEMIN, JR., First Lieutenant LOUIS, assistant surgeon, is relieved from temporary duty with the Third Squadron, Sixth Cavalry, in camp, Presidio, and will accompany the Second Battallion, Twenty-sixth Infantry, to Forts McIntosh and Ringold, and First Lieutenant J. R. Shook, assistant surgeon, is relieved from temporary duty with the Twenty-sixth Infantry, and will accompany the Third Battallion, that regiment, to Fort Brown.

WHITCOMB, First Lieutenant C. C., is granted leave for one month, with permission to apply for extension of one month.

TORNEY, Major G. H., is granted leave for one month, upon surgeon's certificate.

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PUBLISHED WEEKLY AT 1321 WALNUT STREET PHILADELPHIA BY THE AMERICAN-MEDICINE PUBLISHING COMPANY

VOL. VI, No. 11. SEPTEMBER 12, 1903. $5.00 YEARLY.

Errors in Reporting Unsuccessful Vaccinations.—We regret that lack of space prevents publication in full of the letters received in reference to unsuccessful vaccinations. The end desired can be gained by epitomizing the answers of our correspondents. Dr. Huddleston's letter, received just as we are going to press, appears in another column. The first conclusion one gathers is a feeling of surprise and inexplicability as to the case reported. That one should have been unsuccessfully vaccinated many times during the year, and then have contracted smallpox and died from it, is contrary to the experience of our correspondents. We allude to this phase in order to emphasize the frequency of the misreporting of facts. Such inaccuracy existed in the report of the case to which allusion was made in asking for the experience of others, and in which as many as 24 unsuccessful vaccinations were said to have been made during the preceding year. We relied upon the agreeing reports of the best, and least yellow newspaper accounts. The fact again proves how impossible it is for newspaper reporters to give a truthful account of any medical fact. Some are born liars, some achieve mendacity, and some undoubtedly have mendacity thrust upon them. Upon closer investigation we find that no definite facts can be given as to the special case, except that after a number, probably six or more, of unsuccessful vaccinations during the previous year, the patient died of variola. The error is of no direct importance to the purposes of our inquiry, and in these days of antivaccination only emphasizes the caution required in accepting reports. The question remains concerning:

The Rule as to the Repetition of Unsuccessful Vaccinations.—With characteristic clearness and accuracy, Dr. Billings, of Chicago, states the proper professional opinion. In his personal letter he says:

> It is my opinion, fortified by 20 years of experience, that successful vaccination may be secured in every individual who is not immune to variola. Failure to secure a successful vaccination in a nonimmune individual means, I think, either poor vaccine or imperfect technic on the part of the inoculator.

With this view our correspondents appear generally to agree. Among these is that experienced veteran and expert Dr. William H. Welch, of Philadelphia. "There must have been a bad virus used or else the technic was faulty," says Dr. Thomas R. Evans, of West Virginia. "One who has not had smallpox, or who has never been successfully vaccinated should not be considered immune, no matter how many times it has been attempted," writes Dr. F. H. Dillingham, of New York. Dr. Anders, of Philadelphia, says: "No person can be regarded as absolutely immune who has not been either successfully vaccinated or has not had a prior attack of smallpox, or does not enjoy natural immunity." Dr. Welch adds:

> There is no doubt, however, that in very exceptional instances there is found natural immunity. This was found to be true in the days of inoculation for smallpox. It has been estimated that 1% to 1½% of all persons enjoy natural immunity, but my own experience leads me to believe that this percentage is over estimated.

Repetition of excerpts expressing this opinion seems unnecessary. To sum up, again quoting Dr. Billings: "All are susceptible to vaccinia and variola. Rarely an individual may be immune to both, just as individuals are immune to other infections. All may be vaccinated with a good virus properly inoculated." Evidently there are important questions still unanswered. The first as clearly relates to the virus:

Is the Virus to Blame in Unsuccessful Vaccination?—Some of our correspondents are most outspoken in criticism of the quality of the virus, and seem to charge it with most of the fault when revaccination fails. Dr. Evans, in his letter refers to several physicians who have asserted that much of glycerinated virus sold was inert, Dr. Runyon, of Tennessee, going so far as to say that from 90% to 95% of the patients he vaccinated in one year, he now believes are liable to smallpox. Dr. Evans adds:

> That much vaccination is not protective does not argue against the honesty of manufacturers, or against the knowledge of the propagator of vaccine. So far as I know, the world is using vaccine which has been cultivated from a cow which was discovered to be affected with vaccinia in 1866, in Beaugency, France. If there has been a fresher supply it has not come to my knowledge. I see smallpox cases every day, and have been seeing them for months. These cases are literally herded with cows, and I never pass a cow in the village, or in its vicinity, that I do not scrutinize her udder with the hope of discovering vaccinia. Doubtless a fresh cow is needed after 37 years.

The intimation of this citation appears most pertinent. Who knows whence obtained, and the history and

methods of the transmission, of all the different viruses that are on the market? In a matter of such grave importance we, as a profession, and governments and health boards with us, have left the affair purely to commercial guidance, without a commission, a law, a rule, even without knowledge. It may be, especially with the best manufacturers, that these manufacturers have done the best that was humanly possible, and that no blame may be attached to them. It may not be so, however, in the case of some manufacturers. There seems to be here a sadly neglected professional obligation.

The faulty technic is spoken of by most of our correspondents as not seldom the cause of insuccess in vaccination. Dr. Evans alludes to "a little plan of insurance," consisting in holding the skin tense or taut during the abrading or incision, so that when the hand is removed the vaccine will be retained in the relaxed fold. Emphasis is also laid on the fact that, although a minor operation, it should be done upon recognized surgical principles, detailed clearly, and after adequate instruction. Some advise the celluloid shields, but we believe that the plan of an absorbent dry surgical dressing is usually preferred, and in vaccinating large numbers, especially the poor, it is undoubtedly the better plan. Subsequent inspection by the physician may not always be possible, especially in epidemic times, but warnings and instructions to report to a physician are imperative in case of complications. Whenever it is possible the operator should redress the wound himself once or twice, and thus insure a normal course in the healing. Altogether, the matter should be taken more seriously in hand than has too often been the rule, and carried on with more conscientious surgery. Even the "little operation" may be too much slighted.

Revaccination after a Previous Success.—The rule or principle of revaccination depends to some extent upon the previous success, the time that has elapsed since that, and the existing exposure to smallpox:

The larger the number of successful vaccinations, writes Dr. Dillingham, the greater the immunity; and it is rare for a person to contract smallpox who has had three successful vaccinations performed at different times. The date of the last successful vaccination must be considered. I have never seen smallpox contracted within four years after a successful vaccination, although such cases have been reported, and if a longer time had elapsed I would not rely on the immunity. The only safe rule for one who has not been successfully vaccinated within four years, and is exposed to the disease, is to be vaccinated after every exposure until successful. I have vaccinated a number of persons many times without success, and then, perhaps a short time later, would obtain a good result. It must be remembered that the glycerinated virus does not give as long immunity as the humanized. In my own case, I was vaccinated successfully in infancy and in 1873 with humanized virus; when I was an interne in a hospital in 1880 I was exposed to the disease and vaccinated myself four times unsuccessfully. I then made it a rule to be vaccinated after every exposure, and tried it more than 50 times before I was successful. Since then I have been vaccinated every year with two successful results.

Dr. Billings is of the opinion that

in revaccination after an earlier successful vaccination, there is no means of measuring the susceptibility of the individual to vaccinia or to variola, of which I know. I do not think the presence of a typical scar of a previous successful vaccination can be taken as an indication of the present nonsusceptibility of the person to vaccinia or to variola. One vaccination sometimes affords a lifetime immunity. In others revaccination is successful in one, two or more years. One attack of variola usually affords permanent immunity to that disease. Yet I have seen two people in a second attack and one person in a third attack of variola. We can formulate rules for the great majority, but for a few people we must admit an exception to the rule. Revaccination should be made every six or seven years, and oftener in the presence of smallpox.

The last element of vagueness and doubt that has not been eliminated by our correspondents refers to the new exposure to the disease. In the presence of a downright epidemic there is no such doubt, but the real shirking of the question is plainly seen, when it is remembered that in all large cities, and in many smaller communities, smallpox is endemic and one can never know when he is being exposed. The rule is agreed upon that with every known exposure, revaccinate. But how often when there may have been unknown exposure, in cities and wherever the disease is more or less endemic? Here we encounter a certain unscientific indefiniteness. A professional answer to this is still wanted.

The Principle of Revaccination.—One of our correspondents says that in ordinary practice the rule is, to try vaccination two or three times, and if without result the patient is told that he will probably not contract smallpox. Now if this is the ordinary custom it is plain that it is wrong. Without exception our correspondents say that although there may rarely be a naturally immune person, the two doubts as to the inert virus and the faulty technic must always make it impossible, in a given case, to determine if the patient belongs to this small class or not. The rule must therefore be to try a different kind of virus, glycerinated, or point, and that of a different manufacturer, and also to make a more thoroughgoing and surgically correct inoculation. Dr. Dillingham writes:

One who has not had smallpox or never been successfully vaccinated should not be considered immune, no matter how many times it has been attempted. A successful result should always be obtained, although in several instances I have had to vaccinate over twelve times before I succeeded. I have seen a number of children ill with smallpox, and some of them died, although vaccination had been performed several times without success, the family physician informing the parents that it would be unnecessary to try again, as the children were immune.

It is most doubtful, says Dr. Evans, if there is immunity to confluent smallpox on the part of any person who is unprotected, provided there is sufficient exposure.

If a revaccination, concludes Dr. Billings, is unsuccessful with a good virus properly inoculated, the individual is probably immune. In the presence of smallpox an unsuccessful revaccination should be repeated once, at least. This rule will, I think, give constant immunity to the great majority of individuals. Occasionally an exceptional individual will be found who is still susceptible to variola and to vaccinia, too, for reasons which our present knowedge of immunity does not reveal to us.

The difficulties and the doubts that remain are thus three, and refer to:

1. *The Inert Virus.*—The profession of all countries is equally at fault in lack of knowledge of the origin of

its viruses; in lack of control over the supply; in scientific tests and guarantees of the activity or reliability of the tubes and points supplied to the public by the nonprofessional manufacturers.

2. *The Natural Immunity.* — When it may be considered, in a given case, as established.

3. *The Acquired Immunity.*—How many unsuccessful vaccinations, and in what lapses of time, may it be held as beyond doubt?[1]

Antivivisectionist Journalism.—Besides the half-page of irrelevant matter introducing Mr. Leffingwell's irrelevant letter reproduced in another column, we have received from him the following personal note: "As a shareholder of *American Medicine*—attacked in its columns—I must ask the insertion of my letter accompanying without abbreviation *in any respect.*" (Italics author's.) We insert the letter exactly as desired, but for a very different reason from that suspected or suggested by the author. Because of the threat and the mistakenly supposed right of "a shareholder," we had at first decided to refuse it. We have received many such demands and commands which we have consistently refused, and to which we have proved disobedient. We print the communication in this instance solely to illustrate, as the letter admirably does, the ethics and logic of antivivisectionists as regards journalism, controversy, and the medical profession. The personal rights of a shareholder, of one who aided in establishing *American Medicine*, are no greater and no less than those of any other physician. In refusing or accepting communications, the editor does not know or acknowledge any such rights. Whatever seems to him to make for the good of medicine and the medical profession is the thing welcomed; whatever does not so seem, although demanded by any number of stockholders, would not secure admission. It was in defiance of that issue that a professional journal was wrecked. Upon its upholding, *American Medicine* was founded. So far as the present editorial control is concerned, the death of this journal would be preferable to any dictation of its policy, or of acceptance of articles, because one has invested money in its publishing company. To demand the insertion of an article because one owns shares of its stock is to show that one has no recognition whatever of the principles upon which this journal is based. It was founded precisely in the hope of extinguishing such wretched journalism.

Antivivisection methods of controversy are so well exemplified in Mr. Leffingwell's letter that we reproduce it, as said, to illustrate and to "point a moral." In our issue of August 22, page 296, we said that an English antivivisectionist journal, *The Abolitionist*, had published an article called "A Terrible Revelation," charging laboratory workers in medicine with "making use of the sight of dying animals to stimulate their lust." The spread of this malicious nonsense was aided by the foolishness of the editor of the *Contemporary Review* in printing an article by Miss Cobbe covertly supporting the charge of *The Abolitionist*. The sole support of *The Abolitionist* for its charge was the authority of an American, Dr. Leffingwell. We naturally called upon Dr. Leffingwell for facts in proof, and without the antivivisectionist's characteristic evasiveness and indefiniteness. With the exception of a line or two the entire answer is utterly irrelevant. The question at issue is ignored, and different questions discussed. It is simply impossible to get an anti to "speak to the question." For instance, in the reply there is a half-page (manuscript) as to the rights of a stockholder in *American Medicine*. This has no relation to the question. Another half-page says a man of honor will not answer the accusation that he murdered his grandmother. Several half-pages are wasted upon the question as to the advisability of the restriction of vivisection. This has no connection whatever with the subject. More space is given to the result of cruelty upon the mind of the cruel person. Admitted or denied, it is again not the issue up for discussion. Still more space is taken up with the *arrière pensée* of the writer, and his pleasure in the supposed conviction of another, an editor, of inconsistency of view as to vivisection. He is in error here, but denied or admitted, this again has nothing to do with the charge of sadism against English and American, or even against Continental laboratory workers.

Antivivisection ethics is thus brought square before the bar by the libel of *The Abolitionist*, of Miss Cobbe, and by the letter of Mr. Leffingwell. The English rabid makes the foulest slander against scientific men without the shadow of a fact upon which to base it, giving as his sole authority for the "terrible revelation" the name of an American physician. Called upon for proof this sponsor for the libel says he would not answer a calumny as to the murder of his grandmother, consumes much printer's space with irrelevant matter, and repeats the disgusting charge with indefiniteness and "insinuendo." He says Krafft-Ebing in Vienna says patients have existed who were sadists. What has that to do with the question? Absolutely nothing unless these patients were medical laboratory workers. And even then the relation of cause and effect would remain to be proved. He says a Dr. Blatin, in Paris, wrote the sentence, *En France on prolonge les vivisections, etc.* Well, does this Dr. Blatin say that definitely named scientific laboratory workers do this? If so, let us have the names, and all the data, and if Dr. Blatin so avers, then the issue is his (and not Mr. Leffingwell's), and he must be held responsible for the foul calumny. Does Mr. Leffingwell throw the *onus probandi* upon Dr. Blatin? He quotes book and page from Blatin, therefore has the book before him, and yet, while naming himself "Doctor," he leaves upon his professional colleagues the mud of the filthiest possible insult he has thrown at them, and does not even give us the facts of Blatin's charge, to whom it is supposed to refer, etc., and does not call upon Blatin for facts or substantiation of vague charges. How capital the illustration! But too much space, both elsewhere and here, has been allowed these sorry and perverse people. Their delight in malice and untruth and illogicality is so evident that further attention to their slanders would be to dignify

[1] The whole question has been admirably treated by Dr. Welch in Loomis' *Practice*, article "Vaccinia."

the controversy altogether too much. If they were really troubled about cruelty to animals they would be silent about laboratory work, which really prevents it, and laboratory workers, who are laboring with genuine earnestness to prevent it. We give warning that correspondents admitted to our columns must confine themselves strictly to the question at issue.

Uncinariasis, an Economic Question for Porto Rico.—The frequent appearance of references to uncinariasis in medical journals shows that the profession has at last awakened to the vital economic importance of this disease. First brought into prominence by the St. Gothard epidemic, it has been generally slighted, except in a few countries. We have been accustomed to look upon it in a pharisaic attitude as something far away and of no special interest to the United States. Various reports have come to us as to its prevalence in South America and the West Indies, especially Porto Rico, while Dr. Ch. Wardell Stiles, zoologist to the Public Health and Marine-Hospital Service, has unequivocally demonstrated its presence in the Southern States. In Porto Rico the first investigations on this subject were made in 1899 by Dr. Bailey K. Ashford,[1] United States Army. The article, completed elsewhere in these columns, and written by Drs. Ashford and King, is the result of careful study and further investigation in a series of 100 cases, chiefly in Ponce, P. R. They have had exceptional opportunities for observation, and special interest should be attached to their statement that leukocytosis is not, *per se*, a symptom of this disease. Boycott and Haldane,[2] of Oxford, Eng., have arrived at quite different conclusions. It may be that the difference between the Old World and the New World uncinaria gives clinical differences in the disease. In Porto Rico the disease is not one of sandy districts, as seems to be the general rule in the Southern States, but rather one of alluvial or clayey soil, being most prevalent in the mountainous interior. Probably the most interesting and important points of the article are the remarks of Drs. King and Ashford upon the significance of eosinophilia, and the percentage of hemoglobin. It seems almost incredible that this disease should have existed in Porto Rico for so many years (as undoubtedly it has) without its true nature being investigated by the local physicians. It is easily diagnosed and easily cured. Its prevention is somewhat more difficult, but is not hopeless. The Superior Board of Health, while under the supervision of Major George Groff, U. S. V., published and distributed to every physician and nearly all druggists, a pamphlet in Spanish, explaining clearly the nature and treatment of this tropical anemia in Porto Rico. But the seed seems to have fallen on stony ground, for as yet little or no effort has been made to either cure or prevent, and we have the spectacle of a naturally healthful island menaced with a severe check to the physical and moral development of its people, and, secondarily, a source of danger to the United States. The Porto Rican Government should take up this serious question. When the reports of the Superior Board of Health show nearly one-third of the deaths to be due to this cause, the time for talk is past. Four years are more than sufficient to waste in fruitless discussion and unwarranted indifference to an epidemic comparable to cholera in its results, if not in sensational rapidity. The prosperity of a country depends largely upon the laboring classes. We cannot expect much from a workman with only from 10% to 20% of hemoglobin and 1,500,000 to 2,500,000 red cells in his blood. All credit is due to the few who have begun treatment directed against the parasite, but the majority, and, unhappily, the municipal physicians, have given the matter little thought and with few exceptions no trial. Thymol and iron are cheap remedies, and more necessary than quinin, the consumption of which is large in Porto Rico. Opposition or indifference to this matter is a most unpatriotic attitude for those having the interest of the country at heart. The anemia is of undoubted parasitic origin, and the profession of Porto Rico will find itself alone against the best judgment and rapid advances of modern medicine should they fail to realize this demonstrated truth.

[1] New York Medical Journal, April 14, 1900.
[2] An Outbreak of Ankylostomiasis in England, Journal of Tropical Hygiene, January 1, 1903.

Arrested for Adulterating Foods, Wines, etc.—State Dairy and Food Commissioner B. H. Warren, has lodged information and asked for warrants to be issued against several prominent grocery firms and liquor dealers on the charge of selling adulterated blackberry wine, beer, etc. There promises to be a lively legal battle before the cases are settled.

Why the Madrid Medical Congress was a Failure.—Dr. Howard Kelly who recently returned from abroad has been quoted as giving the following reasons: "The Spaniards seemed to be at a loss to understand how to go about things in the right way, and the result was the nonsuccess of the congress. For instance, we were all housed a long distance from the meeting hall, so far away, in fact, that very few of us had any desire to make the journey, and on one occasion, when Professor Waldyer, one of Germany's most distinguished surgeons, spoke, I learned that the Professor's audience numbered exactly 21 persons. I was scheduled to deliver an address on the subject of gynecology in the same hall, but when I learned of Dr. Waldyer's experience I decided that the journey was too long and the prospective audience too meagre to justify me in living up to the program and I acted accordingly. Personally the Spaniards are all right, but otherwise they are far behind the times."

Defeat of the Opium Bill in the Philippines.—It is stated that the following cablegram, from prominent Manila newspapers, had much to do with defeating the opium bill in spite of its advocacy by Governor Taft.

"Roosevelt, President, Washington.

"Millions in revenue will not pay for debauchment Philippines by opium monopoly. Proposed action commission will increase and spread use opium among Chinese, natives, Americans. Proposition opposed by newspapers, clergy, business men, Chinese chamber of commerce, and over 10,000 Chinese petition against bill. Proposition indefensible as licensed prostitution; immoral, impolitic, unnecessary, dangerous. Will curse administration, impair American prestige, smirch national reputation. We appeal to you to save islands from multiplied evils engendered by opium monopoly. Save us from disgrace and degeneration that is certain to ensue. We appeal to you and through you to our country for deliverance from the injury, insult, and infamy certain to be foisted upon us through the establishment of an opium monopoly."

Reform in the Army Medical School.—It is stated that a new plan for admission to the medical corps of the army has been approved by the Secretary of War, and will go into effect with the class next year at the Army Medical School. The class this fall will enter under the same examinations as heretofore. The new plan for admission is to place on the list of eligibles for commission as assistant surgeons in the medical corps of the army, all graduates of the medical school who shall have passed the final examination with a mark of 80% or over. During their course at the school they will be paid $100 per month. The plan of admission calls for examinations, physical and mental, and candidates must be graduates of reputable medical schools, and have had at least 6 months' practice in hospital or the equivalent. The examinations are to be conducted under the supervision of a board of medical officers of the army, and candidates who pass the entrance examinations with a mark of 80% or over will be entered in the school. The scholastic year is from October 31 to May 1, and graduates will be selected in the order of their standing for commissions.

AMERICAN NEWS AND NOTES.

GENERAL.

Cuban "Plague" is Malaria.—A cablegram has been received from Dr. Carlos Finley, president of the Cuban Board of Health, stating that a number of cases of hemorrhagic malarial fever had been reported from Daiquiri, and that a commission had been sent to investigate. No disease of a contagious nature has been reported.

Negro 117 Years Old.—"Old Uncle Andy" Montgomery, 117 years old, the only negro ever owned by the State of Georgia, died September 1. He is said to have been born in South Carolina in 1786. There are many evidences to establish his great age. He was wellknown to many men in the North and East, where he traveled several times on lecturing tours. His oldest son, 80 years of age, and his youngest, 76 years of age, were with him when he died.

Whisky Germs in Milk.—The theory that germs of an appetite for liquor are imparted to Chicago babies through the medium of milk from cows that eat the refuse from Peoria distilleries has suggested itself to Assistant State Food Inspector R. M. Patterson. Mr. Patterson has just returned from Peoria, where he found 150 distillery-fed cows whose milk had been regularly shipped to Chicago. He enjoined the dairymen to sell no more milk from these cattle.

Priority in the Mosquito Theory in Yellow Fever.—In the *Revista de Medicina Tropical* for July, 1903, is published an article entitled "Transmission of Yellow Fever by the Culex Mosquito," by Dr. Charles Finlay. The history of the article, which was written in 1891, is given in a preliminary note by Dr. John Guiteras. It was sent to the *American Journal of the Medical Sciences* to answer a criticism by Dr. Sternberg, but was withdrawn because of delay in publication. Dr. Guiteras publishes the article as a contribution to the question of priority in the mosquito theory, which was raised by Dr. Carroll and others at the recent meeting of the American Medical Association. The paper, as well as the preliminary note, is in both Spanish and English.

Leprosy in Porto Rico.—News from Porto Rico states that acting Governor Hartzell has suspended Dr. Nater, superintendent of the leper colony, on the strength of the report of the acting director of charities. According to this report, chickens and pigs raised by lepers have been frequently sold in the city, and goats, rabbits, poultry, and dogs have been herded in the patients' quarters. The report also states that paper money circulated in the leper colony, and that this money may possibly be used in other parts of the island. There is danger that the disease may be carried to other portions of the country. It is significant to add that from another quarter comes the statement of B. H. Osterhout, director of charities of San Juan, Porto Rico, that leprosy is not spreading in the colony, and that there is no danger to the inhabitants of the island from this source. He states that there are about 20 lepers in buildings of heavy masonry. The possibility of contact with the outside world is impracticable, and the danger of contagion is reduced to a minimum. The lepers, he says, are given no money, and all employes are paid in checks.

Suicides Increasing.—The *Springfield Union* says: The number of suicides in the United States has steadily increased since 1890, the ratio to each 100,000 of population being 12.0 in 1890 and 17.0 in 1902. For a number of years Frederick L. Hoffman, an eminent statistician, has compiled a suicide record for the *Spectator*, New York, taking the same 50 cities each year. As these cities now have a combined population of nearly 15,000,000, the record may be accepted as conclusive for American urban life. St. Louis heads the list, in the degree of suicidal frequency for the past decade, the rate being 25.7 per 100,000 of population. Hoboken, N. J., comes next with 24.6; then Chicago, with 23.4; then Oakland, Cal., with 22.5, and New York, with 21.2. Boston's rate is 15.9, Worcester's 9.0, Holyoke's 6.2, and Fall River foots the list with 2.7. In these 50 cities the aggregate number of persons who took their own lives in 1902 was 2,452, or a population equal to a fair-sized town. The statistics show that the suicide rate is highest in cities which contain a very large proportion of German population or of allied nationalities, such as Bohemians, Russians, etc.

EASTERN STATES.

A Metal for Dentists.—From Bangor, Me., comes the news that James H. Duffy of East Machias, who claims to have discovered last year the secret, long lost, of tempering copper, brass, lead, and aluminium, now announces that he has invented a new dental metal similar to that now used for casting molds for rubber plates and for crown and bridge work. For these purposes a metal is required that will both heat and cool quickly, and Duffy claims that his metal, while possessing that quality, can also be produced at about a fourth the cost of the metal now in use. Local dentists have tried it, and samples have been sent to dentists in Boston and New York, who report that it is entirely satisfactory.

NEW YORK.

Condition at Ithaca.—Dr. G. A. Soper, special consulting expert of the State Health Department in connection with the Ithaca typhoid epidemic, has resigned that position. Dr. Soper says that typhoid would be stamped out at Ithaca if the local authorities would follow his instructions, but they have not even appointed a Health Board to succeed the officers who recently resigned.

Longevity Increases.—At the fourth annual Congress of Actuaries, which convened in New York, August 31, in a paper on "Improvement in Longevity" Charlton T. Lewis said there were 3 general reasons for the improvement in longevity—the better care children receive at present, the vast improvement in handling epidemics in the last few years, and the vast improvement in medical and surgical science.

To Fast and Work for 40 Days.—Stepney G. Playsted, 37 years old, of Brooklyn, began a 40 days' fast 2 weeks ago. Since that time he has lived daily on 1½ pints of water or less. His case is being watched by physicians. Playsted began his fasting for scientific purposes, believing that a man could exist on the nourishment of water and attend to his daily labor. When he began it on the morning of August 22 it was with the determination to excel a 3 weeks' fast, which he underwent last year. He is satisfied that he can demonstrate that a man living on water can retain all his physical strength as well as his mental power, besides going to work daily. Playsted has lost none of his nerve, though he has grown a trifle thinner in the face and lost some weight. While Playsted formerly accompanied his fellow workmen to lunch at noon, he now drinks his water and walks around the block until it is time to return to work. When at home he sips his glass of water and reads the papers.

PHILADELPHIA, PENNSYLVANIA, ETC.

Impure Foods in Pittsburg.—According to newspaper report Dr. Matson, city bacteriologist, asserts that formaldehyd is used in large quantities in milk sold in Pittsburg, and that the meats there are treated with anilin dyes to give them a fresh appearance. The State food authorities are getting active in Pittsburg.

Seeking Source of Typhoid.—Drs. Martin and Abbott, of the Bureau of Health, are making strenuous efforts to find the exact source of the present epidemic of typhoid. It appears singular that typhoid was most prevalent in the district which has lately received supposedly pure water from the new filtration plant. It is not believed by these officers that the water from this plant is responsible for the present condition. They expect to find the source elsewhere.

Milk Dealers in Pittsburg Organize.—News from Pittsburg says that 300 milk-dealers in convention here have perfected an organization which practically places the trade of Pittsburg and Allegheny in the hands of a combine. The organization will be known as the Milk Producers' Association of western Pennsylvania and eastern Ohio. Agents will be stationed at all shipping points, and in this city an agent will be placed who will have charge of selling the milk to the dealers. A condition of membership is that the members must ship only pure milk.

Impure Food-stuffs.—Division Pure Food Agent James Foust, who has charge of the inspectors in the western part of the State, has made over 100 informations against dealers in impure food-stuffs in the central part of the State. Foust says some of the late tricks of the impure food-dealers are wonderful. Lard is now made of cottonseed oil, while alleged cider vinegar is a compound of coal-tar products. Lemon extract can be made from coal-tar. Country sausage was made up at Reynoldsville from the meat of a horse, a mule, and several dogs thrown in.

Public Bath Association.—The Public Bath Association of Philadelphia was organized in 1897, and, after making a search of the city, Gaskill street, between Fourth and Fifth, was finally selected as the place most in need of public baths. This locality was densely populated with people of every nationality and of that condition in life sadly in need of encouragement in frequent ablutions. A combined bath house and laundry was erected and the nominal sum of 5 cents charged for soap and water and a shower bath, and in the laundry department a like sum was charged per hour for each individual for hot and cold water furnished, a tub, ironing board, irons, heat, etc. The institution was so well patronized and worked such a reformation in the locality that the association was encouraged to establish a similar bath house and laundry at 718 Wood street in 1902. This also met with unqualified success so far as patronage and good accomplished were concerned, and in August of the present year a third bath house and laundry was opened not far from the original one on Gaskill street. Of course the nominal sum charged does not meet the expenses of these institutions which are met by public contribution from liberal persons. The Bath Association of Philadelphia works in entire harmony with the city in its system of free baths.

More Rigid Measures for Disinfection against Smallpox.—Director Martin of the Health Department has instituted more rigid measures in disinfecting premises where smallpox has been. He requires that all persons who have been in a house where smallpox has been previous to fumigation, shall be brought to the Municipal Hospital, and, in a department for that purpose, their clothes shall be thoroughly fumigated and the persons themselves required to use an antiseptic bath. Premises are fumigated much more thoroughly than heretofor. In closets, under carpets, and out-of-the-way places in the house to be fumigated, are placed rags or clothing on which are placed a variety of germs which are difficult to kill, then the house is closed and fumigated, after which the agent in charge of this work is required to deliver the rags above mentioned to the city bacteriologist, who determine whether the germs have been killed. In case of failure the house is refumigated. It is hoped that in this manner every house in which smallpox appears will be thoroughly and completely disinfected.

Second Greatest Medical Library in the World.—In an interesting article contributed to the *Public Ledger* of Philadelphia by Dr. Frederick P. Henry, honorary librarian of the College of Physicians, it appears that the second greatest medical library in the world is possessed and controlled by the College of Physicians of Philadelphia, the largest being that of the Surgeon-General's office in Washington, D. C. The College of Physicians dates its birth from the minutes of the first meeting, which was January 2, 1787. At the last enumeration there were 67,243 volumes in its enormous collection. The library is not only open to every one, whether physician or layman, for consultation, but the Fellows have the privilege of taking one book to the number of "1 folio, or quarto, or 3 octavos, duodecimo, or bound periodicals" for a period of 2 weeks, and exceeding the time if the book has not in the mean time been asked for, for 2 weeks more. There is only one restriction with reference to nonmembers, namely, that they must present a card or note of introduction to the librarian from one of the Fellows of the college.

SOUTHERN STATES.

Gift to Science.—News from Lexington, Va., states that Dr. George H. Denny, President of Washington and Lee University, who has just returned from a trip to Chicago, announces that the widow and children of Cyrus H. McCormick have given a fund of $10,000 to the university, the proceeds of which are to maintain the new science hall. Prior to the death of Mr. McCormick he gave $20,000 to the university, and after his death, by his will, his trustees turned over to the university an additional $20,000.

Typhoid Fever Yearly Increasing in Baltimore.—A table prepared by Dr. Bosley showing the number of typhoid fever cases reported in the first 8 months of the last 5 years shows a steady increase in the number of cases each year. During these 8 months there were the following number of cases reported each year: 1899, 176 cases; 1900, 358 cases; 1901, 395 cases; 1902, 436 cases; 1903, 485 cases. The estimated increase of 7,000 in the city's population, per annum, in nowise offsets the great increase in the number of typhoid cases, so that undoubtedly this disease is steadily on the increase.

WESTERN STATES.

Sweat-shops to be Inspected.—It is stated that preparations are being made for the annual inspection of Chicago's 5,300 clothing factories by State Factory Inspector Edgar T. Davies and his 12 assistants. The list of "factories" includes every place in which clothing is made, among them being 3,300 sweat-shops. Special attention will be paid to violations of the new child labor law. It is said that 14% of the employes of the sweat-shops are under the age limit.

Willard Hospital in Chicago.—Directors of the Frances E. Willard National Temperance Hospital have decided to erect a $75,000 hospital in Chicago. The building will be the culmination of 19 years' work on the part of the directors, all women, and will crown the efforts to treat diseases without the use oi alcohol. The building will be 5 stories high, and one of the wards will be dedicated to the use of the Loyal Temperance Legion, a society of children. The staff of the hospital includes prominent members of 3 schools of medicine—allopathic, homeopathic, and eclectic.

Mortality of Vaccinated and Unvaccinated.—The Bulletin of the Chicago Health Department says: At the recent seventy-first annual meeting of the British Medical Association Dr. J. M. Mackenzie presented the results of his inquiry into the relation of vaccination to infant mortality and to certain infantile diseases. His study covered a period of 3 years, and his tables show that, taking the deaths from all causes for the period, among the vaccinated and unvaccinated, the vaccinated yielded a deathrate of 8.49 and the unvaccinated of 16.01, or nearly double the deathrate among the vaccinated. Table C shows that the deathrate from "convulsions" was 2.83 among the vaccinated, 10.67 among the unvaccinated, and the following are the rates for the 2 classes, respectively, in other diseases: Pneumonia and bronchitis, 36.83, 39.57; marasmus (wasting), 5.66, 39.57; meningitis, 3.50, 7.19; diarrhea, 14.16, 35.59; whoopingcough, 2.83, 7.19; hydrocephalus, 1.46, 3.59. The writer says: "Be it noted that I do not claim that vaccination keeps babies alive, but I suggest that the facts disclosed show it does not kill them." The statement is ultraconservative, for Dr. Mackenzie cites case after case in which the vaccinal process favorably modified whoopingcough, influenza, or the grip, measles, and other infantile diseases, and so did keep the babies alive.

Health Boards are to Act.—News from Milwaukee states that at a conference of State and provincial Boards of Health at Washington next month a set of rules probably will be adopted governing the embalming and shipping of bodies of persons dying from contagious diseases. The Baggage-masters' Association and National Funeral Directors' Association already have adopted these rules, and when the Health Boards have done so every Legislature in the country will be asked to adopt them. Authorities hold there is no danger if bodies are properly prepared.

FOREIGN NEWS AND NOTES

GENERAL.

Smallpox at Smyrna.—The Treasury Department has referred to the marine-hospital service a despatch from the consul at Smyrna, saying that smallpox is epidemic there among a population engaged in the hand picking of figs for the American market. Six deaths a day are officially reported, but the consul believes the actual number is 3 times as large. It is probable that orders will be issued forbidding importation for the present from that point.

Report of Government Bacteriologist at Hong Kong.—The first annual report of Government Bacteriologist Hunter was recently published in the *Hong Kong Gazette*. During 1902 the number of human postmortems was 2,816. In the same period bacteriologic examination was made upon 117,839 rats. Of these, 2,015 were found to be infected with the plague. Autopsy was made upon 149 bodies dead from beriberi. Bacteriologic examinations were unsatisfactory. Interesting statistics regarding the plague are contained in the report.

Female Sanitary Inspector.—The city council of Sydney, Australia, some time ago made the experiment of appointing a woman as sanitary inspector. Her duties consist in visiting and reporting upon all places of business where females are employed and supervises all sanitary conveniences for females in the city. Deaths from infantile diarrhea are also investigated and housewives instructed in sanitation. Results have amply proved the wisdom of the appointment. The incumbent recently took the gold medal awarded to the person passing the highest examination in the advanced sanitary course at Sydney Technical College.

Typhus Epidemic at Metz.—News from Berlin, under date of September 3, says: The epidemic of typhus at Metz, due to bad water, has reached an acute stage. The emperor has telegraphed to Prince Hohenlohe-Tangenburg, the stadthalter of Alsace-Lorraine, as follows: "Again, as last year, an epidemic of typhus has broken out among the civil population of Metz and is threatening the health of the garrison. It has its origin in the bad condition of the springs and the unheard-of state of the conduits, which state of affairs is due solely to the city administration of Metz, which is absolutely unable to decide what steps to take with regard to its water-supply. In spite of the urgent requests and protests from the commanders of the Sixteenth Army Corps, pointing to the danger that this situation presents to the army, the city has done nothing to remedy it. Such conditions can no longer be tolerated. In case of war they would be followed by a catastrophe. I ask your highness to put an end to this state of affairs by the strongest measures." Since the times of the Romans the mountain springs at Gorze have supplied Metz with its water. A water famine prevails at present in Metz, and the hotels are unable to satisfy their bare wants. The emperor's telegram to Prince Hohenlohe-Tangenburg has made a deep impression.

Meat-Eating Nations.—According to a London newspaper, people with large appetites have become the chief nations in the world, and the nature of the food consumed bears a relation to the character of the consumers. The contention is supported by showing that the nations which export goods are those whose people expend the most on foods. According to the report, the nations are ranked in the following order, in proportion to the amount which is expended per capita on foods: United States, United Kingdom, Germany, France, and Italy. The *Philadelphia Ledger*, commenting on the above, says: The American leads the world as a meat-eater, with 3 pounds a week; the Briton follows a close second, with a little more than 2½ pounds; the German consumes a little less than the Briton, and the Russian consumes 1 pound, while the Italian must, perforce, eke out his scant half pound with large supplies of macaroni, and black bread and garlic. The argument has a

plausible look, but let us not forget that the finest specimens of physical health and strength in the whole world, with the exception of one hardy savage tribe few in numbers, come from a spot in the Emerald Isle where the diet is potatoes and milk, chiefly skimmed, and black bread, and very little of any of them. And there is the sturdy Scot, who scarcely knows the taste of meat, but makes his way in all climes and under all conditions, though he springs from an ancestry that subsisted on oatmeal.

CONTINENTAL EUROPE.

Cod with No Livers.—It is stated, that the failure of the cod-liver oil crop for 4 years has caused the Norwegian Government so much concern that official bulletins have been issued about it. The failure is not altogether in the supply of cod, for about the same number are taken from the sea each year, but the cod that are caught lack nutriment. Most of them are half-starved, and do not weigh one-third as much as they should. Some of them are so thin that the livers (from which the oil is taken) are barely distinguishable. The coldness of the sea has killed the smaller fish on which the cod subsist. Hundreds of cod caught with lines are found to have been bitten by hungry seals. A bulletin recently issued by the Norwegian Government says: "The condition of codfish is worse than ever. They have no livers to speak of. It is now requiring 40,000 fish to make a barrel of oil. This is without parallel in the history of our fisheries." So far as the trade is concerned, wholesalers are compelled to replenish their stock on almost any terms demanded.

OBITUARIES.

Carl Maydl, died at his country home August 12, from heart disease, aged 50. He was professor of surgery at Prague, and for years has been an international character in the profession. During his early life he was assistant to E. Albert and accompanied that surgeon from Innsbruck to Vienna. His contributions on abdominal surgery, particularly subphrenic abscess, jejunostomy, and colostomy, have become classics. He had in preparation a manual on surgery, the first part of which has been published.

Philip W. Woolf, died at his home in New York, August 29, of apoplexy, aged 58. He was graduated from the Bellevue Medical College in 1868 and was at one time editor of the Boston *Evening Gazette*. He practised but a short time after which he devoted his time to literary work, having written several novels.

Emily R. Dobbins, died August 31, at her home in Philadelphia, aged 71. She was graduated from the Pennsylvania Medical University in 1857, and was said to be the first woman physician in this country. She practised in Madison, Ia., for a number of years.

Richard E. Brown, died at his home in Mount Holly, N. J., August 7, from heart disease, aged 63. He was graduated from the Jefferson Medical College, Philadelphia, in 1863, and was an army surgeon during the Civil war.

C. F. W. Myers, died September 1, at his home Paterson, N. J., where he had practised for many years. He was a member of the Order of Military Surgeons of the United States and was on the Brigade Staff of New Jersey.

Ira Ellis Caspar Wister Smith, died at his home in Palmetto, Ga., August 17, aged 61. He was graduated from the Atlanta Medical College in 1866 and had represented his home county in the Legislature for several terms.

Horatio F. Mintern, of Pendleton, Ark., died August 15, from malaria. He was graduated from the University of Little Rock in 1899 and was a member of the Arkansas Medical Society and the Little Rock Medical Society.

Henry deHaven Cameron, at Pony, August 31, after a long illness. He was 37 years old and was graduated from the New York College of Physicians and Surgeons. He was late surgeon of Troop C., N. G., N. Y.

Ephraim Bateman, of Cumberland county, died at his home in Cedarville, N. J., August 20, from paralysis, aged 73. He was graduated from the Jefferson Medical College, Philadelphia, in 1851.

William A. Boyce, died at the Protestant Hospital at Norfolk, Va., where he was resident interne, August 5. His death was the result of septicemia due to infection received while on duty.

Jonas Deisinger, died at his home in York, Pa., August 13, aged 70. He was graduated from the University of Pennsylvania, and was a member of the York County Medical Society.

Albert H. Brown, died at the City Hospital, of Augusta, Me., August 13, aged 23. He was graduated from the Jefferson Medical College, Philadelphia, in 1903.

Nathaniel L. Bunce, of Marshalltown, Ia., died in Los Angeles, Cal., aged 74. He was graduated from the Cleveland Medical College in 1851.

Z. Taylor Chritman, died at his home in Warwick, Pa., August 26, aged 64. He was graduated from the University of Pennsylvania in 1873.

Wharton W. Whitehead, died at the home of his father in Greenwood, Miss., August 31, aged 25.

SOCIETY REPORTS

CANADIAN MEDICAL ASSOCIATION.

The Thirty-sixth Annual Meeting Held at London, Ontario, August 25, 26, 27, and 28, 1903.

[Specially reported for *American Medicine*.]

[*Concluded from page 388.*]

Dr. Wishart, of London, operated in the presence of a large number of visitors at St. Joseph's, performing Halsted's operation on the mammary gland. At Victoria Hospital Dr. Hugh Ferguson, of Chicago, performed a thyroidectomy and Ferguson's operation for hernia. Dr. McGraw, of Detroit, did the preliminary steps of gastroenterostomy with the elastic ligature on 2 cases, both proving inoperable on account of advanced state of the diseases.

The address in gynecology to have been delivered by MATTHEW MANN (Buffalo) was read by title on account of the writer's unavoidable absence.

Medical Section.

The Country Doctor.—SPRAGUE (Stirling) showed the influence of surroundings and associations in developing sturdy independence of judgment and resourcefulness in the rural physician.

The Interrelations of Diabetes and other Constitutional States.—GEO. F. BUTLER (Alma, Mich.) This paper will be published in a future issue of *American Medicine*.

The Treatment of Inebriates.—ROSEBURGH (Toronto) asked the endorsation of the bill submitted to the Ontario Cabinet proposing legislation on this subject on the line of the Massachusetts probation system combined with medical treatment. The Association unanimously agreed to endorse the proposed bill.

Surgical Section.

Practical Considerations in Intestinal Anastomosis.—THEODORE MCGRAW (Detroit). This paper will appear in a future issue of *American Medicine*.

Thrombosis of the Femoral Veins Following Aseptic Laparotomy.—E. R. SECORD (Brantford, Ont.) reports a case of extensive venous thrombosis involving the left saphenous and femoral veins, following 2 weeks after an aseptic operation for double oblique inguinal hernia, with typically aseptic wound healing. The thrombosis occurred on the left side, where the less extensive operation had been done, where there was less handling of the parts and less hemorrhage, but where a truss had been more or less constantly worn for 12 years. The literature of the subject was reviewed, and the different etiologic factors advanced by each author considered. Seventy cases of the complication are collected, of which, after excluding those with infective conditions elsewhere in the body, 73% are shown to be dependent on operations which brought about conditions of lessened local tension. An attempt is made to explain how this factor acts, and the lines of treatment to be followed, both prophylactic and actual are indicated. The following conclusions are drawn: 1. No one etiologic factor is alone responsible for the occurrence of this complication. 2. The role of infection in otherwise noninfective cases does not appear to be important. 3. Conditions of sudden decrease of pressure dependent on the operation, probably have a causative influence.

Hour-glass Contraction of the Stomach. — HOWITT (Guelph) reported 2 cases with operation. One was complicated by gastric ulcer, the other by cancer. The former was permanently cured by the operation, the life of the other was rendered comfortable and prolonged 12 months.

The Address in Surgery.—A. H. FERGUSON (Chicago) delivered this. As an ex-Canadian as well as a distinguished surgeon his reception was most enthusiastic. His address will appear in a future issue of *American Medicine*.

Medical Section.

Amytrophic Lateral Sclerosis.—MCPHEDRAN (Toronto). This paper will appear in a later issue of *American Medicine*.

Internal Medication for Direct Remedial Effects.—AYLESWORTH (Collingwood) made a plea for the effacing of the divisions among the different schools of therapeutics. He stated that truths and errors were common to all three, and that fusion would be an advantage to all.

Surgical Section.

The relation between the practitioner and the specialist in regard to intranasal work was discussed by Dr. J. Price Brown, of Toronto. A case was exhibited in illustration of the subject.

Brain Tumor in a Man Aged 67 Years.—J. WISHART (London) gave a report of this case. The first symptoms appeared in December, 1901, when the patient had an attack of tremor and spasm lasting for 5 minutes, affecting first the left thigh, and extending down the leg. Up to October, 1902, he had five other attacks, one attack affected the whole left side of the body. When seen by Dr. Wishart, November 3, 1902, memory was impaired, speech distinct, ankle-clonus present on left side and knee-jerk on both sides, Babinsky's sign absent, pupils

and discs normal, pulse 89, temperature 99, specific gravity of urine 1,020. Operation: Trephined the right side of the skull over the leg center. Beneath the dura mater a tumor, feeling hard and osseous, was found and removed, measuring ½ an inch in diameter, afterward diagnosed by Dr. Neu as a psammoma. Patient recovered from the operation and improved mentally; by January the intellect was quite clear. Physically he made no progress. He was last seen May 14. His condition was one of great debility, but the mental condition was good. He died a few days ago. The prognosis in brain tumor is extremely grave. Victor Horsley says that only 6% of brain tumors are operable, and that of that number only a very small proportion recover. The ultimate fatal termination in this case was therefore not exceptional.

Dr. WISHART also exhibited a case of **dislocation of the elbow-joint treated by open incision.** Both bones were dislocated backward, and the lower end of the humerus fractured. He saw the case 4 months after the accident. The dislocation was unreduced and the fracture of the humerus ununited. He cut down and treated the joint by open incision. Result: The humerus has united, and joint movement fair. Pronation and supination are complete, flexion and extension are not quite complete.

Conservative Gynecology.—A. LAPTHORN SMITH (Montreal) thought that in many cases what was called "conservative gynecology" should rather be termed incomplete work; and that in no department of surgery was it more necessary to be thorough than in this. He has seen so many disappointing results in his own and in others' hands, from trying to make half an operation do when the condition present called for whole one, that he felt less and less inclined to risk the success of the operation and his own reputation by doing anything less than was necessary. In about a dozen cases he had been obliged to open the abdomen a second time to remove the other ovary which had appeared healthy at the first operation, so that after having treated a patient for at least a year by every possible local and general means without relief, and if her condition warrants an operation at all, he endeavors to obtain her consent to his doing what he thinks best for the complete success of the operation. If both ovaries are cystic or sclerotic he removes both. In about 20 cases he has left a small piece of the better ovary and 1 tube in order to keep up menstruation, and these cases so far have been satisfactory. Two or 3 have since become pregnant and several others have menstruated. In 1 case he adopted the suggestion of Dr. Howitt of Guelph, which was to scarify the thickened cortex of the ovary through to the stroma, when the tension is immediately relieved, and the incisions become open spaces. Although the space is filled up with exudation which eventually becomes scar tissue still it never compresses the ovarian nerve tissue so much as the sclerosed capsule of the ovary. He also thought there was a future for Dr. Robert Morris's suggestion to introduce a piece of healthy ovary into a slit in the back of the broad ligament and holding it there with a stitch. Dr. Morris says that every one of the cases on which he has tried this ovarian grafting has menstruated and one has become pregnant. The author was not in favor of ignipuncture on account of the cicatrix which always follows burns and which is especially dangerous when situated in tissue so rich in nerves. He has saved diseased tubes and repaired torn ones, and even left in the half of a tube after opening it up; but none of the cases turned out satisfactorily, and 2 died from infection of the peritoneum. He was in favor of leaving the uterus even when both tubes and ovaries have to be removed, because it helps to keep the arch of the pelvis supported, and beside it is useful for the purpose of suspending the fallen vagina and bladder. As he has observed, this latter condition following a number of operations for the removal of large pus tubes leaving a large space into which the uterus dropped, it is his custom in nearly every case to perform ventrofixation after removing the tubal abscesses. In vaginal hysterectomy he leaves the ovaries and tubes in all cases except those in which the uterus is the seat of advanced cancer. When a patient has many diseased conditions which can not be cured without an operation, he endeavors in every case to perform all the operations necessary at one sitting. With good nurses and well-trained assistants he had many times done dilation, cureting, repair of cervix, anterior and posterior colporrhaphy, removal of both ovaries and tubes, ventrofixation and removal of the vermiform appendix in an hour and 20 minutes. By tying all arteries before cutting them and the use of hemostats, not more than 4 ounces of blood need be lost, nor more than 4 ounces of A. C. E. mixture need be used.

Officers Elected.—Dr. S. J. Tunstale, of Vancouver, B. C., president; Dr. George Elliott, of Toronto, and Dr. Small, of Ottawa, were reelected secretary and treasurer, respectively. The attendance at this meeting registered 302, the largest attendance, with one exception, in the history of the Association. Vancouver, B. C., was selected as the next place of meeting.

Anthrax in Illinois.—Anthrax, which is dreaded by cattle owners, and is fatal in most cases if it attacks human beings, has been reported to the Health Department as having broken out in a herd of cattle on a stock farm near Palatine, in this county. The department has taken steps to protect the milk supply of Chicago, which comes from the region about Palatine.

CLINICAL NOTES AND CORRESPONDENCE

[Communications are invited for this Department. The Editor is not responsible for the views advanced by any contributor.]

IMMUNITY AGAINST SMALLPOX.

BY

J. H. HUDDLESTON, M.D.,

of New York City.

Immunity against smallpox can be acquired in 3 ways, by an attack of variola, by an attack of vaccinia, or by the introduction of the blood-serum of a vaccinated animal, collected 12 to 20 days after vaccination and used in amount equal to $\frac{1}{100}$ of the weight of the animal to be protected. This last protection has been demonstrated on calves and rabbits but not on persons. The protection so afforded is considerable but not complete, and as the amount of serum necessary is large, this method is impracticable for use in human beings.

The immunity conferred by variola and by vaccinia is of gradual growth and is complete. Completeness is not attained however, until the period of suppuration, about the beginning of the second week of vaccinia or the tenth day. Natural immunity is said to exist, and is probable, but is exceedingly rare. Vaccination of a pregnant woman rarely, if ever, confers immunity on the fetus. Destruction of the vaccine vesicles does not interfere with the production of immunity. Rarely a single vaccination gives immunity for life. Usually susceptibility to vaccinia returns at latest 7 to 10 years after vaccination, and the second vaccination may give immunity for the rest of the life time, or susceptibility may return again and again. Susceptibility can be tested only by vaccination, but before conclusions are drawn from a failure it should be remembered that the vaccine virus used may have been inert. Virus may be inert even when it is collected, and it may, though active at collection, become inert at any time during the first 3 years after collection. Usually virus maintains its efficiency for at least 3 months, but occasionally deterioration is unexplainably rapid, and as it is well known, the most active virus may be easily killed by heat. The best laboratories do not issue virus until its activity has been clinically demonstrated and advise against trust in virus more than 3 months old. That operative skill in vaccination is not unimportant is shown by the fact that a skilled vaccinator will regularly obtain a considerably larger percentage of success in revaccinations than an untrained man working with the same virus on the same class of subjects. No one with good virus should fail in a primary vaccination. Failure of active vaccine properly inserted means only that the person so vaccinated is at that time immune, but conveys absolutely no information about the condition a few months later. Susceptibility to vaccination returns frequently within 1 year from the time of a successful vaccination. It is well established by the records of institutions which require vaccination at entrance as well as by Fielde's experiments that it is not at all infrequent for a person receiving either a successful primary vaccination or a revaccination to be again successfully vaccinated within less than 12 months. Many instances are on record of successful vaccination after an interval of only 6 or 7 months and cases have occurred in which the interval has been as short as 3 months. These instances are of course simply in accord with what is known of the variable duration of artificially induced immunity against other diseases. Even variola does not always confer permanent immunity. Every child should be vaccinated at the time of election during the first year of life and should be revaccinated before beginning school life with its possibility from exposure. Every person, no matter at what age, should be vaccinated at a time of possible exposure to smallpox unless he has been successfully vaccinated within 3 months.

Anthrax in Delaware.—Farmers of Thoroughfare Neck, lower New Castle County, are alarmed over anthrax, which has broken out among their cattle. B. F. David and George Gardner have lost fine animals, and their carcasses were burned. It was thought that the experimental station had stamped out the disease.—[*Philadelphia Record.*]

DR. LEFFINGWELL REPLIES.*

To the Editor of American Medicine:—I am a little surprised to find myself the object of a virulent personal attack in the editorial columns of *American Medicine*, a journal which I helped to establish, and in whose future prosperity I have somewhat more than a common interest. My assistance in its foundation was solicited, I believe, on the ground that a medical periodical of a somewhat superior quality and character was in contemplation, to the support of which everyone interested in medical advancement might count it a privilege to contribute. Perhaps attacks of this kind upon those who helped to put *American Medicine* upon its feet, should be taken as evidence of its ideals in the way of rigid impartiality, and if it really conduces to success, perhaps I ought not to protest. But whether the spirit that inspires such attacks is one that will make an enterprise permanent may be regarded by some as a matter of doubt.

What is it, Sir, that you ask of me? You have stated that "in charging laboratory workers and physicians with sadism," some English antivivisection periodical has referred to "a terrible revelation" which I have made; and you proceed forthwith, accompanied by various expressions of contumely, to demand that I "categorically and absolutely deny" having made such charge, under the penalty of your stigmatization. Without producing one line that I have written, without quotation of a single word I have uttered, you summon me to your judgment-seat! Well, sir, there are accusations that no man of honor will stoop to deny; and this is one. As a member of the medical profession for 30 years, as an advocate for scientific experimentation upon animals under the limitations which the editor of *American Medicine* has proposed and upheld, a believer in its utility, an experimenter for many years, myself resent the right of any man to demand denial of such a charge. Just as reasonably, I might ask you to "prove up to the hilt" that you did not murder your grandmother.

I am quite willing to satisfy any curiosity that your comments may have aroused, especially since, by so doing, I may again illustrate the position I have held for a quarter of a century—that the practice of vivisection should be restricted to those qualified by education and good character to have this power. In a letter to United States Senator McMillan, written nearly four years ago, and published by him in some official document, I took the ground that the privilege of animal experimentation should not be conceded to every one, but allowed only to persons of satisfactory qualifications. Replying to a statement put forth upon high authority, that it would be "*offensive in the highest degree*" to attempt, legally to decide "*by whom, or for what purpose*" any experiment might be performed—a theory that would permit every abuse—I went on to say:

"We who support this bill, protest against that view. There is a class of men who, in the interest of Humanity should never be allowed to touch an animal for the purposes of vivisection. When Dr. George M. Gould, one of the leading medical writers in America, is forced to admit that there are men now practising vivisection in this country, who are "without judgment to carry out, without true scientific training or method" and whose experiments are performed "*only in the interest of vanity;*" that there are certain "*conceited jackanapes*" whose vivisections are done "to minister to egotism;" and that certain American vivisectors "*are a disgrace both to science and humanity;*" when Dr. Theophilus Parvin, of Jefferson Medical College, declares in a presidential address before the American Academy of Medicine that there are American vivisectors "who seem, *seeking useless knowledge, to be blind to the writhing agony*, and deaf to the cry of pain of their victims, and who *have been guilty of the most damnable cruelties*"—I think, Sir, that they indicate a class of men who should never be permitted to torture animals for such vile purposes and such ignoble ends. I but touch the shadow of an awful mystery when I say that one of the most horrible forms of mental and sexual perversion is displayed in the torture of animals and human beings; that a recent writer, Dr. Krafft-Ebing, of the University of Vienna, declares that there are numerous cases of beings in human form who "care only for the sight of suffering, and who make use of the sight of dying animals, or torture animals to stimulate their lust;" and regarding the land where vivisection is no more free than it is today in the District of Columbia, the charge has publicly been made: "*En France, on prolonge les vivisections pour se procurer d'infames plaisirs.*" I do not need to hold this abomination into any clearer light; every intelligent physician over forty years' old is perfectly aware of it. I do not believe that there are many in the medical profession in this country, who would not affirm that those who find pleasure in torture, should never be permitted to satisfy their depravity under the guise of scientific investigation."

And I say it again. As for the quotation in French, curiosity is easily satisfied. Presented as a charge which had been made, it is cited by a distinguished French physician, Dr. Blatin, vice-president of the Society for the Protection of Infancy, in his well-known work: "*Nos Cruautés envers les Animaux, au detriment de l'Hygiene,*" at page 233.

Now where is the "*terrible revelation*"? I suppose that the first knowledge that comes to every decent man regarding the existence of certain vices is, and ought to be—"terrible." What is the plain purport of the paragraphs quoted? Opposing the claim of those who demanded that vivisection should be free, unregulated, unrestricted, permitted to anybody, I held up the case of vicious men morally depraved, men who assuredly should be prohibited from engaging in the causation of pain. Does anybody disagree with that conclusion? Is there a well-informed man who does not know of the existence of that foulest of moral ailments, older than the days of Tiberius or Nero, but which took its name from the author of "Justine"—that disease of the mind which permits pleasure to be found in cruel acts? A French physician quoted the charge, that in the land where all hideous forms of vice reign almost without restraint, even vivisection has been used to cover infamy. He did not deny it; how can I? Does it prove more than just what I maintain—that men thus affected, should be kept from the sight of blood, just as some men must ever be kept from every form of alcohol? To what did you refer in your address on "Vivisection" before the Academy of Medicine in 1896, when speaking of "*atrocities*" in France and Italy (Latin vivisection), you declared that "*one shudders at the possibilities of mental action in beings that bore the human form*"? Was it virtue or vice at which you "shuddered"? What did you mean by "frankly admitting" that "*some vivisectionists are . . despicable fellows*"? Is virtue or vice "despicable"? You refer to the *British Medical Journal*. Well it was the *British Medical Journal* which once said: "We are very glad to find that the French medical journals are entering protests against the cruel abuse which is made of vivisection in France;" and thereafter proceeded to quote from a leading medical journal of Paris against allowing the young men of France "to feed their eyes with the sight of flowing blood of living animals and to have their ears stunned by their groans. . . . Let there be no mistake about it; the man who habituates himself to the shedding of blood, and who is insensible to the suffering of animals, *is led on into the path of baseness!*" What did this medical authority mean by "the path of baseness"? It was you who declared (*Medical News*, August 17, 1895) that "the practice of vivisection before or by such highly imitative beings would have one certain effect: to increase enormously the already thoughtlessly or consciously *cruel tendencies of their natures.*" True, it was in reference to school vivisection, but the same statement has been declared true of adults of a certain character; why ought not a Jesse Pomeroy to be excluded from vivisecting, even if he is at man's estate? It was Professor George Rolleston, M.D., of Oxford University, who asserted that "the sight of a living, bleeding and quivering organism most undoubtedly acts in a particular way" upon that lower nature which we possess in common with beasts of prey.

But what is the need of quotation further? Over and over you have in the past expressed your agreement with those who ask for the regulation of vivisection. It was the *British Medical Journal* that editorially declared that "if vivisections be permissible, they can only be so under certain limited and defined conditions." It was the present editor of *American Medicine* who once affirmed that "if a very limited use of vivisection experiment is necessary for scientific and medical progress, *it must be regulated by law.*" That is my position; and that is the position I have held for 25 years. If you want to call it "antivivisection" I cannot prevent it. But you can

*The title supplied by the writer of the letter.

not find a sentence I have ever written contrary to the principles that you once professed, and which I have just quoted from your published works.

ALBERT LEFFINGWELL, M.D.

NEW DRUG ERUPTION.

BY

CHARLES ADAMS HOLDER, M.D.,

of Colorado Springs.

The following note may not be out of place as I have failed to notice any comments on the rash produced by use of this drug. In 3 successive patients for whom I prescribed aspirin a purpura developed on the second day of its administration. The first was a case in influenza, in which was given a capsule containing 2½ grs. of Dover's powder, 2½ grs. of ingluvin and 5 grs. of aspirin every 2 hours. The rash, which appeared in less than 24 hours, was slight and lasted 48 hours, no other symptoms being present. The second case was one of acute articular rheumatism, in which 10 grs. were administered 4 times a day and in which a purpuric eruption appeared on the second day, lasting for nearly 10 days, notwithstanding withdrawal of the drug and the free use of laxatives and a diuretic water. During the 10 days the patient had normal temperature and freedom from pain. The third case was that of a man who had been exposed to smallpox and arrived here with headache, general muscular pains, sore throat, and a temperature of 104°. He had been successfully vaccinated 2 months previous to his exposure. He was put to bed and given 20 grs. of Dover's powder with a hot lemonade. The following morning his temperature was 101°, and except for some rheumatic pains, to which he was subject, he was very comfortable. Aspirin was ordered, and in the afternoon of the second day a rash appeared which extended over his face, chest, arms, and wrists, and his temperature became normal. All pain left the patient, and he presented no sign or symptom of any sort beyond the rash, which persisted for 10 days. Care was taken to exclude the possibility of its being syphilitic fever or purpura rheumatica. The rash, after the first 24 hours, remained without extension until the ninth day, when it rapidly faded, and was almost gone by the tenth. None of these patients had albuminuria nor was there any evidence of salicylism.

A CORRECTION.

BY

G. E. DE SCHWEINITZ, M.D.

To the Editor of American Medicine:—In *American Medicine*, September 5, 1903, is published a highly instructive article "On the Toxicity of Methyl Alcohol in Extracts and Medicines," by Dr. R. H. Main, in which appears the following:

It is interesting to note the difference in the results of experiments of Birch-Hirschfeld with methyl alcohol and those of de Schweinitz with methyl alcohol on monkeys. (Dr. Hunt's report.) Birch-Hirschfeld describes experiments with methyl alcohol on 3 monkeys. Small doses were given every 1 or 2 days. When it became evident that the animals were at the point of death they were killed, in order that the eyes and optic nerves could be obtained in good condition. The first was in a dying condition on the eighth day, the second on the fifteenth day, an the third on the eleventh. Two monkeys had marked degenerative changes in the retina, and one was totally blind. In de Schweinitz's experiment he gave a small monkey 3.75 cc. of 95% alcohol for 6 months. At times as much as 7.5 cc. of alcohol was given every day for several days. The animal was repeatedly very drunk, yet no disturbance of vision could be made out. The animal was finally killed. No degenerative or inflammatory changes were found in the eyes or optic nerves.

In this quotation, doubtless due to a typographical error, I am credited with experiments performed with methyl alcohol, although all my investigations were made with *ethyl alcohol*, and the conclusions reached were similar to those recorded by Dr. Hunt in the report referred to in Dr. Main's paper. In other words, my results do not, as would be inferred from this quotation, disagree with those at which Birch-Hirschfeld arrived, inasmuch as we used different forms of alcohol, he methyl and I ethyl alcohol.

It may be permissible to add that my experiments were performed 10 years ago, and the ocular tissues of the eyes employed were examined with the aid of the histologic methods then in vogue. It is quite likely if it had been possible to submit them to tests with the nervous-tissue stains in use at the present time, lesions would have been discovered similar to those which methyl alcohol produces. Indeed, Friedenwald has succeeded in creating ganglion cell changes in the retinas of animals under the influence of chronic alcohol poisoning.

TINNITUS AURIUM—CAN IT BE RELIEVED?

BY

A. SCHLOSS, M.D.,

of San Francisco, Cal.

At present I will only consider cases of tinnitus aurium found in those who are beginning to become deaf from catarrh of the tube, middle ear, or both, remembering that it is only a symptom and not a disease. I suppose we have all had the same experience in having the patient say that if they could only get rid of the noise, they would have no trouble in hearing. Up to a few months ago the treatment of this class of patients was always an uncertain quantity with me, but now I do not hesitate to take a case with the assurance that within a few weeks I can give them the relief they are seeking. Formerly I used all kinds of treatment to relieve the patient of this very distressing symptom, but with rather indifferent result until I began to use superheated air, or "the hot-air treatment." However I do not neglect other treatment, as I believe they all help, but thus far without the hot air I have not been very successful. I have been using this form of treatment for over a year and feel that I have given it a fair trial, therefore I do not hesitate to state that from my experience I consider it a success. I find that some who have tried this method have not had as good results as I have, but I believe this to be due to the method employed by them.

I use a Hopkins electric heater and allow the air to reach a temperature varying from 200° F. to 300° F., depending on the case. This hot air is used at a pressure of 5 pounds or 6 pounds for as long a time as the patient can stand it, not exceeding 5 minutes. The diameter of the opening of the ear piece is $\frac{3}{16}$ inch, so the volume of air used is considerable. The method of using or applying it is very easy: First, thoroughly cleanse the external auditory canal, then dry with a little alcohol. When the air is about the right temperature, place the ear piece in the external auditory meatus and direct the stream of air as near as possible against the tympanum. At first I found patients complained of dizziness, or faintness, and in one case the patient fainted, but in the past few months I have had no such trouble, as I have become more familiar with it, or know better how to handle my cases. I treat my patients three times a week, for about 8 weeks, and so far I have not met failure in the many cases I have had. I am not ready to report at this time as to the effect that this treatment has on deafness due to catarrh of the eustachian tube and middle ear, but will say that from my experience it is beneficial.

My experience has been limited as to the use of hot air applied through a eustachian catheter into the eustachian tube, but in the cases I have tried it the results were not very promising. I believe the failures were due to the air not being hot enough, and it is impossible to use the air very hot, as the eustachian catheter gets so warm that it is unbearable to the patient.

There are a few objections to the use of the electric heater that perhaps in time will be overcome; the first is that the instrument burns out too easily, not having enough wire in it; this I have remedied to a certain extent by putting in about 3 times the original amount of wire. The second objection is that it takes too long to heat, especially since I have added the extra resistance. I find that it takes from 15 to 20 minutes before the air is hot enough to use, and ordinarily this is too long to wait, as it not only takes time but also naturally shortens the life of the heater.

ORIGINAL ARTICLES

LABIA URETHRÆ AND SKENE'S GLANDS.*

BY

HOWARD A. KELLY, M.D.,

of Baltimore, Md.

Gynecology has been such an aggressive specialty during the lifetime of the passing generation of surgeons that I fear with the natural bias of men winning laurels in a large and hitherto untrodden field, we have overlooked many important small matters while devoting our attention too exclusively to large tumors and extensive inflammations, to pus deposits choking tubes or filling the pelvis, to ovariotomies and to hysterectomies.

Most of my colleagues having worked out to their satisfaction these major problems in pelvic surgery, have laid hands upon other abdominal organs and made their diseases also pay tribute to their skill. I desire this evening to ask you to extend me your courtesy in listening to a brief discourse upon some minor matters which we have passed by.

In nulliparous women and in parous women in whom the vaginal outlet has not been much injured in its anterior periphery, the normal urethral orifice is often protected by two well-defined mucous folds, which I have termed the labia urethræ. These little but important anatomic structures have attracted my attention for the past 15 years, and I once wrote to Professor Skene to inquire if he had noted them, but in his reply he stated that he meant by the term labia nothing more specific than the rounded margins of the urethral orifice.

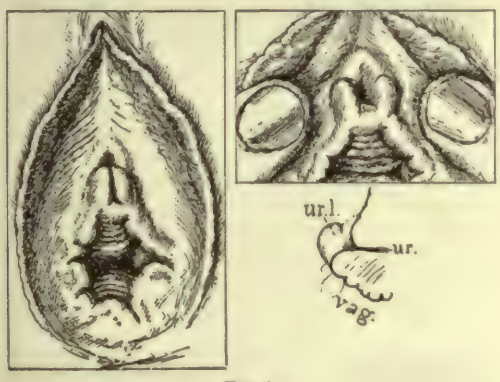


Fig. 1.

I quote the following from my first printed description of these structures:[1]

> One important anatomic peculiarity of the urethra has, strange to say, entirely escaped the notice of anatomists and clinicians. If a virginal vaginal orifice be examined, taking care merely to expose the parts without separating them, the urethral orifice will be found completely hidden, being covered by two lips, one on either side, in close connection with the anterior part of the hymen. By the approximation of these lips the cutaneous orifice forms a simple vertical line, from 2 mm. or 3 mm. to 10 mm. beyond the level of the vestibule. These folds are connected with the posterior part of the urethral orifice, and project up over the anterior portion of the orifice with the patient lying in the dorsal position. They are sometimes short and inconspicuous, at others longer relatively to the urethral orifice than are the labia minora to the vaginal orifice. They are most marked at the period of greatest sexual activity, disappearing with age. They are also wont to disappear after numerous child-births, being replaced by a patulous urethral orifice without distinct labia. In cases where they have been partially destroyed, their previous position is often indicated by a line crossing the urethral orifice, giving it a characteristic cruciform shape. These folds have a mechanical function, and are clearly intended to protect the mucous membrane of the urethra from mechanical injury and invasion by the microorganisms so abundant in the vaginal secretions.[2]

* Read before the Philadelphia Obstetrical Society, December 8, 1902.

When the labia are well developed they lie in close contact, and on separating the labia minora, the urethra is as a rule completely hidden; it is best exposed by making a little downward and outward traction on the upper part of the hymen, when the lips separate and turn down and out. (Fig. 1.)

They are also separated by introducing a trivalve speculum into the vagina and opening its blades. (Fig. 2.)



Fig. 2.

Another way of exposing them is by introducing a metal cone a short distance into the urethra when the labium is well shown applied to the side of the instrument as shown in the diagram. (Fig. 3.)

Their function, as stated above, is undoubtedly protective, serving to keep the delicate urethral mucosa with its glands from a constant exposure to leukorrheal discharges and the bacterial flora of the vaginal outlet.



Fig. 3.

These labia also form an important part of the sexual apparatus as they are impinged upon and in cases of disease are more liable to insult than any other part of the genital tract.

This observation applies with special force in cases in which the levator ani is unimpaired and in which the soft subpubic tissues form a barrier which has to be overcome.

I present several sketches (Figs. 4 and 5) to show the close relation of the urethral orifice with its guarding structures to a small vaginal introitus. You will note that in each instance the external orifice of the urethra occupies the relation to the vaginal orifice of a small cushion or soft plug, closing it but capable of displacement by being thrust inside. In one instance of a chronic gonorrheal inflammation of the orifice the exquisitely tender tissues formed an effectual barrier to penetration. Like the labia minora, these delicate mucous structures are liable to considerable variation in length and in form.







Fig. 4.

I have seen them in some instances projecting as narrow folds from 10 mm. to 12 mm. beyond the urethral orifice with connivent edges, in others they are short or absent.

The margins may be even or crenated; in one instance and only one have I seen a fringed margin like that shown in Fig. 6. Sometimes they are rounded, at others pointed, and not rarely asymmetric. (Fig. 7.)

A little vertical slit in the side of one lip gives the urethra the appearance of having a double orifice. (Fig. 8.)

With a fresh anterior and posterior split in the urethra the labia may present the appearance shown in Fig. 9.



Fig. 5.

In remarkable contrast is the funnel-shaped urethral orifice in a multiparous woman in whom the labia are entirely absent, and the urethra stands gaping, exposing the glands and its mucosa. Very different too is the slit-like urethra seen in prolapsus of the anterior vaginal wall. (Fig. 10.)

One of the characteristics of senility is the little slit-like orifice reduced to one-half or one-third its original size. (Fig. 11.)

Other important conditions are chronic prolapse seen in Fig. 12, and acute swelling and eversion with vulvar ulceration. (Fig. 13.)



Fig. 6.

I believe now that attention has been directed to these structures, they will be often observed and their physiologic importance appreciated.



Fig. 7.

Historical.—It is now 21 years since the distinguished late lamented Dr. Skene, of Brooklyn, described 2 elongate tubular glandular structures lying parallel to the anterior urethra in women, and opening at the bases of the labia, just described. These have since then been known, with proper courtesy, as Skene's glands. Although so many years have elapsed, but little has been added concerning the physiology and pathology of these interesting structures, and the only fact which seems to be generally known is that they may sometimes lodge a latent gonorrhea.

The title of Professor Skene's[3] classic article was "The Anatomy and Pathology of Two Important Glands of the Female Urethra." Two years after this date an article appeared by Dr. J. Kochs,[4] of Bonn, in which he declared that these glands were remains of the Wolffian bodies, basing his opinion:

1. On the position of the ducts and their orifices, bearing a great resemblance to the ductus ejaculatorius in the male, a Wolffian structure occupying the same position as Gaertner's ducts in ruminants and swine.

2. On the frequent absence of one duct, as in the lower animals, which would not be the case if well-defined glandular structures were present.

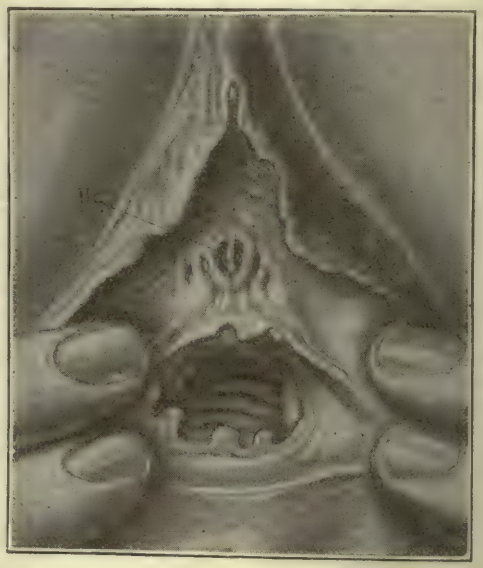


Fig. 8.

3. He was unable to discover microscopically glandular tissue. It likewise seemed impossible to him that a gland with a duct of such a size could find room in the thin urethrovaginal septum.

Kleinwächter[5] was also unable to find glandular tissue, but he left the question undecided as to a glandular function. Von Henle in his textbook refers to them as "Lacunen an der Urethra."



Fig. 9

Prof. Max Schüller[6] presents an elaborate and scientific investigation as to the nature of these paraurethral tubules which is so thorough that in the entire absence of any contradictory evidence within the past 19 years we cannot but accept his conclusions.

Schüller draws our attention to the fact that the existence of these tubules had not altogether escaped the keen eye of Luschka,[7] writing in 1864, in an article in which he notes that the little pores arranged in longi-

tudinal rows in the urethra appear for the most part as lacunas, "von welchen die grössten, mitunter kanalartig verlängerten, in Bereiche des Ostium urethrae cutanem angebracht und schon von aussen her sichtbar sind." Luschka failed, however, to realize the individuality and importance of these structures in question.

Schüller shows that these tubules are definite individual anatomic structures differing from lacunas in which the orifice is wider than the cavity behind it, while the orifices of both urethral canals are invariably narrower than the canals behind them. The lacunas as a rule lie in the more superficial layers of the urethral mucosa while the urethral tubules lie much deeper.

The tubules have a mucous lining in all respects like that of the urethra and the upper distal parts of the tubules are branched and receive a number of straight or corkscrew glands; the tubules are best developed at ages from 20 to 35.

In rare cases a third urethral tubule was found lying posteriorly between them. The branching upper portions of the tubules are surrounded by connective tissue arranged circularly and mixed in some cases in the anterior portion of the main canal with smooth muscular fibers.



Fig. 10.

He declines to consider these structures with Kochs as the remains of Gaertner's canal, inasmuch as no trace of them could be found in early embryonic life; the epithelium also instead of being cylindric and disposed in 1 or 2 layers, was of the same "transitional form" as that found in the urethra. In Gaertner's duct in calves and in swine no tufts or papillas are found similar to those which appear abundantly projecting into the lumina of Skene's glands.

Further, Gaertner's ducts lie in a septum between the urethra and vagina while Skene's glands show no tendency to approach the vaginal tract at all.

Finally, the presence of a third tubule in some cases is decided evidence against the assumption that they represent Gaertner's ducts.

Skene gives the following description of the glands:

> The mouths of these tubules are found upon the free surface of the mucous membrane of the urethra, within the labia of the meatus urinarius. The location of the opening is subject to slight variation according to the condition and location of the meatus. In some subjects, especially the young and very aged, and in those in whom the meatus is small and does not project above the plane of the vestibule, the orifices are found about an eighth of an inch within the outer border of the meatus. When the mucous membrane of the urethra is thickened and relaxed so as to become slightly prolapsed, or when the meatus is everted, conditions not uncommon among those who have borne children, the openings are exposed to view upon each side of the entrance to the urethra. The upper ends of the tubules terminate in a number of divisions which branch off into the muscular walls of the urethra.

The histology of these glands is well described by Van Cott[8] in a paper entitled, "The Histology and Pathology of Skene's Glands," and need not be further mentioned in this paper.

The Function of Skene's Glands.—The question as to the physiologic importance of Skene's glands has never yet been satisfactorily answered, the only reasonable suggestion offered being that they possess a function similar to that of the other glands distributed over the floor of the urethra. I believe that I have solved this question as to function, and that it is partly for the lubrication of the labia urethræ, but mainly sexual. The exact role played by the urethral orifice in the sexual act has not, so far as I am aware, been correctly interpreted.

The first contact of glans maris is with the orificium urethræ feminæ, thus separating its labia and exposing it to any existing infection.

The tendency of the act of penetration is to displace the urethra inward until it lies in the plane of the vaginal wall. If the disproportion in length



Fig. 11.



Fig. 12.

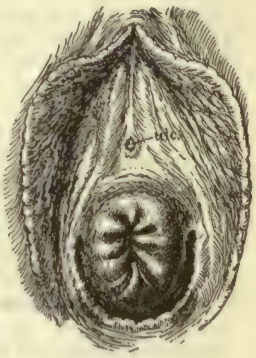


Fig. 13.

between the vagina and the penetrating organ is marked, there must also be an equally marked displacement of the urethral orifice as the vaginal vault is impinged upon.

As the urethra is thus displaced the orifice becomes everted and the inner mucous surface applied to the dry dorsum of the penetrating organ.

The function of the glands then is to exercise an office for the urethral orifice precisely similar to that of the vulvovaginal glands in relation to the vaginal orifice, to provide a lubricating fluid for protecting the delicate mucosa from harmful attrition.

The mechanism of the displacement and eversion of the urethra can be easily seen on making a digital examination. At other times their secretion serves, as stated, to prevent drying and agglutination of the delicate urethral labia.

[*To be concluded.*]

A STUDY OF UNCINARIASIS IN PORTO RICO.

BY

BAILEY K. ASHFORD,

Captain and Assistant Surgeon, U. S. Army,

AND

W. W. KING,

Assistant Surgeon, Public Health and Marine-Hospital Service.

[*Concluded from page 396.*]

Treatment.—Treatment naturally falls under two heads: 1. Expulsion of the parasite. 2. Regeneration of the blood.

Of the numerous vermifuges recommended for the expulsion of the worm, we have come to rely upon large doses of thymol. It is safe and efficient if properly used. We administered it as follows:

At night, 30 to 60 grams of magnesium sulfate were given to clean out the bowels. If the effect was not sufficient the salts were repeated on the following night,

and the thymol withheld. The next morning 2 grams (30 grains) of thymol were given at 7 or 8 o'clock, and the same dose repeated after an interval of two hours. If by noon, the bowels did not move spontaneously and freely, another dose of salts was given.

Thymol should be given on an empty stomach, and the midday meal should be light, but the usual evening meal can be taken. On the day of the administration of thymol, and for several days after, all alcoholic drinks, oils, and other solvents of thymol should be religiously interdicted; otherwise the absorption of the dissolved thymol will cause acute poisoning with rapidly fatal results. Thornhill reports such a case from drinking a glass of native alcoholic liquor.

We have administered some hundreds of doses of thymol but have yet to see the first alarming symptom caused by it. It usually causes some dizziness and some burning in the stomach, which pass off in a day or two, during which time the patient should remain in bed. By a mistake of an attendant, a dose of 4.8 grams (72 grains) of thymol was given in one morning, to a girl of 12, who continued her play about the hospital yard without feeling any unpleasant symptom.

However, caution must be observed in treating children, and patients with great debility, especially with weakened hearts. The dose may be reduced in proportion, and stimulants and heart tonics used if needed. We have given thymol in full doses to persons in very bad physical condition, but in only a few cases did we have to stimulate the heart. It must be remembered here, that dilation of the heart is a fairly common complication of this disease and must be vigorously treated when it occurs. In such cases, we have used digitalis with strychnia and nitroglycerin, with very good results.

Thymol will generally cause a temporary increase of edema when this condition is present.

The thymol should be repeated every 8 or 10 days until the ova cease to appear in the stools, or longer if the percentage of hemoglobin does not rise. We have repeated it as many as 15 times in a single case.

Proceeding on the principle that the destruction of the hemoglobin is caused by a hemolytic toxin it must be admitted that a few worms may supply sufficient toxin to cause the hemoglobin percentage to rise but slowly under treatment. They may be too few for their ova to be easily found in the feces.

In the event of a slowly rising hemoglobin percentage that cannot be accounted for by other causes, it is advisable to repeat the thymol. Indeed we have been guided by the hemoglobin more than by any other one point in the determination of the patient's response to treatment.

The caution is earnestly placed before those of our impatient brethren who expect too rapid results from treatment, that they do not condemn it in the face of a very slowly rising hemoglobin percentage. In fact it may be generally stated, especially in old persons whose blood-regenerating functions are naturally more or less spent, that this rise is extremely slow, requiring often months or even a year to reestablish completely the proper hemoglobin percentage. Two cases of great interest may be mentioned.

A man in a lamentable state, with but 8% of hemoglobin, and who after three months' treatment in the hospital, gained but 10%, having become discouraged at his slow progress, deserted the hospital and left for the very environments where he had lived before entering. He then took no medicine of any kind, but says that he was careful to drink good water and avoid "swallowing dirt." He returned five months later, fat, well, and strong; rid of his extreme heart symptoms which previously had prevented his making even the slightest exertion without causing heart distress from palpitation.

He has now absolutely no subjective symptom of illness, and is doing the hardest kind of manual labor on a plantation in the mountains, earning more than he ever did before. He presents but one objective sign, 60% hemoglobin. This man will resume his normal percentage in a few months more.

He was consigned most emphatically to the tomb by all the local physicians and nurses who saw him, having in mind the usual universal fatality of this disease at that stage of its course.

The other case was more extreme but no blood counts were taken. When the patient came under observation he was greatly emaciated and so dropsical that he had to be tapped three times to prevent dangerous pressure on the heart and lungs, and, though only 15, his drawn and wrinkled face was like that of an old man.

He deserted the hospital after two months' treatment. Six months later he was found selling pastry in the street, so changed that he was not recognized until he proudly announced his identity and called attention to his fat rosy face and good strong body.

These are by no means the only ones of like nature, in which the hemoglobin has steadly risen without medicine after the removal of the nematode.

In cases in which the disease has progressed to an alarming stage, and the patient has little strength, our treatment has been to expel as many worms as possible with reduced doses of thymol, as small as 1 gram (15 grains), then give iron tonics to improve the general condition that full doses may afterward be given.

Certain English authors claim that doses of 1 gram will not remove the parasite. We have expelled large quantities with such doses, but it is always necessary to give full doses, and generally to repeat them, to obtain the complete expulsion of the parasite.

Naphthalin in large doses was used, without the slightest vermifugal effect. It may be said with all positiveness that, aside from thymol and oleoresin of male fern, other drugs have no practical effect in expelling this worm. Thymatol, a carbonate of thymol, has been used with excellent results and absence of the disagreeable effects of thymol.

Our best results in the regeneration of the blood have been obtained by large doses of iron carbonate in the form of Blaud's pills and pills of Vallet's mass, about 1 to 2 grams (15 to 30 grains) daily. Peptomanganates give excellent results. Other preparations of iron, Fowler's solution, reconstructive tonics, etc., were much less efficient. Emulsion of cod-liver oil, though freshly made, invariably caused too much irritation of the stomach to be of any material benefit.

Sodium cacodylate, ferrocodile, arsycodile, and kindred remedies containing arsenic or phosphorus, were worthless in our hands.

Adrenalin chlorid is a powerful circulatory stimulant in this disease, and decided benefits were obtained, especially in patients with edema and weak heart action.

Prominent or annoying symptoms must be treated according to indications.

In these patients we are dealing with profound pathologic processes, and must not expect great rapidity in recovery. It is a reconstruction which, under the most favorable circumstances, takes months to complete. Improvement, however, begins encouragingly early, and its first sign is a rise of eosinophiles. Almost equally early begins a great change in the general demeanor of the patient; from a listless, hopeless melancholia to active, hopeful expectation of recovery.

The symptoms gradually diminish; the heart-murmur is the last to disappear, and usually takes from three to six months.

Of the patients we treated 58 have been completely cured, by which we mean absence of ova and disappearance of symptoms; 25 were improved, of whom 13 are still in the hospital, progressing favorably and will be cured unless unforeseen accidents occur; 5 are not improved, but 3 of them have tuberculosis; 6 died of anemia, 3 of tuberculosis and 1 of pernicious malaria when nearly well of anemia. This patient died in four hours from the onset of the paroxysm.

At first glance the attached histories may seem to be lacking in much data that one would think easy to supply. But a few months' work among these patients would convince any one of the difficulties attendant upon a prolonged study of a disease whose care and treatment must extend over so long a period.

Case number.	Date.	Name, age, sex, color.	Residence, occupation, etc.	Symptoms.	Date of blood examination.	Red cells per cubic millimeter.	Percent hemoglobin.	Leukocytes per cubic millimeter.	Polymorphonuclears.	Small lymphocytes.	Large lymphocytes.	Eosinophiles.	Remarks.
1	1902. July 2	Juan S., 27 years, male, white.	Lowlands. Laborer coffee and sugar plantations.	Some edema of feet. Reduced sexual powers. Usual cardiac symptoms with hypertrophy and throbbing cervical vessels. Digestion disorders, nausea and vomiting. Apathetic. Marked pallor.	July 8 Oct. 17	1,751,940 4,110,000	10 70	7,200	60	20	8	12	Cured. No symptoms remaining.
2	June 28	Joaquin C., 22 years, male, white.	Highlands Laborer coffee plantation.	Nearly moribund. Tremendous ascites; edema face and legs marked. Usual cardiac symptoms marked. Severe pains in chest. Extreme throbbing of cervical vessels. Marked digestive disorders. Impotent. Burning of palms of hands and soles of feet. Knee-jerk diminished. Extreme pallor. Thrill in right clavicular region. Somnolent.	July 1 Aug. 22 Dec. 15 Jan. 20 Mar. 10	1,458,200 2,772,800 4,332,800	8 18 38 52 60	5,800 5,200	73 53 60.5	13 22 18.5	2 4 8	12 21 13	Cured. Was believed a hopeless case by Porto Rican hospital nurses, who told us that such patients always died. Became perfectly well and is now working energetically at heaviest labor without fatigue.
3	July 1	Juan G., 9 years, male, white.	Highlands. Coffeepicker and sugar plantation hand. Father dying of anemia in another ward.	Pronounced ascites. Edema hands, feet, legs, face, and prepuce. No heart murmur, but undulating precordia and supraclavicular spaces with thrill. Indigestion. Vomiting. Marked apathy. Numbness of extremities. Much albumin in urine, and a few casts—granular. Great pallor.	July 11 Aug. 24	1,306,664 2,755,200	15 46	3,800 2,000	78 66	17.2 19	2.8 3.5	2 11.5	Left hospital with no symptoms save a little weakness, but through a mistake no reexamination of his blood was made. Can be counted as probably cured.
4	July 7	J. Cruz S., 10 years, male, white.	Highlands Coffee pi'k'r. Fath'r very ill with anemia.	Ascites. Edema in legs. Usual cardiac symptoms with hypertrophy. Indigestion. Apathy and stupidity. Knee-jerk diminished. Is very waxy pale.	July 7 Aug. 22 Oct. 15	2,802,160 4,806,400 4,942,000	51 74 75	7,000 3,000	42	15	5	38	Cured completely. No signs remaining of the disease. Has active work; is ruddy and fat.
5	June 28	Jose S., 26 years, male, mulatto	Lowlands. Laborer. Many of family anemic. Had malaria.	Indigestion but slight. Heart normal. Albumin in urine and a few hyalin casts, renal cells and many crystals of calcium oxalate. Pallor. Diminished sexual powers. Not a severe case.	July 5 Nov. 11	2,408,000 5,413,328	29 94	7,400	74	22	3	1	Cured. Now at hard work. Squat crescents of quotidian estivoautumnal malarial fever abundant on admission.
6	July 14	Pedro L., 45 years, male, white.	Highlands. Carpenter. Many of family have anemia.	Edema of feet. Cardiac symptoms extreme; undulating cervical vessels. Slight digestive disorders—stomatitis. Numbness of extremities. Great pallor.	July 14 Oct. 25 Jan. 21	1,341 600 4,297,400	15 55 66	5,000					Cured. Now working hard. All symptoms have disappeared.
7	Jan. 15	Eladio V., 26 years, male, white.	Highlands. Beggar, too weak to work. Plantation hand	Completely impotent. Extreme debility. Digestion disordered. Edema legs, scrotum, abdomen, and face. Intelligent but without spirit. Slight hemic heart murmur. Large ulcer ankle.	Jan. 15 Feb. 8 Feb. 20 Oct. 28	2,700,000 3,778,000 3,996,000 4,960,000	35 60 96	12,400					Cured. Now powerful and ruddy, doing the heaviest labor. Was not admitted to hospital, yet was one of our worst cases
8	July 1	Esteban G., 11 years, male, mulatto	Highlands. Coffee picker. Both parents died—anemia.	Ascites and general edema. Cardiac symptoms marked. Throbbing cervical vessels. Indigestion. Apathetic. Stunted mentally and physically. Burning of palms and soles. Sallow, waxy color. Pustular eruption legs and arms, all stages development, with much itching. Diminished knee-jerk. Spleen enlarged. History, malaria.	July 1 Sept 11 Nov. 10	2,688,000 4,235,200 5,504,000	23 45 70	19,400 6,800	37 56.5	38.5 31	12.5 5	12 7.5	Cured. Is now rosy and well and working on a sugar plantation. Acute case.
9	July 9	Candelario M., 27 years, male, white.	Highlands. Laborer, especially in coffee plantations.	Marked edema. Cardiac symptoms with pulsating jugulars. Physical signs, hypostatic congestion lungs. Digestive disorders. Apathy. Insomnia. Paresthesias; numbness extremities. Knee-jerk diminished. Much neuralgia. Great pallor.	July 9 Aug. 26 Oct. 27 Jan. 20, 1903.	1,568,000 4,178,200 5,106,640	10 50 70 80	8,800	49 46 47.5	16.5 18 20	8 10 8.5	26.5 26 24	Cured. Is now at hard work and has developed into a powerful man. All symptoms have disappeared. Short time since first symptoms appeared.
10	July 15	Geronimo M., 30 years, male, white.	Highlands. Laborer, tobacco and coffee.	Edema. No sexual desire. Cardiac symptoms. Disordered digestion. Apathy. Burning of palms and soles. Exaggerated knee-jerk. Decided pallor.	July 15	3,008,880	33	3,400					No second blood record as the man unexpectedly left hospital before it could be taken.
11	July 15	Melaton M., 20 years, male, white.	Highlands. Coffee picker.	No sexual desire. Indigestion. Dense stupidity. Not very pale; color more livid. Heart normal.	July 15 Sept. 6	3,832,000 5,504,400	56 84	2,800 3,400					Cured. Became an intelligent nurse in the hospital.
12	July 7	Francisco J., 31 years, male, white.	Highlands and lowlands, but chiefly latter. Laborer. Many of family died of anemia.	Has had malaria and dysentery. Marked edema. Loud heart murmur with enlargement and bruit in jugulars. Gastric indigestion. Extreme apathy. Insomnia. Paresthesias feet and numbness extremities. Exaggerated knee-jerk. Very pallid.	July 7 Aug. 23 Dec. 12	1,842,400 2,772,800	10 18 30	2,200 5,200	70	22	4	4	Improved, but still far from well. Is working, however, and says that he is a little better. Heart improved.
13	July 11	Francisco A., 30 years, male, white.	Highlands. Laborer.	Nearly moribund. Intense vertigo and pallor. Complete impotence. Dilated heart. Hypostatic congestion lungs. Indigestion; vomits. Apathy profound Somnolent. Severe headache. Burning of palms and soles. Numbness of extremities.	July 11 Aug. 24 Nov. 14	960,640 2,666,400	10 34 44	4,800 6,800	70 55	18 23	5.5 6	6.5 16	Cured Left hospital improved and is often seen in streets, rosy and well. This case, more than once, about to be fatal.
14	July 13	Ramon de L., 46 years, male, white.	Highlands. Laborer.	Ascites. Much edema. Impotent. Cardiac symptoms; extreme cervical pulsations. Indigestion. Very stupid. Apathy. Numbness extremities. Very pallid.	July 13 Oct. 25 Nov. 15 Dec. 27	1,448,000 4,256,640 4,635,520	12 60 55 60	2 20	61	21	6	12	Cured. Total disappearance of all symptoms, but hemoglobin obstinately refuses to ascend.

Case number.	Date.	Name, age, sex, color.	Residence, occupation, etc.	Symptoms.	Date of blood examination.	Red cells per cubic millimeter.	Percent hemoglobin.	Leukocytes per cubic millimeter.	Polymorphonuclears.	Small lymphocytes.	Large lymphocytes.	Eosinophiles.	Remarks.
	1902.												
15	July 2	Carlos G., 19 years, male, white.	Highlands. Coffee picker.	Regarded hopeless. Great edema. Dilated heart. Indigestion. Vomits. Stomatitis. Melancholia. Insomnia. Paresthesias. Numbness extremities. Knee-jerk diminished. Nystagmus. Extreme pallor. Ulcers on legs. Much neuralgia.	July 2 Sept. 30 Oct. 18	904,370 4,144,400	12 67 96	5,000 6,000	48.5	24	6.5	21	Cured entirely save nystagmus. Has hard work on plantation now. Rep't'd to us Oct. 18 and was not recognized, so rosy and fat was he.
16	Jan. 6	Jose G., 30 years, male, white.	Highlands. Laborer in coffee, sugar and tobacco plantations.	Indigestion. Insomnia. Great edema of feet. Cannot support family owing to extreme debility. Cardiac symptoms; undulating vessels. Slow of speech. Impotent. Great pallor.	Jan. 6 Jan. 21 Feb. 4 Feb. 20	2,926,666 3,460,000 4,088,000 5,270,000	30 62.5 98	6,540					Cured. Is working.
17	Sept. 4	Cardelio M., 12 years, male, white.	Highlands. Too stupid to tell how disease began.	Some edema of ankle. Bulging of precordia. Dulness of heart area increased. Noted over bulging. Very soft, blowing murmur heard to left of sternum at third interspace. No neuralgic pains. Slight pulsation of vessels of neck Knee-jerk diminished. White pallor of skin and mucous membrane. Small ulcer on ankle.	Sept. 4 Sept. 28	2,397,760 4,257,760	32 60	3,800 3,000	62.6 64.4	28 24	4 6	5.4 5.6	Cured. Very fat and has good color. Fruit vender.
18	Sept. 7	Francisco A., 16 years, male, white.	Lowlands. First symptoms noted 8 yrs. of age.	Edema legs. Marked cardiac symptoms. Slightly apathetic. Has matured but little and appears 8-10 years old. Indigestion.	Sept. 7 Dec. 14 Jan. 8 Apr. 1	2,358,280 4,281,040	14 60 62 70	4,600	59 65 5	28 18.1	3 7.4	15 9	Cured.
19	Sept. 10	Jose M., 27 years, male, white.	Highlands. Laborer in plantations	Extreme pallor. Weakness, but has no edema. Has malarial fever.	Sept. 10 Oct. 24 Nov. 1 Jan. 12	3,720,000 3,251,120	32 35 50 50	5,600 3,600	43.6	34	6.4	16	Much improved and at work. Obstinate malaria retards recovery.
20	Sept. 16	Jesus O., 25 years, male, mulatto.	Highlands and lowlands.	Weariness and edema of legs. Indigestion. Usual cardiac symptoms.	Sept. 16 Nov. 19 Jan. 9 Mch. 8	2,308,808 5,466,000	15 54 62 81	2,600	68	15	4	13	Cured and at work. Fat and rosy; no symptoms of anemia.
21	Sept. 16	Elenterio C., 46 years, male, white.	Lowlands. Laborer in plantations	Edema of legs. Usual cardiac symptoms. Very apathetic. Reduced sexual power.	Sept. 16 Dec. 9 Dec. 29 Jan. 5	2,671,040	24 25 44 50	2,800					Much improved and working, but blood regeneration is slow and difficult owing to age and probably organic lesions.
22	Sept. 16	Francisco C., 18 years, male, white.	Lowlands.	Pain in stomach. Much edema whole body and face. Color typical. Apathetic. Reflexes almost extinguished Paresthesias and numbness of legs. Reduced sexual power. Heart, harsh murmur. Severe case.	Sept. 1 Dec. 5	1,097,760	7 22	3,800	60.8	20	2.4	16.8	Died in Dec., 1902. Acute dilation of the heart. No autopsy obtainable.
23	Sept. 2	Jose F., 29 years, male, white.	Lowlands. Has been a farmer but now a druggist, a well-informed man.	Ascites. Edema of legs. Impotent. Cardiac symptoms Continual palpitation. Irregular pulse. Decided indigestion and pain in stomach. Marked hypochondria even to point of melancholia. Great debility. Numbness of extremities. Burning of palms and soles. Excessive pallor. Short time since disease began.	Sept. 2 Nov. 15 Dec. 15	3,668,880 5,831,040	28 68 85	5,000	55.8 48	19 25	4.3 5	21 22	Cured. This man has not only had a perfect return to health, but a deep ruddy complexion has replaced his extreme pallor.
24	Sept 20	Eugenio R.,		Most extreme degree of debility was seen in this case. The man could not raise his head from the pillow without violent and irregular action of the heart. Great pallor.	Sept. 20	2,497,760	22	4,000	68.4	21.2	3.6	6.8	Suddenly died of acute dilation of the heart, three weeks after admission.
25	Sept. 24	Jose M., 27 years, male, white.		A case almost exactly the same as the last cited, plus an apparent peripheral neuritis with partial paralysis of lower extremities and absent knee-jerk. This is one of the cases which might be confounded with beriberi.	Sept. 24 Dec. 9 Dec. 29	2,833,280	16 29 65						Cured. A wonderfully rapid disappearance of heart signs, considering their serious nature. Pseudo-paralysis in legs has disappeared.
26	Oct. 12	Sixto M., 24 years, male, white.	Highlands. Works in banana patches and coffee plantations. Many deaths in f'mily from anemia.	Ascites. Edema of legs, arms, etc. Impotent. Slight hemic murmur of heart. Complains much of pains in heart area. Slight indigestion, hypochondria, paresthesia. Numbness of extremities. Knee-jerk exaggerated. Pallor typical. Has ulcers on feet.	Oct. 12 Dec. 9 Dec 15	3,587,880 4,826,640	45 58 70	3,400					Cured. Working.
27	Oct. 12	Pedro T.,	Highlands.	Ordinary symptoms.	Oct. 12 Nov. 8	2,022,160 5,504,000	23 65	9,600					Cured.
28	Oct. 15	Unknown, age about 27 years, male, white.	Highlands Coffee laborer	Admitted in the last stages. Death-like pallor, remaining in semi-stupor; when aroused, talked incoherently. A confirmed geophagist. Usual symptoms pronounced.	Oct. 15	1,141,400	9	4,800	70	20	4	6	Died of exhaustion in about three weeks after admission.
29	Nov. 4	Oligario J., 23 years, male, white.	Highlands.	Usual symptoms.	Nov. 4 Dec. 5 Dec. 29 Jan. 13	3,695,520 5,146,640	26 47 70	7,200	 50.4	 31.2	 9 6	 8 8	Cured. A severe case on admission. Working.
30	June 5	Teleforo G., 20 years, male, mulatto.	Highlands. Coffee laborer.	Usual symptoms.	June 5 Sept. 2	2,570,000	12 80						Cured. Working.
31	Oct. 18	Corsino C., 55 years, male, white.		Usual symptoms. Decided chronic gastritis and enteritis.	Oct. 18 Dec. 8 Dec. 28	3,082,400	36 35 50	4,400	70.8	14	2	13.2	Improved, but hemoglobin refuses to rise further.

Case number.	Date.	Name, age, sex, color	Residence, occupation, etc.	Symptoms.	Date of blood examination.	Red cells per cubic millimeter.	Percent. hemoglobin.	Leukocytes per cubic millimeter.	Polymorphonuclears.	Small lymphocytes.	Large lymphocytes.	Eosinophiles.	Remarks.
	1902.												
60	Sept. 11	Maria R., 26 years, female, white.	Lowlands. Domestic.	Amenorrhea. Slight general edema Marked hysteria. Paresthesia in legs. Intense pallor. Knee-jerk slightly exaggerated. Paralysis apparently due to hysteria.	Sept. 11 Sept. 12 Nov. 20 Jan. 9 Feb. 3 Mch. 8	4,960,000 4,800,000	33 31 41 44 50 45	3,400	45 44 66	17 31 20	5 12 12	33 13 2	Improved but little. Tuberculosis of lungs.
61	Oct. 19	Maria R., 30 years, female, mulatto	Lowlands. Washerwoman and coffee picker.	Edema of legs and face. Ascites. Catarrhal stomatitis. Apathetic. Numbness of legs. Paresthesia. Apparent partial paralysis of lower extremities. Reflexes diminished. Impure first sound, but no heart murmur.	Nov. 3 Nov. 20 Jan. 13	4,260,000	54 57 70	6,400	32 42.5	12 28	3.5 7	53.5 22.5	Entirely cured. Not a severe case and has not been ill long.
62	Oct. 29	Teresa G., 26 years, female, white.	Highlands. Washerwoman and coffee picker.	Amenorrhea for four months. Edema of legs. Palpitation, but no heart murmur. Numbness in legs and reflexes diminished. Color typical Very apathetic.	Nov. 4 Nov. 20 Nov. 27 Jan. 8	2,726,400	44 46 56 80	3,400	76	11.2	4	88	Cured.
63	Oct. 29	Antonio T., 26 years, female, white.	Highlands. Washerwoman and coffee p'k'r	Indigestion. Anesthetic spots, and apparent paralysis in the legs. Greatly emaciated, pallid and weak. No heart murmur.	Oct. 29 Nov. 20	2,702,160	50 41	6,000					Died. Tuberculosis of lungs.
64	Oct. 31	Santiago T., 35 years, female, white.	Highlands. D'm'sticand coffee p'k'r	Edema of legs and sciatica of the right. Pallor not severe. Heart murmur.	Oct. 31 Nov. 20 Dec. 2	4,368,880 5,900,000	30 47 76	5,400	68.2	19.6	5.8	6.4	Cured.
65	Nov. 4	Ingenia M., 30 years, female, white	Highlands. Coffee picker.	Usual symptoms marked. Reflexes slightly diminished. Soft blowing murmur heard	Nov. 4 Nov. 20 Dec. 3 Dec 17 Jan. 9	1,964,000 4,140,000	22 45 69 81	4,800	64 70	20.6 22	3.4 3	12 5	Cured. When admitted did not remember how many children she had.
66	Oct. 14	Angela R., 30 years, female, mulatto	Highlands and lowl'ds. Washerwoman and coffee p'k'r	Usual symptoms of moderate grade. Has not been ill long.	Oct. 31 Nov. 20 Dec. 2 Dec. 8 Jan. 10	3,317,760 5,360,000	25 46 56 74 80	5,800	58.2	20.2	4	17.6	Cured.
67	Oct. 29	Maria S., 26 years, female, mulatto	Highlands and lowl'ds. Coffee pick'r	Usual symptoms very marked. Two attacks of malaria, one year previously. Has not been ill long.	Oct. 29 Nov. 20 Dec. 2	1,124,400	11 40 52	7,800	53.3	15.1	4	27.6	Died of comatose form pernicious malarial fever in four hours. Had improved wonderfully from anemia.
68	Oct. 11	Francisco R., 26 years, female, white.	Lowlands. Housekeeper.	Usual symptoms marked.	Oct. 11 Nov. 20 Mch. 8	1,737,760	15 20 45	8,200	72 70	16.4 18	6.8 3	4.8 0	Improving slowly of anemia. Tuberculosis of lungs.
69	Oct. 27	Juana A., 60 years, female, white.	Lowlands. Domestic.	Usual symptoms extremely marked.	Oct. 27 Nov 20 Jan. 13	2,688,000	39 39 50		58 64	30 30	5.6 2	6.4 4	Not improved.
70	Oct. 30	Anita O., 12 years, female, white.	Lowlands.	Usual symptoms marked. Decreased muscular power in arms and legs.	Oct. 30 Nov. 20 Dec. 6 Jan. 9	1,764,400 5,132,000	21 64 70 94	7,200	38 41	42 39	5 5	15 15	Cured.
71	Oct. 30	Maria O., 10 years, female, white	Lowlands.	Usual symptoms, but much worse than in her sister's case just cited. Five brothers and sisters died of anemia.	Oct. 30 Nov. 20 Jan. 8	5,511,040	36 68 91	1,040	56 59	27 14	4 6	13 21	Cured.

Patients feeling able to work and proud of their newfound strength would insist on leaving the hospital, especially were he the bread-winner of the family. Also the demand for beds was so great that we could not reasonably hold them for a patient apparently cured, but on whom we wished to continue examinations. They had to be discharged with instructions to return from time to time. For reasons easily understood, many never returned, others at irregular intervals, or at times when our official duties prevented us from making thorough examinations.

A number of differential counts had to be omitted because of the damage done, apparently by the climate, to a bottle of triple-stain, rendering these counts inaccurate, or at least too doubtful to be included.

It is but fair to render proper tribute to those who, understanding that they were the subject of study, tramped over many miles to be reexamined, although considering themselves perfectly well and in no need of further attention. Many had to be sought for in the surrounding country, sometimes with success, but more often failure resulted.

Autopsies were particularly hard to make, not only from the violent prejudice against them, but because of the burial customs, which hurry them into the ground almost immediately after death.

The histories given are by no means full, but rather synopses of those retained in our possession. Dealing with a class, illiterate and unobservant, the account of subjective symptoms is necessarily very inexact. Especially is this true as to the date of onset, hence we have rarely attempted to state it.

In closing this paper we desire to express our deep appreciation of the kindness shown us by the Tricoche Hospital authorities, particularly to Dr. Luis Aguerrevere, chief of the hospital, whose interest and moral support has been tendered at all times, and to Don Juan Regis, the able hospital superintendent, whose efficient management provided us with two wards for anemic patients.

NOTE.—Since writing the foregoing article we have seen the report by Dr. Stiles on the "Prevalence and Geographical Distribution of Hookworm Disease in the United States," in which he states that this "is preeminently a disease of sandy localities." This is not true of the disease in Porto Rico, where its greater prevalence is in the mountainous interior, where the soil is alluvial or of reddish-yellow clay. The sandy lowlands have comparatively less cases. The vast majority of patients have never been in sandy regions or have only made short visits there.

Autopsy of Case 58.—Through the courtesy of Dr. Councilman the minute pathology will be reported in a separate paper which he has prepared after a study of specimens of various organs sent him from this patient. For this reason we will leave to the wellknown pathologist this particular side of the question.

The very briefest account of the findings at autopsy must be given. Measurements of organs and quantities of fluid were not made as this autopsy was only secured after extreme difficulty. We have already mentioned the attitude of the people

Number of case.	Date.	Name, Age, Sex, and Color.	Date of blood examinations	Red cells per cubic millimeter.	Hemoglobin, per cent.	Polymorphonuclears.	Small lymphocytes.	Large lymphocytes.	Eosinophiles.	Symptoms and Points Bearing on Case.	Remarks.
32	Sept. 1.	Montserrate P., white.	Sept. 1.	.....	30	.....	.....	.....	.....	Residence in highlands. Usual clinical symptoms.	Cured. Blood not examined again.
33	Nov. 29, 1902.	Juan O., 14 years, male, mulatto.	Dec. 9. Jan. 13.	.....	24 52	46	36	5	13	Highlands. Coffee picker. Usual clinical symptoms.	Cured. No reexamination of blood after January 13.
34	Oct. 12, 1902.	Jose R., 13 years, male, white.	Dec. 5. Dec. 29		39 50	.....	.....	.....	.....	Same as last cited case.	Cured. No reexamination of blood further than last cited.
35	Oct. 5, 1902.	Carmelo M., 12 years, male, white	Nov. 25. Jan. 29.	.....	60 70	.....	.....	.....	.....	Same as last cited case.	Same as last cited case.
36	Oct. 17, 1902	Placido T., 47 years, male, white.	Dec. 5.	.....	24	54.5	29	14.5	2	Highlands Coffee picker Usual symptoms. Unusually marked digestive symptoms due to chronic gastritis.	Improved. Complication herein noted is responsible for his slow convalescence.
37	Nov. 23, 1902.	Mateo R., 23 years, male, mulatto.	Dec. 9. Dec. 25.	.....	69 102	.....	.....	.....	.....	Highlands. Coffee picker and laborer on plantations. Usual clinical history.	Cured. Working.
38	Nov. 19, 1902.	Angel R., 14 years, male, white.	Dec 9. Dec. 29. March 21.	....	26 30 60	.....	.....	.....	.....	Highlands. Coffee picker Usual symptoms Severe case.	Cured.
39	Nov. 17, 1902.	Claudino M., 15 years, male, mulatto.	Dec. 9. Dec. 29.	....	65 65	.....	.....	.....	.....	Highlands. Coffee picker. Usual symptoms.	Much improved. Working.
40	Nov. 10, 1902.	Alejandrino S., 18 years, male, white.	Dec. 5. Dec. 29. Jan. 13. Feb. 2. March 19.	....	32 32 40 52 70	60	18 2	10.4	16 4	Same as above.	Cured.
41	Nov. 19, 1902.	Juan S., 19 years, male, mulatto.	Dec. 9. Dec. 29. Feb. 15. March 5.	.....	25 50 55 80	41	30	8	21	Lowlands and highlands Coffee picker and sugar plantation hand.	Cured.
42	Nov. 19, 1902.	Andres C., 29 years, male, white.	Dec. 9. Dec. 29. Jan. 13. Feb. 15. March 12. April 1.	.....	39 52 48 42 40 42	14.5 22	13.5 7	5.5 3	66.5 68	Highlands. Works on coffee plantation. Many eggs. Case of moderate severity. Usual symptoms. Acute case.	Vastly improved, although hemoglobin does not show it. Still under treatment, but working in hospital.
43	Sept. 2, 1902.	Pablo P., 40 years, male, white.	Dec. 5. Dec. 15. Dec. 29. Jan. 13.	.....	60 80 85 87	55	17.5	2 5	25	Highlands. Laborer. Usual symptoms plus a pustular eruption on legs becoming crustaceous and itching intensely. A severe and typical case of uncinariasis but blood record was not taken till three months after treatment had been instituted.	Cured. Now employed in hospital, a powerful and ruddy man.
44	July 14, 1902.	Jose Mar., 49 years, male, white.	Dec. 5. Dec. 29. Jan. 13. March 5.	.....	33 30 44 63	55	18	13	14	Highlands. Coffee picker. This man also began treatment long after (5 months) blood record was made. Usual symptoms. Two months after admission severe attack of acute dilation of the heart appeared with congestion of lungs. Rallied from this. In January diffuse fusiform swelling of both legs took place, disappearing on use of adrenalin chlorid. Now dilation heart has returned.	Less anemia, but bad prognosis.
45	Aug. 16, 1902.	Benzalao G., 29 years, male, mulatto.	.....	.....	.....	.....	.....	.....	.....	Laborer. Usual symptoms plus pulmonary tuberculosis.	Bad prognosis.
46	Nov. 19, 1902.	Juan C., 32 years, male, white.	Nov. 19.	5,533,660.	52	.....	.....	.....	.....	Highlands. Coffee picker. Blood record about two months after institution of treatment.	Greatly improved. Has gone to work.
47	Aug. 2, 1902.	Antonio C., 77 years, male, mulatto	.....	.....	.....	.....	.....	.....	.....	Highlands. Laborer. Symptoms marked on admission.	Cured. Now in excellent health.
48	Oct. 8, 1902.	Spaniard, name unknown, about 32 years, male, white.	Oct. 8.	3,126,640. White cells, 4,600.	40	.....	.....	.....	.....	Used to be a Spanish soldier, but became a farmhand here Usual symptoms plus pulmonary tuberculosis.	Di'd of tuberculosis
49	Aug. 20, 1902.	Elias R., 30 years, male, white.	Aug. 20.	1,904,440. White cells, 2,200.	30	56.3	33.6	4.8	5 3	An Arab. Intestinal tuberculosis and uncinariasis.	Died.
50	Jan. 12, 1902.	Name not known, 19 years, male, mulatto.	Jan. 12.	3,275,520. White cells, 5,400.	40	.....	.....	.....	.....	Lowlands. Usual symptoms.	Improving.
51	July 1, 1902.	Astacio B., 48 years, male, white.	.....	.....	.....	.....	.....	.....	.....	Lowlands. Began as usual Sugar plantation hand. Was a sailor until four years ago. Circulatory and nervous symptoms very marked. Extreme pallor.	Left hospital much improved, but finally had to be admitted to the insane asylum
52	Oct. 12, 1902.	Ignacio S., 16 years, male, negro.	....	.....	.....	.....	...	.....	.....	Highlands. Usual symptoms marked Color a peculiar dark gray.	Completely cured; color became normal dark brown.
53	Sept. 2, 1902	Ricardo R.	.....	.....	.....	...	.....	.....	.....	Usual symptoms.	Cured.
54	Sept. 7, 1902.	Dolores M.	.....	.....	.....	.....	.....	.....	.....	Same.	Cured.
55	Sept. 8, 1902	Gregorio F.	.....	.....	.....	.....	.....	.....	.....	Same.	Cured.
56	Aug. 10, 1902.	Name not known, 10 years, male, white.	.....	.....	.....	.....	.....	.....	.....	Most extreme case. When brought in was nearly moribund. The chief point in this case was that the heart was dilated, accompanied by tremendous ascites and general edema. Was several times necessary to draw off the fluid with trocar and canula and to scarify the scrotum and prepuce. Face that of an old man and dyspnea was distressing. Apparently in the last stages of organic heart disease.	Cured. Left hospital while still in a deplorable condition and without permission. Was thought to have died, but suddenly reappeared in March, 1903; no one recognized him and he had to make himself known. He is fat, strong, and healthy and has ruddy color.

Number of case.	Date.	Name, Age, Sex, and Color.	Date of blood examinations.	Red cells per cubic millimeter.	Hemoglobin, per cent.	Polymorphonuclears.	Small lymphocytes.	Large lymphocytes.	Eosinophiles.	Symptoms and Points Bearing on Case.	Remarks.
57	Dec. 5, 1902.	Francisco A ,49 years, male, white.	Dec. 5. Jan. 13. Feb. 15.	.....	15 20 32	55 52.5	20 21.5	7 10	18 16	Highlands. Laborer. Usual symptoms of severe degree. Has chronic enteritis and low vitality.	Greatly improved. Left hospital to go to work.
58	Aug. 5, 1902.	Name not known, 10 years, male, white. This case to contrast with No. 56.	.....	.....	.....	.....	.....	.....	.....	In a dying condition when admitted.	Died ten days thereafter. Autopsy notes elsewhere.
59	July 10, 1902.	E. Flor., 19 years. male, white.	.....	.....	.....	.....	.....	.....	.....	High degree of anemia and usual symptoms. Extreme case. Very melancholic.	Cured. A very successful case. Is ruddy and well; selling wares in streets of Ponce.
72	Dec. 9, 1902.	Name not known, 27 years, female, white.	Dec. 9.	2,400,000.	32	.....	.....	.....	.....	Very pronounced symptoms. Headache intense; causes her to scream from pain.	Left hospital improved; now said to be well, but never seen again.
73	Dec. 9, 1902.	Maria C., 25 years, female, white.	Dec. 9. Jan. 10.	....	51 90	.....	.....	.....	...	Usual symptoms. Intense headache and debility.	Cured.
74	Jan. 13, 1903.	Bonifacio R., 20 years, female, white.	Jan. 13. Feb. 15.	....	40 85	50	21.5	14	14.5	Usual symptoms. Acute case.	Cured.
75	Jan. 13, 1903.	Maria, R., 25, female, white.	Jan. 13.	.....	45	81	12.5	1	5.5	Usual symptoms. No reexamination of blood made.	Cured.
76	Jan. 13, 1903.	Belin R , 19 years, female, white.	Jan. 13.	.....	35	62	10	28	0	Very extreme case. Densely stupid, apathetic.	Died.
77	Nov. 16, 1902.	Ramon M., 10 years, mulatto, male.	Dec. 29. Jan. 13.	.....	49 56	37.5	27.5	13	22	Bad case.	Much improved. Still in hospital.
78	Dec. 29, 1902.	Jose R., 32 years, male. white.	Dec. 29. Jan. 13. Feb. 15	.....	15 26 40	51	34	14	1	Usual symptoms. Extreme case.	Now improving rapidly. Still in hospital.
79	Nov. 14, 1902	Juan M , 60 years, male, mulatto.	Jan. 13.	.....	39	.....	.....	.....	.....	Moderate case. Blood not again examined.	Cured.
80	Jan. 13, 1903.	Juan R., 23 years, male, mulatto.	Jan. 13.	....	33	.....	.....	.....	.....	Moderate case.	Improving. Still in hospital.
81	Jan. 13, 1903.	Pedro Q , 18 years, male, mulatto.	Jan. 13. Feb. 15.	....	42 68	54	17	19	10	Usual symptoms. Very much stunted mentally and physically. Looked to be about 10 years of age. Genitals infantile type.	Cured.
82	Jan. 13, 1903.	Primitivo R., 20 years, male, mulatto.	Jan. 13. Feb. 15. March 12.	.....	20 33 45	68	17	4.5	10.5	Usual symptoms save edema.	Improving in hospital.
83	Jan. 13, 1903.	Julio C., 18 years, male, white.	Jan. 13. Feb. 15. March 12.	.....	28 51 75	59	19	8	14	Usual symptoms. Same remark for this case as in case 81.	Cured.
84	Jan. 4, 1903.	Pedro R., 21 years, male, white.	Jan. 13. Feb. 15.	.....	25 40	80.5 76	10 9	4 6	5.5 9	Usual symptoms, but very severe attack.	Improving. Still in hospital.
85	Jan. 17, 1903.	Jose M., 20 years, male, white.	Jan. 17. Feb. 15.	1,450,000 White cells, 4,700.	12 21	89 50	5.5 18	3.5 26	2 6	Very bad case. Has tuberculosis.	Died.
86	Jan. 26, 1903.	Gervasio M., 12 years, male, white.	Jan. 26. Feb. 15.	....	30 64	67 63	16 16	7 6	10 15	Usual symptoms. Extreme pallor.	Cured.
87	Feb. 15, 1903.	Juan B.	Feb. 14. March 12.	.....	10 16	34.5	44.5	17	4	An extreme case. Usual symptoms.	Slowly improving in hospital.
88	Feb. 15, 1903.	Avelardo O., male.	Feb. 15. March 12.	....	32 35	47.5	30	12	10.5	Usual symptoms.	Improving in hospital.
89	Jan. 26, 1903.	Vicente R., 19 years, male, mulatto.	Jan. 26. Feb. 15.	.....	68 54	47.5 69	29.5 14	9 8	14 9	Usual symptoms Probably tuberculous pleuritis. Eventually empyema, for which he was operated upon.	Unchanged in hospital.
90	Jan. 31, 1903.	Paulino V.	Jan. 31.	.....	32	56	12	12	20	Usual symptoms. Acute case.	Imp'v'g in hospital
91	Feb. 15, 1903.	Segundo L.	Feb. 15.	.....	50	80	9	4	7	Usual symptoms.	Imp'v'g in hospital
92	Feb. 15, 1903.	Eduardo B., 30 years, male, white.	Feb. 15 Feb. 25. March 12.	.....	38 42 50	69.6	21.5	6.4	2.5	Usual symptoms	Imp'v'g in hospital
93	Dec. 30, 1902	Naria T , 22 years, female.	March 12.	....	75	53	22	13	12	Usual symptoms.	Improving in hospital.
94	Jan. 12, 1903.	Maria C., 27 years, female, white.	Jan 12 March 8.	.....	25 32	.....	.....	.....	.....	Usual symptoms. Intense pallor. No emaciation.	Great imp'vem'nt, although hemoglobin still low. Still in hospital.
95	Mar. 8, 1902.	Juana T., 20 years, female, white.	March 8.	....	10	70	17	3	10	Very extreme case; in seventh month of pregnancy. Had miscarriage later.	Improving rapidly in hospital.
96	Mar. 1, 1902.	Antonio C.	.....	.....	.....	.....	.....	.....	.....	Usual symptoms. No blood record.	Improving.
97	July 15, 1902.	Delgado, 19 years, male, white.	.....	.....	.....	.....	.....	.....	.....	Very severe case. No blood record.	This is one of the most successful cases we have had. A perfect condition of health has been secured and he is working in the hospital.
98	July 10, 1901.	L. G , 21 years, male, white; soldier, Philippines about a year ago. Arrived in Manila October, 1899. Went immediately out on outpost duty in the mud. Says about 20 of his company became pallid and had dyspnea so that they had to fall out on the march in the campaign following. He first noticed his pallor in June, 1900.	July 10. Aug. 4.	5 400,000. White cells, 8,200.	82 95	36 5	42	4	17.5	Pasty color marked; lips light lilac color at edges. Dyspnea on violent exertion. Vertigo; blurred sight at times; colored images before eyes. Somnolent. Apathetic with typical facies. Paresthesia of arms and feet, tinnitus aurium, pains in legs, patellar tendon reflex normal. Much headache and slight loss of weight. Pulsation of vessels in supraclavicular and intraclavicular spaces marked. Bruit-de-diable in right jugular. Enlarged spleen. Much palpitation of heart at one time. Has had fever of low grade and when disease began had epigastric pain. Gives history of having been covered with slimy mud of rice patties and of eating with muddy hands during his campaign A decidedly impure first sound is found on auscultation of the heart.	This patient was entirely cured at Fort Slocum, N. Y., before our cases previously cited in these histories were begun.

Number of case.	Date.	Name, Age, Sex, and Color.	Date of blood examinations.	Red cells per cubic millimeter.	Hemoglobin, per cent.	Polymorphonuclears.	Small lymphocytes.	Large lymphocytes	Eosinophiles.	Symptoms and Points Bearing on Case.	Remarks.
99	Aug., 1902.	Carmen, 22.	.....	.....	.....	.....	.....	.....	.....	Usual symptoms with great pallor. The record of the blood count was lost, but the hemoglobin is remembered to have been low. This patient is from a good family and is accustomed to excellent food. Her father was a coffee planter and she was accustomed to bathe in a stream that runs through the estate. Has had eruptions on the legs.	.....
100	June, 1903.	Juan Martinez, 14 years, white.	June 12, 1902.	White cells, 7,600.	45	55	23	11	11	Usual symptoms.	Under treatment.

toward autopsies, and this will explain our haste and seeming lack of precision.

The body was emaciated and subcutaneous fat was much reduced. There was general edema. An enormous quantity of straw colored fluid, free from fibrin flocculi, was recovered from peritoneum, pleuras and pericardium.

The lungs were free from any pathologic changes save that there was a hypostatic congestion at both bases.

The heart was not enlarged, but very pale and of a brownish-gray color. There were no valvular lesions.

The stomach was dilated and contained 83 uncinariæ which might have been mechanically dislodged from their more usual site. This, however, is improbable, as stomach and intestine were tied off in meter lengths *in situ* before removal. Comparatively few worms were found in the duodenum, and the great majority were seen to occupy the first part of the jejunum. A very few found in the ileum, but none in the colon. Nearly all were lying free in the lumen. In all 1,487 uncinariæ were encountered, as follows: 169 in the duodenum, and nearly all the rest in the first part of the jejunum. As stated before, a few were encountered in the small intestine. A notable fact is that the boy had received a full dose of thymol ten days before, and large numbers of the worms must have been passed at that time.

The liver was not noticeably enlarged, but its color was a most remarkable brownish-yellow.

The spleen was not enlarged.

The right kidney was a little smaller than normal, and the left kidney was about double the normal size.

The brain and cord could not be removed on account of lack of time. The muscles were very pale, and had none of the usual red color seen in fresh subjects, but instead were a pale brown.

In fact, all parts of the body evidenced great bloodlessness and were very edematous.

One noted early writer on uncinariasis makes the observation that on the approach of death in a long-continued case the uncinariæ, lacking food, let go their hold on the intestinal mucosa, "as rats quit an empty garret." However true this may be, and it certainly did not hold in Capps' case, already cited, it is very logical to suppose that as *Uncinaria americana* has not the ventral hooks of the Old World form (to which, by the way, Capps' specimens belonged), not only the treatment by thymol may be more efficacious, as suggested by Stiles in his most recent work, but postmortem the worm is not likely to be so profoundly attached to its feeding-ground. The very few that were attached in our patient were so loosely attached that they were readily taken off.

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SPLANCHNOPTOSIS CAUSED BY OMENTAL ADHESIONS.

BY

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Gastroptosis was first regarded as an individual lesion in 1885 and since then has been very constantly under investigation. At one time, from our perhaps biased point of view, it seemed as though no patient referred to the authorities in clinical medicine escaped the diagnosis of gastroptosis, enteroptosis or splanchnoptosis. And undoubtedly all these diagnoses were justified, but our experience has led us to a certainty that in many instances these lesions were entirely secondary to other conditions and in this our opinion is borne out by the fact of the disappearance of all symptoms by attention, not by any means always surgical, to their primary troubles.

Ptosis of the abdominal viscera appears in the vast majority of cases to be but a segment in a vicious circle. It is evident that these organs must either be actively pushed in a downward direction or must be drawn downward, either actively, or what may for our present purpose be styled passively, by relaxation of the abdominal parietes and the action of gravity. When the active or passive cause of the ptosis can be discovered and remedied sufficiently early, the normal resilience of the structures seems capable of repairing the damage, the supports becoming stretched beyond recovery only after a more or less protracted duration.

It cannot be too emphatically stated that general muscular atony is generally the passive cause of splanchnoptosis. The fact of the occurrence of six cases in women to one in men is in itself extremely significant in this respect. Women usually have good muscular development in their lower extremities, because their daily occupations require the use of these extremities. Muscular development in the upper extremities is far less advanced, because but few of them perform manual labor of a character to produce muscular development, but poorest of all is the development of their abdominal muscles, not alone because they do little work requiring the use of these muscles, but because they do not ordinarily use them for work which they might aid at least.

In men the abdominal muscles assist in no small degree, especially when respiration is accelerated and intensified by exertion, the respiratory function of the diaphragm. In women, on the contrary, breathing, thanks to their corsets, becomes of necessity almost entirely thoracic, thus allowing the abdominal muscles to undergo physiologic atrophy from lack of use. It is a wellknown fact that elocutionists, singers, and actresses, who in learning correct articulation first learn correct breathing with a certain amount of use of the abdominal muscles, are much less prone to unsightly abdominal enlargement than are women not so trained.

The inference from the foregoing is that if direct downward pushing by *improper* corsets and other clothing, and muscular atony with its attendant downward tendency of the viscera could be avoided, we would prevent splanchnoptosis instead of now trying to cure it.

This brings our prophylactic and hence, in recent cases, our curative measures, down to the proper adjustment of clothing and the strengthening of the general muscular system with very especial attention to the musculature of the abdominal parietes.

For many years after 1885 the first suggestion made by all clinicians on making a diagnosis of ptosis of any of the abdominal viscera was a snug, well-fitting, elastic, abdominal supporter. And with what result? Wellnigh invariable disappointment as regards cure but with considerable or perhaps great, immediate relief of symptoms. The patients become almost invariably permanently dependent upon their belts and all hope of ultimate cure is abandoned. And is it any wonder that such is the case? Can you imagine an athlete training for a running or jumping contest by putting splints from hip to heel and going about on crutches? Yet this does no greater damage to the thigh and leg muscles than does the elastic belt to the abdominal muscles. What these muscles must have to strengthen them is work, not a splint. The elastic abdominal belt is as absolutely irrational here as it is after abdominal operations except as a means of temporary relief.

It is not, however, the purpose of this paper to enter into an extended dissertation on massage, active and passive, and assisted and resisted gymnastics for the abdominal muscles but to proceed to the report of three, to us, particularly interesting cases.

Before taking up these cases a word will be said regarding the surgical treatment of these visceral ptoses, especially gastroptosis. Dr. Beyea[1] has reported six patients cured by operation. Dr. Byron Robinson[2] and Dr. Robert T. Morris[3], with others, have done such excellent work in this direction that abdominal surgeons all over the country, indeed all over the world, are becoming as enthusiastic in the treatment of these ptoses as clinicians were in their diagnoses.

These three cases taken in connection with a fourth, not of ptosis, have suggested to us the preparation of this word of warning regarding the operative treatment of splanchnoptosis; a condition which certainly belongs within the scope of the abdominal surgeon and it is only in the hope of preventing unjust criticism of the excellent work being done, through unforeseen but avoidable accidents that this is written.

CASE I.—Mrs. C. T. A., aged 35, married six years, has no children. She was brought to the outpatient department of the Free Hospital for Women by her family physician on August 22, 1900, when she gave the following history: Her first menstruation appeared at 15 years, and has always been regular and at first not painful, but for the last two or three years she has had general abdominal pain at the time of the flow which lasts four days. She soils 12 napkins altogether; clots are seldom passed. She has had three attacks of pelvic peritonitis within three years. In 1891 she strained her side by running a sewing machine, and had metrorrhagia for about a month. At present the patient is just recovering from her last attack of peritonitis. The left side being affected more than the right. The peritonitis causes a great deal of trouble with the bowels, which are constipated. Micturition is normal. Her general health good, with the exceptions noted. Her appetite is good and she is very nervous.

Diagnosis.—Much general abdominal flatulence. Left salpingitis, uterus retroverted in the second degree and adherent. The right ovary is enlarged.

Operation.—Firm adhesions were found to exist between the lower end of the omentum and the fundus of the uterus, the right broad ligament and the left tube, which were so firm as to require ligature and cutting. As the result of downward traction the transverse colon narrowly escaped injury at the upper angle of the incision, which was at least 1½ inches to 2 inches below the umbilicus. The stomach was drawn down, maintaining its normal relations to the transverse colon. Examinations at various intervals since the operation have invariably shown the stomach and colon in their normal position.

CASE II.—Mrs. J. H., aged 35, was brought to the Free Hospital for Women, outpatient department, by her mother (a former Free Hospital patient), on April 22, 1901. She has been a widow six years and has one child, aged 15 years. The gynecologic history is not characteristic in this connection. Questioning elicited no particular history except that she had had three previous attacks of pelvic peritonitis. The worst attack occurred in November, 1900, and kept her in bed three weeks.

Diagnosis.—Uterus retroverted. Cervix and perineum only slightly nicked. Uterus of normal depth. Bilateral tuboovaritis. A mass the size of a baseball is located high up in the right iliac region apparently adherent to the pelvic wall; it is hard and immovable.

Operation.—Celiotomy; the median incision being about 4½ inches in length. The intestines are adherent to each other, to the tubes, bladder, uterus, a left parovarian cyst, and to a mass in the right iliac fossa. There are also extensive omental adhesions; a parovarian cyst collapsed from recent rupture, and chronic salpingitis. The ovaries are atrophic. The mass in the right iliac region consists of rolled-up omentum, adherent intestines, and remains of the appendix. All adhesions were broken up, and the bowels not injured.

In this case the prolapsed transverse colon was constantly in the field of operation, and in much danger of being wounded. The distance between the transverse colon and the rolled-up mass of omentum excised with the appendix was very short. Convalescence was uninterrupted.

CASE III.—Mrs. N. M. T., aged 35. Married four years, has no children. Her history is irrelevant. At the time of first appearance of the catamenia she had an imperforate hymen incised. In 1901 she underwent an operation at the Free Hospital for Women for anteflexion (Dudley's operation), with only partial relief. Bowels excessively constipated.

Diagnosis.—Heart negative. Abdomen negative except for a markedly loaded sigmoid flexure. Uterus has very short portio vaginalis, and shows results of previous operation. Left ovary is the size of a pullet's egg, is prolapsed and adherent. There is a band at the upper left portion of the vagina.

Operation (December 16, 1902).—Celiotomy; median incision 3½ inches long. The left ovary was found completely degenerated (cystic), and with the tube firmly bound down. The left tube and ovary were removed, the intestines, sigmoid and omentum being badly implicated by adhesions. The right tube and ovary were normal and were not removed. In the right iliac fossa a tab of omentum, the tip of the appendix and the fimbriæ of the right tube were all conjointly bound down by adhesions, which were freed and the appendix removed. The uterus was in good condition. The lower end of the omentum was bound down clear across the pelvis by numerous attachments, to the posterior aspect of the broad ligaments, tubes and ovaries (none on uterus), so that ptosis of the transverse colon and stomach was caused by the traction. Dr. Emery Marvel, of Atlantic City, was present at the operation. Convalescence was normal.

Although too soon after the operation to speak of the ultimate result, the patient has gained much in weight, is free from pain, and has *no constipation* at present.

These three patients presented the common factors of pelvic peritonitis and marked constipation, although the peritonitis was far from a prominent factor in the history of Case III. This seems to me a strong warning against undertaking the operative correction of gastroptosis in cases in which any history of pelvic peritonitis can be obtained without making the first step of the operation a thorough exploration of the condition of the great omentum.

The omentum contains large vessels and is very easily torn and, as we know, very decided upward traction is exerted on tightening the sutures in the gastrohepatic omentum as suggested by Dr. Beyea. And even though these sutures are tightened easily, the stomach and colon coming easily up into position, we have, unless we explore the omentum, no guarantee that our operation

will be successful or even safe when the patient assumes the upright position. When in the recumbent posture, as during operation, the intestines gravitate toward the posterior abdominal parietes and all tension is taken from the omentum; but if the lower end of the omentum is adherent in the pelvis and the abdominal muscles relaxed the omentum becomes a sling in which are suspended the intestines when the patient is erect. The danger incident to this condition seems to be more forcibly brought home to me by recalling a fourth case having nothing to do with visceral ptosis.

The patient was operated upon eight years ago in Philadelphia for fibroids, supravaginal hysterectomy being performed. Convalescence was protracted and she had "inflammation of the bowels." All her difficulties at the time seemed to be due to multitudinous adhesions. At the operation we destroyed all possible adhesions, twice wounding the outer coat of the bowel and once entering the lumen, so strong and numerous were the adhesions. Finally the operation was completed by cutting away a large, firm, indurated mass of omentum which had been adherent to the inner aspect of the original scar. Only very moderate traction was at any time exerted on the omentum, and when cut away the hand traversed the entire abdominal cavity with perfect freedom. The patient died from sepsis on the third day and a partial autopsy revealed the cause. All areas upon which I had operated were well covered in and looked as healthy as could be expected. The sepsis had certainly not emanated from this source. On extending the original incision up to the ensiform cartilage a band of adhesion about 1½ inches in length and ¼ inch in diameter was found connecting the transverse colon, close to the omental attachment, to the anterior abdominal wall up in the epigastrium. At the base of this band of adhesion and between its base and the attachment of the omentum was a perforation of the transverse colon about ¼ inch in diameter from which the sepsis had emanated. Downward traction upon the omentum, which was at all times gentle, had by means of this band torn the transverse colon. A similar upward traction might easily do an equal amount of damage.

In conclusion, we would urge that care be exercised in early operations for splanchnoptosis lest these excellent operations, which are entirely rational and in properly selected cases eminently successful, be unjustly condemned, as has the Alexander operation for retroversion, because improperly used in improperly selected cases. Certain it is that in the three cases cited neither abdominal belts, proper corsets and clothing, abdominal massage, diet, gymnastics, nor any of the operations suggested could have cured so long as the lower end of the great omentum was still adherent.

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ON THE CONDITION OF THE BLOOD IN RHEUMATOID ARTHRITIS AND OSTEOARTHRITIS.

BY

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In a cursory examination of the recent literature I have been unable to glean much of value on the subject of the condition of the blood in those pathologic conditions variously referred to as rheumatoid arthritis, osteoarthritis, and arthritis deformans.

Numerous writers refer to "anemia" as characteristic of these conditions, but their conclusions rest for the most part on the general appearance of the facies, etc., rather than upon any absolute determination of the hemic conditions.

An exception to the above is an article by Bannatyne[1] on "The Anemia of Rheumatoid Arthritis." He considers anemia to be an ever-present concomitant of this condition, finding it, to at least a slight degree, in 95% of his cases. He regards it as of the secondary or symptomatic type, especially marked in the very acute or advanced cases.

The red blood-corpuscle count varies in his series from 4,300,000 to 3,000,000, and the hemoglobin from 80% to 40% of normal, while there is always a slight leukocytosis, which apparently bears no relation to the degree of anemia or to the severity of the disease. The hemoglobin in each cell is not only reduced in amount below the normal, but is held in a combination easily broken up, from which he advances the theory that in rheumatoid arthritis toxic albumins, acting as a ferment, gradually dissolve out the hemoglobin and thus ultimately destroy the red corpuscles—this in distinction from primary destruction of the cell, which is the result of direct bacterial action.

Bannatyne also quotes Forsbrooke as stating that, in cases of rheumatoid arthritis he always found an anemia present, the red blood-corpuscles showing a decrease of from 77% to 52% of the normal number, and the hemoglobin of from 55% to 25% of the normal.

In view of such statements I have found it of interest to compile the results obtained from observations which I have made in a series of 40 selected cases. These do not apparently bear out the findings quoted, and I now report them in detail, merely noting that a report based on so few cases cannot be regarded as final, but merely as preliminary to more extensive work on the subject.

The cases have been selected only in so far as they all represent active stages of the disease. In some instances they were taken during the acute symptoms marking the onset of the disease, and in others during an exacerbation of these symptoms, which occurred months, or even years, after the first attack.

In these cases both counts and estimations were made without exception by the same observer and with the same apparatus; the Thoma-Zeiss blood-counting apparatus for estimating the number of red and white corpuscles, the Tallquist scale for the percentage of hemoglobin, while for determining the leukocytic differential count the blood smears were prepared by the Wright-Leischmann method, 500 leukocytes serving as the basis of estimation in each case.

The 40 cases fall into two equal groups, exemplifying respectively the two distinct clinical and pathologic entities differentiated and described by Goldthwaite[2] in 1897, and by Painter[3] in 1901, under the terms *rheumatoid arthritis* and *osteoarthritis*.

As the results obtained in this series are of value only by comparison with those found in normal conditions, I have taken the following as a standard, well aware that such figures are at the best only approximate:

Red blood-corpuscles per cmm.: Males, 5,000,000; females, 4,500,000. Hemoglobin, 100%. Leukocytes, 7,500.

Leukocytes, differential: Polymorphonuclear neutrophiles, 70% to 72%; small mononuclears, 22% to 25%; large mononuclears, 1%; transitionals, 1% to 3%; eosinophiles, 2% to 4%; basophiles, ½% to 1%.

A summary of the cases under consideration is as follows:

A. *Rheumatoid Arthritis.*—Red blood-corpuscles: Highest, 5,980,000; lowest, 4,148,000; average, 5,112,000. Average of 3 male cases, 5,280,000; average 17 female cases, 5,082,000. Hemoglobin, highest 100%, lowest 80%, average 94%. Leukocytes, highest 15,800, lowest 5,400, average 8,885.

Leukocytes, differential: Polymorphonuclear neutrophiles, highest 80.6%, lowest 52%, average 64.2%; small mononuclears, highest 40.0%, lowest 17.6%, average 27.3%; large mononuclears, highest 12.6%, lowest 0.8%, average 6.0%; transitionals, highest 4.4%, lowest absent 4 cases, average 1.5%; eosinophiles, highest

2.8%, lowest absent 7 cases, average 0.7%; basophiles, highest 0.6%, lowest absent 17 cases, average 0.05%.

B. *Osteoarthritis.* — Red blood-corpuscles: Highest 7,600,000; lowest 4,024,000; average 5,301,000. Thirteen males, average 5,640,000; 7 females, average 4,673,000. Hemoglobin, highest 100%, lowest 70%, average 94.5%. Leukocytes, highest 12,800, lowest 5,200, average 9,175.

Leukocytes, differential: Polymorphonuclear neutrophiles, highest 80.0%, lowest 57.4%, average 71.3%; small mononuclears, highest 35.0%, lowest 14.4%, average 21.8%; large mononuclears, highest 8.2%, lowest 1.8%, average 3.4%; transitionals, highest 4.6%, lowest absent 4 cases, average 1.7%; eosinophiles, highest 5.6%, lowest absent 1 case, average 1.7%; basophiles, highest 1.2%, lowest absent 13 cases, average 0.2%.

A perusal of these figures will show in both groups a red blood-corpuscle count ranging slightly above normal, while the hemoglobin percentage is close to the 100

A.—RHEUMATOID ARTHRITIS.

Case.	Sex.	Hemoglobin.	Red blood-corpuscles.	Leukocytes.	Polymorphonuclear neutrophiles.	Small mononuclear.	Large mononuclear.	Transitional.	Eosinophiles.	Basophiles.
1	F.	80%	4,312,000	11,200	52.0	30.4	12.6	2.2	2.8	.....
2	M.	100%	5,204,000	6,700	58.4	33.8	4.2	3.6	.....	.....
3	F.	100%	5,040,000	7,200	55.8	35.4	4.4	3.8	0.6	.....
4	F.	100%	5,628,000	5,400	65.0	28.6	4.2	2.2	.....	.....
5	F.	100%	5,484,000	9,200	72.0	23.4	3.4	1.2	.....	.....
6	F.	100%+	5,932,000	11,200	63.4	28.0	6.0	0.6	.....	.....
7	F.	100%	5,632,000	15,800	52.0	30.4	12.6	2.2	2.8	.....
8	F.	100%	4,760,000	5,800	58.8	40.0	1.0	0.2	.....	.....
9	F.	100%	4,876,000	13,700	80.6	18.4	0.8	0.2	.....	.....
10	F.	90%+	5,096,000	9,000	62.8	31.8	4.6	.....	0.8	.....
11	F.	100%	5,176,000	7,200	52.4	38.6	5.0	2.0	2.0	.....
12	F.	100%	5,100,000	9,400	66.7	24.6	7.6	0.2	0.6	.....
13	M.	90%+	5,280,000	6,900	56.8	28.8	12.2	.....	1.2	.....
14	F.	100%	5,240,000	10,700	65.6	22.2	6.8	4.4	0 8	0.2
15	F.	85%	4,920,000	7,600	70.6	20.0	6.2	2.8	0.4	.....
16	F.	85%	4,148,000	6,600	70.4	24.6	3.4	1.0	0.4	0.2
17	F.	100%	5,380,000	7,700	73 6	17.6	6.2	2.6	.....	.....
18	F.	90%	4,460,000	9,200	66.8	24.4	8.6	.....	0.2	.....
19	M.	80%+	5,356,000	7,600	73.6	18.0	6.4	1 2	0.8	.....
20	F.	80%	4,616,000	9,600	66.4	26.8	4.8	.....	1.4	0 6

B.—OSTEOARTHRITIS.

Case.	Sex.	Hemoglobin.	Red blood-corpuscles.	Leukocytes.	Polymorphonuclear neutrophiles.	Small mononuclear.	Large mononuclear.	Transitional.	Eosinophiles.	Basophiles.
1	M.	70%	4,840,000	12,500	73.6	24.2	2.0	.....	0.2	.....
2	M.	90%	5,884,000	10,400	78.2	17.4	2.8	.....	1.2	.....
3	M.	100%	7,600,000	6,200	80.0	15.6	3.0	1.0	0.4	.....
4	M.	100%	5,768,000	10,600	73.8	16.2	6.6		3.4	.....
5	F.	100%+	5,224,000	9,400	66.6	25.8	3.0	0.2	4.4	.....
6	F.	80%	4,132,000	12,800	77.8	19.6	2.0	.....	0 4	.....
7	F.	80%	4 324,000	10,500	68.8	26.6	2.4	0.8	1.4	.....
8	M.	100%	6,236,000	10,800	74.8	14.4	5.8	2.0	2.4	0.6
9	F.	100%	5,228,000	10,000	57.4	27.8	8.2	2.6	2.8	1.2
10	M.	100%	4,488,000	6,800	66.8	29.0	3.4	0.4	0.4	.....
11	F.	100%	4,556,000	5,200	71.6	21.8	3.2	2.6	0.8	.....
12	F.	90%	5,224,000	11.000	73.8	19.6	2.2	3.4	1.0	.....
13	M.	100%	4,432,000	8,400	70.2	20.0	6.0	1.6	1.6	0.6
14	M.	90%+	5,744,000	7,800	79.8	15.6	2.2	2.4	.....	.....
15	M.	100%	5,225,000	7,400	58.6	29.4	1.8	4.6	5.6	.....
16	M.	100%+	6,916,000	6,800	71.0	17.6	2.0	4.4	3.0	.....
17	F.	90%	4,024,000	8,600	79.2	16.4	2.8	0.4	0.4	0.8
18	M.	100%+	5,404,000	11,600	70.8	23.6	2.0	0.6	2.8	0.2
19	M.	100%	5,272,000	10,300	74 4	20.0	2 4	1.8	0 8	0.6
20	M.	100%	5,512,000	6,400	58.2	35.0	4.2	0.8	1.6	0.2

mark. That this should occur not only in robust, healthy men with acute osteoarthritic symptoms of but a few weeks' standing, but also in the pale, sallow, listless and poorly-nourished sufferers from a more or less general rheumatoid arthritic involvement is unexpected.

The slight leukocytosis noted in most of the cases seems to bear no relation to the severity of the symptoms or to the duration of the disease.

The differential leukocyte counts, though showing some slight variation from normal, particularly in the decrease in the percent of polymorphonuclear and increase in the mononuclear elements, as seen in the rheumatoid arthritic group, is certainly not striking.

In short, the condition of the blood is not such as would be expected in diseases of such a general wasting nature. No abnormal elements such as microcytes, macrocytes, nucleated red corpuscles, or other signs of hemic degeneration, were found, and to all appearances, in the acute stages of the disease, the formed elements of the blood are practically unaffected.

Further observation can alone determine the reason of this apparent disagreement between clinical appearances and microscopic findings.

The findings of the blood examinations in detail will be found in the accompanying tables.

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ECLAMPSIA.

BY

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Eclampsia is one of those incidences of pregnancy which cause the obstetrician much anxiety, for as yet the pathology and prophylaxis have not been placed on a sure footing.

The convulsive condition whether anemic, diabetic, epileptic or eclamptic, is invariably associated with an increased amount of ammonia and nitrogen eliminated by the urine, both prior to, during, and immediately after the attack.

In 1896 Dr. Chas. G. Hill, in a paper read before the American Medico-Psychological Society, stated the results of his investigations on the urine in epilepsy, showing that there was invariably an increased elimination of nitrogen and ammonia in the urine of epileptics. More recently Kransky found a large increase in the blood of epileptics and the same condition has been found to exist in eclampsia. It is very improbable that the ammonia present in the blood is the direct cause of the convulsion, though it is evident that it must be as it were a by-product of the convulsive condition.

An excess of ammonia in the blood can be produced by an arrest of the metabolism in which the ammonia is not converted into urea and it would then exist either as carbamate or carbonate of ammonia, or on account of the presence of excess of an acid in the blood, forming a combination which the liver is unable to convert into urea. This condition would be due to the formation of some normally present organic acid in excessive quantity or an acid not normally present, but formed through perverted metabolism or in intestinal putrefaction. Any condition therefore which reduces the alkalinity of the blood would increase the amount of ammonia eliminated by the urine. Pugh, in "Brain," 1903, has shown that the alkalinity of the blood is below normal in epilepsy.

During pregnancy the nervous system is more unstable than at other times and therefore many pathologic conditions might produce convulsions. Anemia, the presence of ammonia carbonate or carbamate in the blood, edema and anemia of the brain, bacterial invasion, autointoxication, hepatotoxemia, perverted fetal metabolism, disease of the placenta, retention of nitrogen, pressure of the uterus on the ureters, have all been advanced as etiologic factors producing the condition. Owing to the unstable condition of the nervous system during pregnancy any of the above conditions might produce convulsions, but they are not constant enough to be considered as the causes of the definite clinical entity of eclampsia.

The consensus of opinion at present is that eclamptic convulsions are the result of an autointoxication and that the conditions existing are an increased mean blood-

pressure, a perverted metabolism, a decreased elimination by the kidneys and in the majority of cases albuminuria and casts in the urine. The pathologic findings being fatty degeneration of the liver and kidneys.

The placenta may be looked upon as a digestive organ preparing the nutrition for the fetus, and possibly it also has an hepatic function destroying the toxic products of fetal metabolism before the fetal blood enters the vena cava, consequently a pathologic condition of the placenta might produce toxemia. A certain number of cases of eclampsia are due to renal and hepatic insufficiency either primary or secondary.[1]

The connection of the thyroid gland with the organs of generation has been established, the gland enlarging at puberty and during menstruation, pregnancy, and lactation; the far-reaching effect of hyposecretion of the gland and the various disturbances the condition produces have led many investigators to experiment as to the possibility of producing eclampsia by partial thyroidectomy.

In experimenting with thyroidectomy Halstead observed, that a bitch which had been deprived of a large portion of her thyroid gland but remained apparently in perfect health, became impregnated by a normal dog, progressed without any signs of hypothyroidea till term, but at delivery showed all the symptoms of athyroidea including convulsions. Since this observation many experiments have been made on this point, notably those of Verstraeten and Vanderlinden,[2] v Eiselberg,[3] I Jeandelize,[4] and Lange.[5]

The latter removed a fifth of the thyroid gland from 10 pregnant cats; two died in coma, one 23 days, and the other 38 days after the operation, three had convulsions 23 and 25 days after operation. Lange found fatty degeneration of the kidneys and liver, 3 cats had albuminuria, five remained well but at autopsy three of them had fatty degeneration of the kidney. Five other nonpregnant cats were operated upon in the same manner as controls without any apparent effect.

Lange examined a series of 133 cases of pregnancy and found that the hypertrophy of the gland commenced in the fifth month in multiparas and in the sixth month in primiparas. He also found that on the administration of small doses of thyroid to pregnant women with enlarged thyroid that the gland returned to normal size, but on the cessation of the treatment it again hypertrophied. Of the 133 cases examined he found the gland enlarged in 108 cases, three were doubtful, in 22 there was no enlargement; of the 22, 20 showed albuminuria, 16 albuminuria with casts; six of these patients developed eclampsia; of the 108 with hypertrophied gland only two had albuminuria, and one of these was a nephritic, none of the 108 developed eclampsia.

Hergott reports a case of incomplete myxedema in which eclampsia occurred. Verstraeten and Vanderlinden,[6] and Nicholson[7] report cases of eclampsia which they attribute to thyroid insufficiency. Nicholson treating a patient with thyroid with success.

The thyroid function being increased during pregnancy, it is evident that if for any reason the thyroid has failed to develop fully, though secreting sufficiently under ordinary conditions, it will fail to respond to the excessive demand upon it during pregnancy. It is by no means uncommon for the thyroid to be affected by the acute diseases of childhood, rheumatism, typhoid, etc., as has been shown by Garnier and Roger, consequently at the first pregnancy there is a deficiency of thyroid secretion which may be a factor in producing eclamptic convulsions at term in primiparas. The excitation of the gland during pregnancy will have a tendency to increase its functions, preventing the recurrence of the symptoms at the next pregnancy. In other cases the gland never acquires a sufficient secreting power and eclamptic convulsions occur at every successive labor. In those who have no eclamptic symptoms at the first pregnancy, but in whom they appear in the later pregnancies it may be assumed that the strain upon the gland during first pregnancy or some intercurrent disease affected the function of the gland.

The principal symptoms of eclampsia are the same as those of hypothyroidea, high mean arterial pressure, decreased elimination by the kidneys, perverted metabolism and very often albumin and casts. In partially thyroidectomized animals the same symptoms occur, while the principal pathologic lesion is fatty degeneration of the liver and kidney, the same as in eclampsia. From the above data it is probable that a certain number of cases of eclampsia are due to a hyposecretion of the thyroid gland. (The knowledge of the functions of the parathyroids is not sufficiently advanced at present to give any theory as to their connection with this disease, except upon the general principle that the thyroid proper has to do principally with the nutritional and the parathyroids with the nervous symptoms produced by thyroparathyroidectomy.)

The following case occurred in the practice of Dr. Charles G. Hill:

A primipara was examined 6 weeks before term; her urine was found to contain 11.37 albumin in 24 hours with some casts, the nitrogen occurred as urea 79.8%, ammonia 9.2%, uric acid 1.8%, residual 9.2%, chlorids 10.4, P_2O_5 2.65, $\frac{\text{carbon}}{\text{nitrogen}}\ \frac{6.16}{7.97} = 0.77$. The blood-pressure showed a very high mean in proportion to the $\frac{\text{mean}\quad 168\text{ mmHg}}{\text{maximum}\quad 208\text{ mmHg}} = 0.8$ with a pulse of 105. Dr. Hill, who had attended her before marriage, had diagnosed hypothyroidea; she improved in general health under thyroid treatment; he now gave her full doses of thyroid and parathyroid, the blood-pressure falling under the treatment to $\frac{\text{mean}\quad 152}{\text{maximum}\quad 198} = 0.76$, pulse 95, the relation of maximum to mean pressure being nearly normal. She was delivered 2 weeks before term without any accident. The day after delivery the blood-pressure was $\frac{\text{mean}\quad 140}{\text{maximum}\quad 182} = 0.7$ or normal or slightly below. Nineteen days after delivery albumin was absent from the urine, urea N 83.7%, ammonia N 8.0%, uric acid, 0.55%, residual N 7.75%, being normal except for the still rather high proportion of ammonia N, $\frac{\text{carbon}\quad 4.56}{\text{nitrogen}\quad 4.48} = 1.0$ chlorids were 6.4 gms. P_2O_5 1.68. The thyroid treatment was discontinued at the time of delivery, but resumed again on the fourth day as the urine became scanty, the pulse very hard, and lactation had not commenced. It is, of course, impossible to say if this patient would have had eclampsia if she had not received thyroid treatment, but as she did not have eclampsia it is not unreasonable to suppose that this was a case of aborted eclampsia. The delivery taking place a week or two prematurely may also have had a tendency to abort the eclampsia.

Taking all the points given, the relation of the thyroid to pregnancy, the results of the experiments on animals, the similarity of the cardinal symptoms of eclampsia to those of hypothyroidea, the observations of Lange on pregnancy, combined with the clinical evidence, it would seem to prove that at least a considerable proportion of the cases of eclampsia are due to thyroid insufficiency.

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Yellow Fever in Mexico.—Latest news from Mexico states that there is much alarm felt over the rapid spread of yellow fever to points along the Gulf division of the Mexican Central Railroad. The fever is epidemic in several towns between Tampico and Monterey, and at Linares and Victoria the daily deathrate is very large. It is also spreading to towns situated some distance from the railroad. At Tampico the deathrate has increased during the past few days despite the vigorous efforts of the Mexican health authorities to control the epidemic. A double quarantine has been established between Monterey and Linares, the nearest place to that city where the fever is prevalent, and it is thought that it will not reach Monterey.

INFANTILE TETANY.[1]

BY

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Inasmuch as tetany is a rare disease in this country, Griffith having collected only 73 cases, and these comprising all ages (66% under 2 years), it seems proper to record the following case of infantile tetany, even though it proved a mild and very transitory affection.

The patient was a colored female, aged 2 years and 7 months, the youngest of five children. All these children were weaned early and all displayed stigmata of rachitis.

According to the history obtained the child had not been in its usual health for a week or two, having some diarrhea, lack of appetite, and languor.

I saw her on the morning of January 31, 1903. The mother said that on arising from bed the child was unable to stand and that her hands were cramped. The history of intestinal irritation seemed the rational and the only immediate cause of the spinal irritation.

Unfortunately, because of inclement weather, it was not wise to expose the child before the third day, and as there was a steady lessening of the degree of spasm, the accompanying photograph, while typical of the condition, does not show the intensity of contracture that was present on the first day.



The description of tetany as given by Holt corresponds closely to the symptoms present in this little patient.

The wrists were flexed, the fingers straight but flexed at the metacarpophalangeal joints. The thumbs were adducted and touching the adducted little fingers. There was some turning toward the ulnar side. The feet were extended, the toes on the first and second days showed more flexion than appears in the photograph. There was no involvement of the knees or the elbows.

For the first few days this condition of tetany was present most of the time. Though I saw the patient only in spasm, the mother stated there were intervals of relaxation varying from 1 to 15 minutes. There was well-marked edema of the dorsal surfaces of the hands and of the feet.

Massage of the forearms and legs caused pain and intensified the spasm, more marked than was obtained by pressure over the nerve trunks and arteries, as described by Trousseau. The patellar reflexes were possibly slightly exaggerated. Chvostek's sign was absent.

Sensation was normal. Some authorities note polyuria as a usual symptom. In this case anuria was present for 20 hours. The temperature was normal, the pulse 132. I considered this rapidity of the pulse due in considerable measure to the nervousness of the child. The thyroid was not enlarged.

There was a very interesting coincidence. A brother, 4 years of age, at the time of my first visit exhibited a similar, though milder, spasm of both hands, the right being more marked. These spasms were of short duration, and seemed in some measure to be controlled by the will. I saw this condition only the first day, though the mother noted it occasionally for several days.

At the end of one week the little girl was walking and had only infrequent spasms. In two weeks from the time of their first appearance she had completely recovered.

To Combat Bubonic Plague.—News from Panama states that the National Government has approved the recent decree of the Governor of Panama placing a tax of $100 on all vessels entering the ports of Panama or Colon while the danger of introducing bubonic plague lasts. These taxes will be devoted to defraying the expenses of the quarantine stations.

[1] Read before the North Branch of the Philadelphia County Medical Society, June 11, 1903.

SPECIAL ARTICLES

SOME NOTES ON NASSAU.[1]

BY

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Summerland in midwinter, roses in January, muslin gowns at Christmas, doors and windows open, day and night; almost constant sunshine, snow and slush eliminated, such are some of the attractions of Nassau as a resort. It is a winter resort, pure and simple, and the season is the three months of January, February, and March, though some people do go a little earlier and some stay a little later. All of this to be had within easy reach of New York City, a sail of three and a half days taking one to Nassau; or, should one prefer, he can go by rail and boat in a little over two days. This rapid transition from winter to summer, with its setting of blue skies, blue and malachite seas, white soil and tropical foliage, makes the change seem like going into fairyland. What, in more detail, are the attractions and what the disadvantages of the place?

There is the negative one of getting away from winter in the north. But there are other places to go to. Southern California, some 500 miles north of Nassau, furnishes an exemption from the cold and snow of a New England winter; but then Southern California seems so far away—the entire continent has to be traversed to get there. The Sandwich Islands are further still, even though they are south and offer an attractive climate. There is the whole range of the Atlantic coast, to the very tip of Florida with its climates of various sorts, seaboard and inland, but not island. One could go to the Bermudas and get an island climate; but he would still be several hundred miles north of Nassau, and the Bermudas are said to be rainy and damp; or he could keep on south and have an island climate at Jamaica, but he would be only 18° away from the equator, and that is not what is sought.

Nassau is decided on by one seeking a winter resort. It is south, at sea-level, 160 miles to sea, and on an island.

It is as though one were on the deck of a large ship—in the form of an ellipse, 20 by 6 miles, approximately twice the size of the island of Nantucket—anchored in midocean 950 miles south of New York city and 160 miles east of the southern tip of Florida. This would bring Nassau 250 miles north of Honolulu and 650 north of Manila. The fact that Nassau is on a small island in midocean must not be lost sight of, as this gives the advantages of an ocean climate, with the additional advantage of space to move around on.

In many ways it resembles Colorado, only it is at sea-level and not a mile up in the air. Consequently, its barometric pressure is the one to which so many are accustomed. Its soil is peculiarly dry and rain does not stand on it in puddles. It is of coral formation; of a soft, white, lime rock, which can be quarried with the saw and which makes a kind of natural asphalt with the rain. Its streets and walks are easily swept and shed the wet rapidly, while they are not dusty. Vegetation seems to thrive wherever it can take root.

This is a land of pure air. No dust, no smoke, no atmospheric impurities, especially when the wind blows from the north or east, and their allied quarters, which the tables show, is most of the time in the months under consideration. This wind-direction means that the air comes to Nassau after crossing hundreds upon hundreds of miles of ocean and consequently is pure.

It is a land of sunshine. Experience will bear out this assertion, even though the tables may seem to induce doubt. But here it must be remembered that the records represent only two brief moments in the 24 hours, viz., at 8 a.m and 3 p.m., and that there is a large field for guessing on the part of the observer, as he records only what he thinks he sees at those two moments; and that the percentage of "cloudy" weather (including "partly cloudy," or "overcast") is to "clear" as 7:3, which means that the day may be a practically clear one

[1] Read at the meeting of the American Climatological Association, held at Washington, D. C., May 12, 1903.

and yet be recorded as cloudy. White canvas hats are the rule among visitors, and travelers all comment on the glare.

Again, an out-of-door life is the rule. This is a great feature. Doors and windows are open all of the time, and one constantly lives in the air. This is rendered possible by the large amount of sunshine, the slight motion or velocity of the wind and the great equability of the temperature. This last is always warm, at the minimum being about the temperature at which we recommend that our houses should be kept, and at the maximum, in the shade, temperate. The change between the highest and lowest air-temperature is always moderate and can easily be provided for by slight additional wraps. Fires for heating purposes are practically unknown, and no provision is made for them. In the sun, on the other hand, because Nassau is so far south, the temperature is high, and perspiration—active perspiration, on exertion—flows. Hence the care necessary to be taken not to check the action of the skin, to avoid draughts and not to catch cold.

But if Nassau is characterized by a dry soil, a large amount of sunshine, a slight wind velocity, an equable temperature, an ability to lead an out-of-door life, and an exceptionally pure air it must be borne in mind that it is at sea-level and nearly under the Tropic of Cancer—conditions that would make a dense air, a heated air, and in turn a humid air. This, in actual life, we find to be so, as the relative humidity is high, and the actual grains of vapor large. Iron rusts, shoes mildew, bichlorid tablets deliquesce. Of course, there is no snow or frost, and the rainfall is large (50.82 inches is the mean given for 17 years—or 3½ times that of Colorado). The three months under consideration are remarkably free from rain, and contribute but a small, a very small, amount to this sum total. The dews may be heavy—often one hundredth of an inch—in which respect it resembles Southern California, from which, however, it differs essentially in not having fogs. Thunder showers are rare in the winter.

We have seen fit to contrast Colorado and Nassau because, while they are so alike in some important features, they are at variance in others, and are, as it were, complementary of each other. In each there is the ability to lead an out-of-door life on a dry soil, in a remarkably pure air, flooded with brilliant sunshine and without fogs or high winds. All this in Colorado, at an elevation, in a rare dry air, marked by a considerable variability of temperature. At Nassau this is done at sea-level, in a dense moist air, marked by equability of temperature. In Colorado the climate is stimulating, bracing; at Nassau it is soothing, enervating. In the former the physical attractions are of a rugged, mountainous character; in the latter they pertain largely to the sea, its brilliant and varied coloring, the fishing, sailing, bathing. Indeed, the rich coloring of the sea, in its variegated blues and greens; the azure sky, with the fluffy cumulous clouds floating idly around; the sparkling brilliancy of the sunshine; the white of the coral land, and the exotic, tropical foliage, give a strangeness—a fairy-like character to the scene, a flavor which is unusual and fascinating.

But, *per contra*, as attractive as all of this sounds, there are conditions, some climatic, some not, but of importance, which must be taken account of, and which, to a northern man—one from the latitude of New York—will be taken as *con* rather than *pro*. These may be summed up largely in the word "tropical." This is a tropical climate; and one living at a latitude of 40° is not inured to the climatic conditions that prevail at a latitude of 25°, even though he may live at sea-level and not be accustomed to the brace that comes with elevation.

A depression, an enervation, of body, often of mind, is apt to ensue, and one may wonder whether he may not have a touch of malaria. This is probably climatic—due to being so far south; so much more in the direct rays of the sun, and is a part of the soothing influence that goes with living in the tropics. If one runs away from the brace—the tonic influence of cold, he must not look for it in heat.

But these annoying conditions may be considerably mitigated by proper regulation, by attention to diet, to exercise, to clothing. It does not do to eat and drink as one does in a colder climate. The system does not require it, and evil consequences must invariably attend such a course. The amount of, and time for exercise should also be regulated. In fact, there is a great indisposition to do anything, and this little is not to be done at mid-day. As regards clothing, this of course, should be much lighter in texture, in color, if not in material, than in the north.

The native black who, as a rule, is a fine specimen of physical development, lives largely on fish, fruits, sugar-cane, peas or beans, and rice; he sits around a lot, happy as the day is long, and does not seem to be constantly scheming for the morrow; and as for clothing, it does not consist of much, and the little is light in color, texture and material. A northern man might well take a lesson from him, for experience has taught him.

It does not do to adopt a northern appetite and a northern winter wardrobe in this southern clime. At the same time one cannot readily change all his methods of life in a day; and it does seem as if a little more attention to details would enhance the pleasure of a stay in Nassau. If it is of importance to look after the ingesta of the body, it is also of importance to attend to the egesta. There is no sewer system here, and for the most part the privies are insufficient and inconvenient. If it is well not to be overclad, one should not be underclad. In a climate like this, where there is the great difference in temperature between the sun and the shade, where doors and windows are open, and where the skin is active, care must be taken not to catch cold. For taking cold has its evil consequences, in aches and pains, here as elsewhere. Hence the advisability of having wraps handy and of avoiding draughts.

In regard to the diet: Most of the things are brought from the mainland. Ice is manufactured at the hotel, while that used in town is imported from Maine. Meats are imported, and many of the vegetables. But the returns from the tomatoes and lettuce grown here give suggestions of successful market-gardening not confined to these vegetables. Milk (cow's milk) is to be had at 15 cents to 20 cents a quart, but still, it is to be had. The drinking water is, in many cases, rain water, caught on the roofs and stored in cement cisterns. The well water is full of lime and is hard.

With regard to exercise: There are somewhat rough and stony golf links, and the roads are hard and well adapted to bicycling. These seem violent methods of exercise, though both have their advocates. But the temptation to sit on the piazza and look out on the blue and malachite of the sea and its wealth of shipping life is strong and seductive.

The piazza life, even into the evening, is a feature, but is often interfered with by the mosquitos, especially if the wind is from the south, blowing across the island. There is an excellent library, an unusually well-assorted one, of 15,000 volumes, and a daily bulletin, by cable. This cable makes a possible connection, though an expensive one, with the world. There is a charge of 36 cents a word, address and signature as well as the message, to New York, which is 11 cents more per word than from the latter place to London. This makes the adoption of some cable code advisable.

But a point of advantage, and yet one that has its limitations is the accessibility. Distance and accessibility are not synonymous terms. For instance, Chicago and Savannah are about equidistant from New York. Are they equally accessible? So at Nassau, connection with the mainland is by steamers which run at intervals, and may not run at all just when one most wants to get away; or the sea may be rough and the journey unpleasant; or sometimes the landing is to the southwest, 18 miles away—all of which makes the 1,000 miles to New York seem very long. But, on the whole, to one who enjoys sailing, the trip of three days and four nights is most enjoyable; and the experience of awakening from the cold of winter into the warmth of summer in a twinkle, as if by "presto, change!" is a never-to-be-forgotten one.

The steamers are seaworthy and comfortable. The hotel, expensive but commodious; the boarding-houses, considerably less expensive but not so convenient.

To sum up briefly: There exists at Nassau a summer climate at midwinter, an ocean climate on dry land; brilliant sunshine, pure air, inducements to living out of doors at sea-level. But this same air, while equable in temperature, is hot and it is moist.

I would not think of sending one there when a moist climate

is counterindicated as in early pulmonary tuberculosis, nor when the tonic influence of cold is advisable. But when an out-of-door life at sea-level, a moist skin, an equable temperature, pure air, sunshine, freedom from cold and snow, and a dry soil are sought—as in certain forms of heart trouble, Bright's disease, diabetes, neurasthenia, insomnia, or in the case of persons who need to get away and take a rest, or even those who want to avoid the rigor of a northern winter—in all of these cases—and they comprise a large class—Nassau is worthy of consideration.[1]

The scenery and the climate make this a desirable winter resort for a few weeks, picturesque and delightful. But then comes the factor of its being a tropical climate, with its enervation, which must weigh as a counterbalance to such enthusiasm. This gets in its work. Nassau is soothing, not bracing. It is an excellent objective point for tourist travel, and as a resort should be used largely for its soothing qualities and inactivity.[2]

THE WORLD'S LATEST LITERATURE

Journal of the American Medical Association.

September 5, 1903. [Vol. XLI, No. 10.]

1. Skiascopy as a Method of Precision. EDWARD JACKSON.
2. Retinal Disease Limited to the Region of the Fovea. HENRY GRADLE.
3. Neuroglia Tissue and Ependymal Epithelium in Teratoid Tumors. HENRY A. CHRISTIAN.
4. Hemoglobinuric Fever: Its Causes and Treatment, with Especial Reference to the Use of Quinia. WALTER SHROPSHIRE.
5. An Easily Detachable Plaster-of-Paris Cast. CHARLES P. BECHTOL.

1, 2.—See *American Medicine*, Vol. V, No. 22, p. 864.

3.—See *American Medicine*, Vol. V, No. 20, p. 782.

4.—See *American Medicine*, Vol. V, No. 24, p. 943.

5.—Easily Detachable Plaster-of-Paris Cast.—C. O. Bechtol describes the making of the cast for a Pott's fracture by way of illustration. The leg is covered with a stocking or sheet cotton and a Gigli wire saw is applied in the median line anteriorly another posteriorly by an assistant. A few turns of the plaster bandage are then taken and a third saw applied along the sole of the foot and this also secured. The cast is then completed by successive turns of the bandage rubbing each turn smooth. It is well to make this a little thicker than the ordinary circular cast, the strength of all portions being the same. By the time the last bandage is put on it will be hard enough to saw. It need not be dry. A handle or small nail can be attached to the ends of the saw and by pulling steadily until the saw moves freely the cast can be cut through in 10 seconds. An ordinary bandage is put around the cast to hold it together. The stocking must be split along the saw cut before the cast is removed and it then forms a good lining. The advantages of this splint are ease of application and removal. [H.M.]

Boston Medical and Surgical Journal.

September 3, 1903. [Vol. CXLIX, No. 10.]

1. The Resistance of Tissues as a Factor in the Manual Reduction of Congenital Hip Dislocation. E. H. BRADFORD.
2. Privileged Medical Communications. DAVID W. CHEEVER.
3. The Workings of the New York Law. WALTER SOREN.
4. Privileged Communications to Physicians. FREDERICK J. STIMSON.

1.—Resistance of Tissue in Reduction of Hip-joint Dislocation.—E. H. Bradford, who has apparently made quite a careful study in both the operating-room and the anatomic-room, says correction by the aid of mechanical force with the Bartlett machine without tenotomy has been done in a child of 9 and in a child of 6, fairly resistant cases, with success and much less effort than would be necessary by manual force. A combination of mechanical force and tenotomy was employed with great success in a child of 13, the reduction being made with ease. This method has been tried in 2 younger children with success, but as the Lorenz method is simple and efficient in the younger cases, mechanical force is unnecessary. He summarizes as follows: 1. The resistance offered by the capsule to the correction of congenitally dislocated hips is not more important than that offered by the muscles. 2. The chief resistance to forcible abduction is from the strong tendon of the adductor magnus. 3. The resistance to pulling down the head comes from the hamstring group and the long tendon of the adductor magnus and iliotibial band. 4. These resistant tissues can be overcome by small incisions at a distance from the hip. 5. In the lighter cases manual manipulative reduction is sufficient. 6. In resistant cases mechanical force which pulls upon and abducts the limb, arranged so as to also directly act upon the capsule, is of assistance. 7. Where the tendon of the adductor magnus is so strong that an immoderate amount of force is needed in stretching, it would seem advisable to divide the chief resisting tissues rather than to incur the danger of severely bruising the tissues by the force used. The division of the tendon can be done either before the operation of forcible correction or at the same time.

2.—Privileged Medical Communications.—D. W. Cheever, in summing up the situation as it stands today, proposes the following for consideration: It shall be considered unprofessional for a physician to divulge anything confided to him unless (1) with the patient's consent; (2) to defend himself when accused; (3) to expose crime. The Roman law protected the physician. The highest legal authorities in England have decided that medical men enjoy no special privilege with regard to secrets of a professional nature. Massachusetts law follows the English, that of New York the Latin precedent. The doctor often has knowledge that would revolutionize the life of whole communities. The mischief of telling is so much greater than the mischief of concealing, that the simplest principle of expediency should forbid revelation. Public and professional opinion says "You must not tell." The law says "It may be dishonorable, but you have got to tell." [H.M.]

3.—The Workings of the New York Law.—W. Soren cites cases illustrating the construing of the New York law, the latter being as follows: Any person duly authorized to practise physic or surgery shall not be allowed to disclose any information which he acquired in attending a patient in a professional capacity, and which was necessary to enable him to act in that capacity. The privilege of secrecy may be waived by the patient or his heirs. Points passed upon by courts of appeal are: What shall be considered to constitute the relation of physician and patient; what shall be considered as information "acquired in attending a patient," and what information shall be considered as "necessary" to enable the physician to act as such. A waiver may be made only in open court or by agreement of council before trial. This is a little hard on accident and life insurance companies. The fact that they are still amending the New York law instead of repealing it is a point in its favor. [H.M.]

4.—Privileged Communications to Physicians.—F. J. Stimson discusses the relative advantages of codes and the common law, naming the States adopting each. Under the common law great discretion has been exercised by the judges, affording physicians considerable protection. Statutes generally apply only to licensed physicians, but the tendency to license irregular practitioners is increasing. The wisest law is that of North Carolina which, while creating the privilege, says that the presiding judge may compel disclosure of knowledge professionally obtained if it is necessary to a proper administration of justice. A physician not employed by the patient, who goes to get evidence, commonly acquires no privilege. The physician's privilege should not be used to protect crime. When the patient is the person injured there is no reason why testimony should not be required. In an action for damages if the injured person intends to maintain a fraudulent claim there seems to be no injustice in making him go to a physician at his own risk. In will contests there should be no privilege. In the case of beneficiaries of insurance policies the New York statute works fraud on the companies. There is no privilege in malpractice suits. It is not to the interest of the physician to have it maintained in suits for a fee. No statute can be safely applied to such delicate matters as marriage, divorce, and others involving character, and it is best to rely on the discre-

[1] S. G. W. Benjamin, in his charming book, "The Atlantic Islands," published in 1878, gives it as his opinion, based on extensive travel, that: "As a sanitarium for winter alone they (the Bahamas) are, beyond all question, superior to any other health resort on the eastern coast of North America.

[2] Tables to illustrate this article will be published in full in the Transactions of the Climatological Association.

tion of the judge. In most cases it is wiser to leave things to the common law. The tendency to adopt statutes has received a check. Ignorant judges have been responsible for bad decisions, but in the case of a State like Massachusetts the writer would prefer to rest on the elasticity of the common law, the good sense of the judge, and the honor of the medical profession. [H.M.]

Medical Record.

September 5, 1903. [Vol. 64, No. 10.]

1. Acute Bulbar Paralysis Due to Hemorrhage and Softening of the Pons and Medulla. CHARLES L. DANA.
2. Abscess of the Left Temporosphenoidal Lobe of Otitic Origin, Operation; Recovery. E. GRUENING.
3. The Rational Treatment for Mouth-breathing. W. H. FITZGERALD.
4. The Internal Administration of Methylene-blue as an Aid in the Diagnosis of Urethroperineal Fistula. RICHARD LIGHTBURN SUTTON.
5. A Possible Case of Infant Poisoning as a Result of Abnormal Mental and Physical Condition in the Mother. CHESTER J. STEDMAN.
6. A Case of Smallpox in the Fetus. J. H. FRANKLIN.

1.—Acute Bulbar Paralysis due to Hemorrhage and Softening of the Pons and Medulla.—C. L. Dana finds that hemorrhages of the pons as compared with those of the cerebrum are not more than 2%. Those of the medulla are rarer still. His own percentage of thrombotic softenings has been about 6%. He reviews the literature, describes the normal and pathologic anatomy of the parts, with the symptoms, etc., reporting very fully a number of cases. The article occupies 13 pages and does not lend itself to adequate abstracting. [H.M.]

2.—See *American Medicine*, Vol. V, No. 22, p. 857.

3.—Mouth-breathing.—W. H. Fitzgerald holds that the mouth-breathers are far more subject to chronic affections of the nose, throat and chest than are those who breathe normally. There are 2 classes of mouth-breathers. The first breathe almost continually through the mouth. The second are not conscious that they breathe abnormally, but engage them in conversation or have them read aloud, when it becomes apparent that they rarely close the mouth. The treatment consists in restoring the nose to a condition as nearly normal as possible physiologically and insist upon the patient using it. Spray, solution and douche are all harmful and irritating and should not be employed. What is needed is the normal passage of air through the nostrils and pharynx rather than through the mouth. If the patient breathes through his mouth when asleep a mouth-guard in the form of a small strip of adhesive plaster placed vertically across the mouth should be worn at night until normal breathing is established. During the day mouth-breathers should be required to breathe forcibly through his nostrils at the rate of one per second for 10 times. This constitutes one exercise, and should be repeated at intervals 8 to 10 times daily. Children should be taught from infancy to breathe through the nose normally. [A.B.C.]

4.—Internal Administration of Methylene-blue as an Aid in the Diagnosis of Ureteroperineal Fistula.—R. L. Sutton reports that a man of 28 was suffering from perineal abscess. A similar abscess occupied the same situation a year ago. There had been several attacks of gonorrhea, there was now a purulent discharge, but there had never been a complete stricture, or retention of urine. A No. 20 sound readily passed. The abscess was opened under local anesthesia and a fine probe failed to find any fistula leading to the rectum or the genitourinary apparatus. The urine was passed freely by the natural route. The wound was dressed in the usual way and capsules of methylene and oleum santali were ordered for the urethral inflammation. On the following morning the dressings over the abscess were found stained blue. A further examination of the urethra showed an old annular stricture just anterior to the membranous portion; additional dressings were again stained blue. Thus a fistula from the bladder to the perineal abscess was established. Dilation of the stricture and proper treatment of the abscess resulted in a complete cure. The author thinks this means of finding a urinary fistula could be used oftener with success. [A.B.C.]

5.—Infant Poisoning.—C. J. Stedman reports the case of a healthy, well-developed baby of 7 months, nourished entirely by the mother's milk, which, when about to nurse, suddenly stiffened out and became unconscious. The spasm lasted only a few moments, but was repeated nearly 2 hours later. A bowel movement soon after showed an intermingling of blood, and was followed by vomiting. When called in, Stedman prescribed a dose of paregoric. The spasms did not recur, but there were several movements of the bowels on the following day. On the day previous to the convulsive attack, the mother had taken a dose of salts, and had also been very much worried about household affairs. This condition of the mother is suggested as the cause of the peculiar attack of the baby, as it had taken nothing but its mother's milk. [W.K.]

6.—Smallpox in the Fetus.—J. H. Franklin reports a case in which the mother showed no symptoms of smallpox at any time. The child was born at full term with an eruption in the pustular stage. It had been dead for several days. Her husband had the disease when she was 7½ months pregnant. Five days after the first vaccination she was vaccinated again successfully. [H.M.]

New York Medical Journal.

August 29, 1903. [Vol. LXXVIII, No. 9.]

1. On the Treatment of Wounds Inflicted with the "Toy Pistol." W. SCOTT SCHLEY.
2. Is There a Constant Pigment Cell in the Cochlea? GEORGE SLOAN DIXON.
3. An Improvement in Radiography: A Print Made by Direct Exposure and Developed in Half a Minute Without a Dark Room. SINCLAIR TOUSEY.
4. Regicides: Sane and Insane. E. C. SPITZKA. (Continued.)
5. Personal Experience Regarding Anesthetics. EDWARD WALLACE LEE.
6. Primary Tuberculosis of Abdominal Lymph-glands in the Adult. PAUL F. MORF.
7. General Remarks on Diseases of the Stomach. HARRY WARREN LINCOLN.
8. Report of Case of Pistol-shot Wound in Neck; Laminectomy: Results. JOHN C. MURPHY.

1.—Toy Pistol Wounds.—W. S. Schley advocates free exploration and open packing in the treatment of these wounds. Sloughing areas and extraneous matters are cureted away with free irrigation of the wound with a saturated solution of boric acid, or 1-5,000 bichlorid. The edges of the wound of entrance are trimmed and a comparatively loose, moist, iodoform gauze packing, with a large wet dressing of 1-5,000 or 1-6,000 bichlorid is then employed, and kept wet at home. A general anesthetic is of great service, particularly if the injury is not recent and cellulitis is present. [C.A.O.]

2.—Pigment Cells in the Cochlea.—G. S. Dixon reports a case in which large numbers of brown, iron-free, pigmented cells, irregular in form, with long processes and a clear nucleus were found in the cochlea They resembled the branched pigmented cells of the choroid and iris. The cells spread out through the thin lamina spiralis as far as the crest, thence along Reissner's membrane to the stria vascularis, where the cells proper ceased and the pigment became granular. Since then he has been able to find isolated pigment cells in all the human adult specimens and in the cochlea of a child 2 years old. Dixon believes that the cell is normal and a constant one in the human cochlea, and that under certain conditions, as with pigment in other locations, it may become more abundant than usual. [C.A.O.]

5.—Personal Experience Regarding Anesthetics.—E. W. Lee has made use of spinal cocainization in 15 cases, 12 were surgical and 3 obstetric. In the latter the effect was not at all satisfactory. The injection apparently lost its anesthetic effect just at the time required, but left its unpleasant effects—nausea and extreme nervousness. In the other cases the results were fairly satisfactory. He reports good results with cocain as a local anesthetic, particularly when it is used on the extremities. As a general anesthetic the author prefers chloroform, with him it has proved safer than ether and it has not so many disagreeable complications. In operations about the head, face and neck, chloroform is preferred and in operations about the thorax and abdomen it is preferred for the respiratory movements are not so interfered with as when ether is used. In nervous, frightened, and exhausted cases, and alcoholic patients Lee believes it advisable to administer morphin and strychnin hypodermically, preceding the anesthetic. [C.A.O.]

6.—Primary Tuberculosis of Abdominal Glands.—P. F. Morf gives statistics to show that primary tuberculosis of the

mesenteric glands is comparatively common in children. From an analysis of 127 cases of tuberculosis in children, tuberculous ulceration of the intestine was found in 43 instances, and an involvement of the mesenteric glands in 100 cases. In 14 cases the glands only were affected. Of 232 autopsies of adults, 86 bodies were found tuberculous, and of these nine showed involvement of the abdominal lymphatics. Morf believes that in the great majority of instances when isolated tuberculosis of the glands exists the tubercle bacillus reaches the latter by way of the gastrointestinal tract, introduced into this with food, especially milk, or the bacteria may be inhaled and arrested by the mucus of the respiratory tract, and then swallowed. After they have been introduced into the gastrointestinal tract the leukocytes appear to be active agents in their distribution. The pain is not superficial and is not accompanied, like that of chronic peritonitis, with distention of the belly, vomiting, and dulness, nor is it attended like that of ulcers, with diarrhea. The disease, however, may cause acute symptoms without any ulceration or acute inflammation of the peritoneum being present. The presence of a nodular abdominal tumor in connection with localized abdominal pain, without diarrhea, and extending over a large period of time is significant. In addition to the usual general treatment the author says that in cases in which the tuberculous process involves a distinct group of glands so situated that radical removal is possible, such a course would seem to be indicated. [C.A.O.]

7.—Diseases of the Stomach.—H. W. Lincoln says that there has been, and still is too much unscientific, indiscriminate lavage of the stomach by members of our profession. He believes that the majority of patients, taken as they come to our offices, will do well without local treatment. As to diet he strongly recommends full feeding in the vast majority of patients. The plan to be adopted is to educate the organ at fault to do something; and a full diet, given in small amounts at frequent intervals at first, will usually accomplish this result. This method, of course, does not apply to ulcer, cancer, cases of impaired motility, or even in benign cases in which the motility is at fault. Attention to the condition of the teeth is of great importance, and we must not forget that there are other important organs than the stomach and intestine. The neurotic element is nowhere more important than in the management of gastrointestinal diseases. [C.A.O.]

8.—Pistol-shot Wound of Neck: Laminectomy.—The case reported by J. C. Murphy is that of a man of 33 who was shot in the neck about 5 cm. (2 in.) above the clavicle, to the right of the trachea, the bullet taking a downward course, lodging beneath the skin above the scapula. He had a motor paralysis of the right leg and arm. The bullet was removed, the wound healed, but the paralysis became more marked. When seen some weeks later he was bedridden, with large bed sores on the back, feeble intermittent pulse, extreme debility, and paralysis unimproved. He was also suffering great pain along the course of the ulnar nerve. The spinous processes and laminas of the fifth and sixth cervicals were removed and a spiculum of bone found imbedded in the dura and penetrating the cord. The only immediate result was relief from pain. The wound healed kindly, and later he was able to walk by the aid of a cane, having regained the use of his right leg and partial use of his right arm. Murphy urges early operation in injuries to the spine accompanied by paralysis, as delay can only result in disaster to the patient. [C.A.O.]

Medical News.

September 5, 1903. [Vol. 83, No. 10.]

1. The Reduction in the Infant Mortality in the City of New York and the Agencies Which Have Been Instrumental in Bringing It About. ROWLAND G. FREEMAN.
2. Neglected Prophylactic Measures against Diseases of the Respiratory Tract. D. H. BERGEY.
3. Puerperal Insanity. J. WILL PALMER.
4. The Adaptability of western Texas Climate for the Treatment of the Tuberculous. C. H. WILKINSON.
5. Perineal Prostatectomy without Opening Urethra or Bladder: Unsatisfactory Result: Subsequent Perineal Cauterization of En Collarette Narrowing of Bladder Orifice: Recovery. JOSEPH RILUS EASTMAN.
6. Mastoid Disease and Meningitis. SEYMOUR OPPENHEIMER.

1.—Reduction in Infant Mortality.—R. G. Freeman calls attention to the fact that the present infant mortality of from a tenth to a third is absolutely unnecessary since among babies properly cared for not 1% die in the first year. He gives tables of statistics for Europe, the United States generally, and of various cities in New York State, with charts illustrating the decline in the deathrate, etc. In New York City deaths from summer diarrhea were less than half in 1902 what they were in in 1892, while deaths from all causes have been reduced from 242 to 158 per 1,000. This is due to many agencies. The general adoption of sterilization and pasteurization of milk is the most important. Other factors are improved city administration, milk inspection, the Straus Milk Charity, the fresh-air work of St. John's Guild, etc., cleaner streets and asphalt pavements, the new small parks, playgrounds, and recreation piers, the improved tenements, and the use of diphtheria antitoxin. [H.M.]

2.—Prophylaxis against Respiratory Disease.—D. H. Bergey thinks the measures which demand most urgent attention are the prevention of dust and the regulation of deficiency in ventilation and lighting of public schools. This must necessarily fall upon the State. The physician, however, can do much in creating public sentiment. We should insist on the introduction of machinery designed to limit the production and assist in the abstraction of dust in establishments in which dust production exists in an injurious degree, and also should demand a shorter working day for the employes. We should also work for cleaner streets. [H.M.]

3.—Puerperal Insanity.—J. Will Palmer, who divides puerperal insanity into insanity of pregnancy, puerperal insanity proper, and insanity of lactation, considers the most prolific cause of insanity of pregnancy is an hereditary disposition, other causes being a family history of epilepsy, drunkenness, hysteria, or the presence of unknown toxins which are found in the body during gestation. There is little hope of cure until pregnancy ends; then the prognosis is favorable. Puerperal insanity proper comes within a limited period, from 8 to 10 days, after delivery, generally in the form of acute mania rather than melancholia. Most recent investigators attribute the causation of this disease to a morbid condition of the blood, often arising from hepatic insufficiency, sometimes from puerperal or toxemic infection. Since the introduction of aseptic methods in midwifery the cases of puerperal insanity have been reduced one-half. The accompanying conditions are often very complex, involving kidneys and pelvic organs; but the prognosis is favorable to 75% or 80% of recoveries, though a large number die of exhaustion. Insanity of lactation usually occurs in from 6 to 8 months after delivery and assumes the form of melancholia. The indications of treatment are to check profuse and exhausting discharges, cease lactation and give plenty of nourishment. One important point is to calm the patient and induce sleep. For this purpose chloral stands first and given with potassium bromid its hypnotic action is increased. Trional is a reliable drug for maniacal excitement in doses of 2 gms. (30 grs.) every 2 to 4 hours. When the patient reaches convalescence she should have change of air and scenery, and great care should be exercised in allowing visits of relatives and friends. There should be secured for the patient, rest, sleep, nutritious food, daily evacuation of the bowels, and little by little she should be brought back once more to old habits and the responsibilities of existence. [W.K.]

4.—Climate of Western Texas.—C. H. Wilkinson thinks this one of the most favored spots on earth for the sure and prompt eradication of pulmonary tuberculosis. The winters are short and mild, the summer heat rarely oppressive, and the nights always delightful. Invalids can be in the open air longer perhaps than in any other State. Fresh meat hangs in the air indefinitely without tainting, and incised wounds rarely suppurate. Perhaps the best locality is Comfort. The writer discusses the routes by which it can be reached and the cost of a 6 months' stay which he places at $200. [H.M.]

5.—Perineal Prostatectomy without Opening Urethra or Bladder; Unsatisfactory; and Perineal Opening and Cauterization of the Prostatic Collar.—J. R. Eastman reports the case. A man of 69 suffered from chronic enlargement of the prostate with its attendant symptoms. Examination indicated that the enlargement was downward into the peritoneum rather than upward into the cavity of

the bladder. Perineal prostatectomy was performed by making an inverted Y-shaped incision, the prostatic capsule opened by a vertical incision, and the enlarged gland removed without opening the urethra or bladder. The belief that this would afford relief ended in disappointment, and 3 weeks later the wound was reopened and the posterior urethra incised. A finger passed into the bladder revealed a thin stricture-like obstruction near the internal meatus, which raised that orifice a half inch above the bladder floor. This accounted for the obstruction and retention. The stricture-like obstruction was cut by galvanocautery division of the urethral floor, going in through the perineal wound. The instrument used was that devised by Dr. Wishart of Indianapolis. The result was satisfactory, and the patient made a good recovery, with relief from his distressing symptoms. The writer prefers perineal cauterization to the Bottini operation, and is of opinion that there are certain advantages, as reduced liability to infection from doing the operation in two stages. [A.B.C.]

6.—Mastoid Disease and Meningitis.—In a lengthy paper Oppenheimer deals somewhat exhaustively with this subject, elucidating a number of points, which a brief abstract cannot summarize. A condition presenting pseudomeningeal symptoms may arise in mastoid empyema, which can be differentiated from a true meningitis only with the lapse of time. Such a case is reported. Statistics are quoted to show that intracranial lesions are more frequently caused by middle-ear disease than is commonly supposed. Gruber found in 40,000 deaths from various causes a twentieth was due to intracranial disease, and of these more than a tenth was caused by disease of the ear, meningitis being present in 50% of the latter. Barker made a study of 50 fatal cases of ear disease 72% of which were due to association of meningitis and pyemia. So far as infection is concerned as related to otitic meningitis 2 forms are observed. The first results from infection by absorption into the circulation, the exact path from the diseased ear to the meninges being unknown; the second depends upon the extension of inflammation by contiguity. The former is rapid in onset, usually diffused, and fatal; the latter is gradual in onset, is localized, and when diagnosed early is amenable to surgical treatment. When mastoid empyema is about to infect the meninges there is almost invariably marked local pain, usually associated with fever, and diminishing aural discharge. Headache is an early and persistent symptom, and constipation is often obstinate. [A.B.C.]

CLINICAL MEDICINE

DAVID RIESMAN A. O. J. KELLY

REVIEW OF LITERATURE

The Incidence of Gout.—I. In the United States.—T. B. Futcher[1] says that the apparent infrequency of gout in the United States is due in large part to failure to recognize the disease. Out of 15,697 medical cases admitted to Dr. Osler's wards in the Johns Hopkins Hospital during a period of 14 years there were 41 cases of gout, or 0.26% of the total number of medical patients. For the same number of years at Saint Bartholomew's Hospital there were 124 cases out of a total of 33,356 medical admissions, or 0.37% of the medical cases. Thus the admissions of gout to a general hospital are a little less than one-third more frequent in London than in Baltimore. All of the 41 patients in the series reported were males and 32 were native-born Americans. Alcohol and lead seemed to be the most potent etiologic factors. II. In the Tropics.—A. Crombie[1] states that gout is much less frequent in Calcutta, and probably in other hot climates, than it is in Europe among the same class of patients. The cause of this comparative infrequency is believed to be the lower tissue metabolism, which is required to raise the temperature of the body through a smaller number of degrees. In addition to this there is among the natives who adhere to the rules of their religion the less nitrogenous nature of their diet. III. Gout as It Occurs Among the Poor.—F. S. Toogood[1] states emphatically that the consumption of malt liquor is the chief, if not the only, cause of the production of gout. Hence, he doubts that the really poor, meaning those in the clutches of downright, grinding poverty, ever develop gout. Occupation influences the production of the disease to a very slight extent. Work involving special strain upon certain joints has no effect in determining the first joint to be attacked. Acute attacks of gout in the poor subject are manifested by the same symptoms as in patients of other grades of society. A characteristic deformity of the fingers in cases of chronic gout which Toogood has not seen described is caused by the hyperextension of the joints between the proximal and the middle phalanges and the flexion of joints between the middle and distal phalanges. Toogood has examined the joints of a number of subjects who died from chronic nephritis and found in a considerable number of them crystals of sodium urate, although none had given a history of antecedent gout. This point needs further study. [A.G.E.]

[1] The Practitioner July 1903

Poisons and Gaseous Metabolism.—A series of animal experiments has been undertaken by N. P. Krawkoff[1] with the purpose of determining the influence of certain poisons on the exchange of gases in the tissues. Among numerous interesting facts it was found that strychnin considerably increases the gaseous metabolism, the amount of oxygen absorbed being nearly three times as large as normally. Atropin also increases the gaseous exchange, causing some rise of temperature. The author believes that this increased oxidation explains certain therapeutic effects of atropin such as its antidotal action in morphin poisoning. Somewhat different from strychnin and atropin is digitalin in its influence over tissue-breathing. While it also increases the consumption of oxygen it does not increase the quantity of carbonic acid thrown off. Directly antagonistic to atropin is pilocarpin, which markedly diminishes gaseous metabolism. These experiments tend to show that the action of poisons is apt to be more general than is believed, the point of attack being the tissues at large, not only those of particular organs. [L.J.]

Ulcerative Colitis Cured by Operation.—S. Boas[2] reports the case of a woman of 28 suffering with chronic dysentery, or, as he prefers to call it, ulcerative colitis. The disease having persisted for 5 years in spite of all treatment, he performed a cecal colostomy; this was followed by daily injections of silver and later of iodin solutions. A cure was believed to have resulted when the microscopic examination failed to reveal the presence of Charcot-Leyden crystals, blood and pus. One year after the first operation the cecal anus was closed, and the patient has been well ever since. He considers both syphilis and tuberculosis excluded as causal factors. [E.L.]

The Colic Type of Influenza.—N. Chryssovergis[3] calls attention to a form of influenza observed by him during an epidemic in Beyrouth. Spasm of the colon is the distinguishing feature of this form of the disease. In a few cases the entire colon is involved but generally only part of it is affected. The parts involved, in their order of frequency, are the sigmoid flexure, the descending portion, the rectum, transverse part, cecum and ascending portion. Clinically, the condition manifests itself by pain, at times violent in character, in the left iliac fossa or left flank or, in general, in the involved part of the colon. The cord-like intestine can be easily palpated. The spasm is ephemeral in the ascending and transverse portions, but is of long duration in the descending part, lasting sometimes long after the attack of influenza is over. An accompanying condition, on which the writer places much stress, is palatopharyngeal erythema. This alone is practically diagnostic. [A.G.E.]

Acute Transient Aphasia.—M. Rothmann[4] discusses in detail the causes of acute transient aphasia, and reports three illustrative cases. In the first case, a man of 46 had an epileptiform convulsion several hours after he had been exposed to the sun. He became conscious in 20 minutes, but was speechless for 40 minutes. The patient gave a history of syphilitic infection 15 years before, but as no symptoms had appeared during that time the author excluded syphilis as the cause of the convulsion. As the disturbances did not appear until several hours after the exposure to the sun, they were probably

[1] Russki Vratch, May 10, 1903.
[2] Deutsche medicinische Wochenschrift, March 12, 1903.
[3] La Semaine Médicale, June 17, 1903.
[4] Berliner klinische Wochenschrift, April 20 and 27, 1903.

not due to irritation of the brain and meninges, but to toxic substances produced in the blood. The second patient was a young physician, who subsequent to a long horseback ride in the hot sun, a fall from his horse, and an unusually heavy meal had an attack of pure aphasia, which was followed by agraphia and paraphasia, with complete recovery in less than an hour. In the third case, a woman of 36 during convalescence from pneumonia had an attack of motor aphasia with right-sided hemiplegia, both disappearing in a half-hour. The next day a similar attack occurred which lasted several months. She retained her musical sense, and by means of exercises in singing she gradually regained her normal speech. Embolism was undoubtedly the cause of her condition, and as her heart was normal, the embolus had probably originated in the pulmonary veins. Hemiplegia and aphasia are not rare complications of pneumonia. Rothmann concludes that acute transient aphasia must not always be considered of a functional nature. Aphasia may be due to toxic substances in the blood, emotion, overexertion, injuries to the central nervous system, embolism, etc. [W.E.R.]

Pruritus and Prurigo as Signs of Abdominal Carcinoma.—M. L. Wickham[1] says that among 4 patients complaining only of pruritus he found in three a cancer of the stomach and in one a neoplasm in the splenic region. The cutaneous affection presented itself under slightly different aspects; in 2 cases, simple pruritus; in one, pruritus with eczematous eruption; in one, *prurigo ferox* of Vidal. Although this relation of affections has been pointed out by Besnier, it has not received sufficient attention. Even though the coincidence of pruritus and cancer is not common it should be remembered, as the cutaneous trouble may appear a long time before the cancer itself gives rise to symptoms and thus be a sort of warning. Along with hepatic, uremic, diabetic, alcoholic, and senile pruritus then should be placed cancerous pruritus. [A.G.E.]

The Diagnostic Value of Palpatory Percussion.—If we percuss very lightly, without producing an audible sound, we nevertheless perceive certain alterations which allow us to map out the underlying organs. The current explanation attributes this perception to the socalled muscular sense. According to F. N. Trauoff[2] the latter sense has nothing to do with the result; as mere palpation without slight percussion does not evoke the same perception. It is not the muscular sense that comes into play when we percuss lightly and inaudibly, but the ability of the skin to perceive vibrations, in other words, a kind of dermal hearing. This assumption the author fortifies by varied and convincing experiments which all prove that the skin perceives and even nicely discriminates peripheral vibrations. As the ear differentiates force, pitch and harmony of sound, so the skin perceives the force of rhythmic vibrations, their pitch and certain phenomena which are analogous to harmony. The practical bearing of these facts is obviously very important. We now understand the value attached by prominent clinicians to palpatory percussion, since it is often more delicate in its perceptions than auditory percussion and may be relied upon to map out adjacent organs. Again, when forcible percussion is contraindicated, as in hemoptysis, or when it is useless, as in loudly screaming children, or when the examiner's sense of hearing is impaired the newer method may become invaluable. It is especially recommended to pediatricians, though every physician will be amply rewarded for cultivating his skin-sense of vibrations. Finally the author believes that socalled thermopalpation, *i. e.*, the perception of varying skin-temperature over organs of unequal air-filling, is based on the same skin-analog of hearing. [L.J.]

Dangers of Administering Sodium Chlorid to Subjects of Anasarca.—J. Courmont[3] details a number of observations that are very like those recently published by Widal and Merklen. From his own and other cases he concludes that, in general, sodium chlorid should not be considered an inoffensive substance. The dangers in cases of ruptured compensation of heart are anasarca, urinary retention, and uremia. These results may follow whether the salt is given by the mouth, subcutaneously or intravenously. [A.G.E.]

[1] La Semaine Médicale, June 24, 1903.
[2] Russki Vratch, April 26, 1903.
[3] Lyon Médical, July 12 and 19, 1903.

GENERAL SURGERY

MARTIN B. TINKER
A. B. CRAIG C. A. ORR

EDITORIAL COMMENT

Treatment of Tuberculous Cervical Adenitis.—One is surprised at the scanty space devoted to the treatment of tuberculous cervical adenitis in the textbooks on surgery, and the relatively small number of published articles which deal explicitly with this condition. Scrofula, as the older writers called the disease, may occur at any time of life, but is most frequently seen during the period from adolescence to young adult life. Treatment should be influenced to some extent by the age of the patient, as resolution of tuberculous cervical glands is more likely to occur in children under proper hygienic and medical treatment than in adults. Recent years has observed a marked change in favor of a more general adoption of strictly surgical methods in dealing with this condition. The proverbial pendulum, however, should not be permitted to swing too far. Not every patient with tuberculous glands of the neck should by any means be operated upon. If the patient is seen reasonably early, and there is no threatened breaking-down and abscess formation, with the diseased glands discrete, and not adherent to the skin, then the general rule should be to resort, for at least a reasonable length of time, to local applications, internal medication, and hygienic treatment. Among the many local applications which have been employed may be mentioned ichthyol, unguentum hydrargyri, tincture of iodin, etc. The internal treatment should consist of the same tonic and nutrient principles as are given for incipient tuberculosis in other parts of the body. The diet should be plentiful, easily digested, and nutritious. Change of climate is very beneficial, and out-of-door life, together with a well-ventilated sleeping apartment, should be insisted upon. Under such treatment complete recovery not infrequently occurs, especially among children. If, however, the glands have broken down and abscess formation is threatened or actually exists, or if several glands are enlarged, particularly if they have lost their discrete character and are matted together. Then operation should be seriously considered. It should be remembered, however, that some of these patients are not in physical condition to stand a severe operation. Pulmonary tuberculosis may complicate the situation and render operation impracticable. Assuming that the patient is in fair condition and operation is decided upon, what shall it be? It is here that radical departure has taken place. Formerly we contented ourselves with merely opening the abscess, cureting, and packing with iodoform gauze, or injecting iodoform emulsion, touching with tincture of iodin, carbolic acid, etc., only to have a sinus discharging for probably months and months before healing finally took place, and then only after all affected glands had broken down, disintegrated, and been discharged. This tentative, dilatory, and insufficient treatment has been abandoned by most surgeons, and the radical operation is performed. Free incision, thorough inspection of the field of disease, and complete extirpation of all diseased glands is the minimum requirement. If it is believed that the enlarged glands are confined entirely to the submandibular triangle a transverse incision over the seat of enlargement may enable the surgeon to remove all diseased tissue. But the operator almost always finds on reaching the seat of disease that there are more enlarged glands than he suspected or could palpate externally. Hence with enlargement supposedly limited to the submandibular it is safer to make the incision parallel to the sternomastoid, and if the enlarged chain is found extending toward the clavicle the incision may be prolonged as necessity demands. If it is known that the anterior or posterior or both chains are involved, then a

free incision directly over and parallel to the sternomastoid should be made extending from the base of the skull to the clavicle. This one incision will permit complete exploration of both chains, and the healing incised wound will have the muscle for support. Every gland in the field of disease should be extirpated together with all gland-bearing tissue. Radicalism here is conservatism in the end. It is, of course, apparent that the operation is formidable. If thoroughly done it is rendered especially tedious and painstaking on account of the many and important nerves and vessels encountered. But the usually prompt recovery more than compensates both patient and surgeon for the formidable procedure. Usually the skin wound may be closed without drainage if a dressing is properly applied to obliterate all dead spaces; some even prefer a plaster dressing. It adds much to the cosmetic effect to use the subcuticular suture of silver wire or silkwormgut. It is apparent, then, that while operation is not always necessary, when we do elect this procedure it should be thorough and complete.

REVIEW OF LITERATURE

Clinical Manifestations of Cerebral Abscess.—J. Burnet[1] details 2 cases of cerebral abscess exhibiting unusual symptoms, or rather lack of symptoms. The first was probably, the second possibly, due to the influenza bacillus. The first was interesting because of the situation in the frontal lobe, this site being involved, according to Burnet, in only 5% of the cases. Most significant was the almost entire absence of symptoms, the only sign of lesion of the nervous system being the presence of twitchings and these may have been due to the strychnin administered. The second case was one of abscess of the temporosphenoidal lobe with no symptoms pointing to its presence. No ear disease was present. In both patients emaciation was extreme and Burnet thinks that this sign is not sufficiently emphasized in ordinary textbooks. It is easily overlooked because extreme emaciation more readily suggests malignant disease or tuberculosis than the presence of a cerebral abscess. The importance of an autopsy in obscure cases cannot be overestimated. Without it, the cause of death could not have been certified in these 2 cases and the clinical lessons would have been lost. [A.G.E.]

Treatment of Abdominal Contusions.—F. Frankel[2] considers in a general way the manner in which abdominal contusions are brought about, the pathologic picture, the immediate dangers and symptoms of such a condition, and then discusses with more care the signs which should govern us as to the time of operating. The dangers are hemorrhage and peritonitis. Should the former exist an immediate operation should be performed. Peritonitis is especially frequent after gastrointestinal injuries. An early diagnosis of such a state is absolutely necessary to save the patient's life. Shock is as a rule of but little value in determining the state of affairs, unless it be protracted when it indicates a grave injury. If the temperature some hours after an injury rises above normal, it is probable that more than a contusion exists; increasingly bad quality pulse indicates the same thing. Vomiting is of doubtful value unless it is either bloody or protracted. Contracted state of abdominal muscles, tenderness increased by pressure, and the quality of the percussion note are of more value, however, than the other signs mentioned. Each case should be examined carefully and repeatedly, and no diagnosis should be made upon the existence of a single symptom, nor should any one condition be excluded because one prominent symptom is absent. No opiates nor too many stimulants should be given until a diagnosis is made, especially should normal salt solution not be used until after the diagnosis. If necessary an exploratory laparotomy should be resorted to, with everything prepared for further intervention. [E.L.]

Decapsulation of the Kidney.—H. A. Johnson[3] has carried out a systematic research on 15 dogs. The results of this research are embodied in a summary of findings which is in part as follows: The capsules of the normal kidney consist of 2 distinct layers, an outer thick and an inner thin layer, the direct continuation of the intertubular connective tissue. In decapsulation the outer layer only is removed. Following the operation a thin exudate appears on the free surface of the kidney, which with the remains of the inner layer gradually becomes organized into a fibrous investment, resembling macroscopically the normal capsule. Examination shows this pseudocapsule irregular in thickness, and varying much in the same and in different specimens, the variation in a reported case being from 110 to 275 micromillimeters. This structure at least up to 3½ months does not become differentiated into the true layers. It will form underneath adhesions. The dogs on which these various changes were noted remained perfectly well so far as could be judged. Most important of all is the fact that in no case was there any considerable anastomosis between the renal and the perirenal vessels. In one case decapsulation of one kidney was performed, and the renal artery of the other kidney was ligated. This would presumably call for increased activity in the circulation of the decapsulated kidney. No perirenal anastomosis was observed but the remaining renal artery was much increased in size. [A.B.C.]

Gangrene of the Lung Cured by Operation.—D. Riesman, A. C. Wood, and G. E. Pfahler[1] report this case which occurred in a negro of 63 who had pronounced arteriosclerosis and albuminuria. These conditions probably accounted for the rapid passage of lobar pneumonia (the primary affection) into gangrene—apparently within less than 10 days from the time of onset. A second interesting point was that the gangrene pursued its course not only without fever, but with a subnormal temperature. A third point was that the sputum contained neither elastic tissue nor fatty acid crystals. Though the site of the lesion in this case was fully determined by the physical examination, it was accurately confirmed by a skiagraph. Operation under chloroform, followed by ether anesthesia revealed a cavity the size of a closed fist. This was cleansed by the aid of gauze sponges and packed with sterile gauze. The temperature at once rose and was moderately high for 4 days. Convalescence was rapid and satisfactory. [A.G.E.]

Subcutaneous Rupture of the Kidneys.—G. Schmidt's[2] first case was that of a boy of 8, who fell on the street; violent abdominal pain, vomiting, inability to walk, tenderness over the right kidney, and hematuria were symptoms; he had slight fever for a few days. Complete rest resulted in a cure after 17 days of treatment. The second patient, a man with chronic gonorrhea, fell a distance of 5½ yards, and in addition to a severe renal injury, suffered a fracture of sixth rib on the left side, which, breaking inward, tore the pleura, thus setting up a hemothorax which was followed by a secondary pneumonia. After the first few days, during which the renal symptoms were grave, the chest complications governed the clinical picture. Recovery in this case must be considered quite a brilliant result, as the mortality statistics for complicated kidney ruptures vary from 47% to 90%, according to different authors. [E.L.]

Dislocation of the Hip in Acute Rheumatism.—J. N. Hall[3] reports that a boy of 10 had an attack of acute rheumatic fever, involving the ankle, knee, and hip of the same side. A careful measurement of the trochanter in relation to the pelvis and length of the limb was made early. Severe pain in the hip suggested a serious condition. After a rather tedious convalescence the patient was not seen for about 7 weeks, when it was observed that the previously affected hip was dislocated. His condition otherwise was good. The malposition was a well-marked case of dorsal dislocation. Under an anesthetic the head of the bone was replaced, but it did not sink readily into the acetabulum, and rather rested against it as if the socket were filled with exudates. A Buck's extension apparatus was applied, and the leg was kept in position for 3 weeks. His recovery from this time was uneventful, except there remained a very slight limp when walking, and there was considerable thickening about the head of the bone, rotation being limited, and complete flexion being somewhat impaired. [A.B.C.]

[1] The Practitioner, June, 1903
[2] Münchener medicinische Wochenschrift, April 28, 1903.
[3] Annals of Surgery, April, 1903.

[1] American Journal of the Medical Sciences, June, 1903.
[2] Münchener medicinische Wochenschrift, April 28, 1903.
[3] Annals of Surgery, April, 1903.

GYNECOLOGY AND OBSTETRICS

WILMER KRUSEN FRANK C. HAMMOND

EDITORIAL COMMENT

The Origin of Socalled Deciduoma Malignum.—The histogenesis of the socalled deciduoma malignum has given rise to so much discussion that any new light upon the subject is of interest to the obstetrician. Ten years have elapsed since Sanger, in a paper before the German Gynecologic Society, described a tumor which he designated as decidual sarcoma, or sarcoma uteri deciduocellulare. The appearance of his monograph in 1893 in which was collected all that was known on this subject created profound interest, and was soon followed by the publication of many similar cases. As he believed the growth to be a malignant proliferation of the decidua, therefore of connective tissue origin, he classified it as a sarcoma. Fränkel was the first to demonstrate the origin of the growth in the epithelium of the chorion. Up to the present time there have been three distinct theories upon the nature and origin of this curious growth: First is the theory of Sanger that it is a rapidly-growing sarcoma with masses of syncytial cells contained within it; second, Veit's view that it is a sarcoma growing in a uterus which has recently been the seat of a pregnancy; third, the theory of Marchand, who in 1895 published the most important monograph upon this subject to which we are largely indebted for our present knowledge of the histogenesis and histology of what is properly termed chorioepithelioma malignum. He identified the protoplasmic masses of the tumor with the syncytium, and the individual cells with those of Langerhans' layer. At the time his monograph was published, it was generally believed that the former was of maternal and the latter of fetal origin, so that according to this view the tumor would be composed partly of maternal and partly of fetal tissue. Since then Peters has demonstrated the true genesis of the epithelial layers of the chorion, that both the syncytium and the Langerhans' layers are derived from ectoderm; therefore, it follows that the tumors in question are entirely fetal in origin and arise from malignant proliferation of the two layers of the chorionic epithelium. Hence our nomenclature should be corrected and the term chorioepithelioma malignum substituted for the one proposed by Sanger. The literature of the subject is now quite extensive. At a recent meeting of the Obstetrical Society of London, Dr. J. H. Teacher, of Glasgow, read a paper based not only upon a large number of original observations, but also upon some 188 cases which he had been able to collect from literature, and his article provoked an interesting discussion upon the origin of these growths. A few words as to the clinical history seem appropriate. Chorioepithelioma may occur at any age during the childbearing period. There is always a history of pregnancy, and the expulsion of a full-term, or an undeveloped fetus, or a hydatidiform mole at some time previous to the appearance of the malignant growth. There is a curious relationship between hydatidiform mole and chorioepithelioma, it having been noted in nearly 50% of the cases of the latter; hence the possibility of the development of this growth should be borne in mind whenever a woman has expelled a hydatidiform mole. Findley, in an analysis of 200 cases of hydatidiform mole, found that 16% became malignant. The diagnosis of chorioepithelioma malignum is usually not made until uterine hemorrhage occurs. The loss of blood increases rapidly in amount and frequency, and very early causes profound anemia. The usual means of checking hemorrhage fail utterly, and may increase the flow. If the curet is employed, the procedure must sometimes be abandoned because of the alarming hemorrhage. According to Williams, in many instances the occurrence of vaginal metastases is the first evidence of the extension of the growth. Pain is not a notable symptom. Cachexia develops early, and the loss of weight and strength is extreme. Metastases also occur early, and in order of frequency, lungs, vagina, liver, and spleen are first invaded. It is unusual for the metastatic growth to spread by the lymph-glands as in ordinary carcinoma; but the cellular elements are conveyed as a rule by the blood-stream. The macroscopic appearances of the growth are not characteristic, and the microscope is indispensable in determining its true nature. Findley has suggested a method by which early diagnosis may be accomplished. He advises that "after the expulsion of an hydatid mole the uterus should be explored by the finger to detect and remove any placental tissue. Two weeks later the uterus should be cureted and the scrapings examined microscopically. If in the decidua, Langerhans' cells and the syncytium are found to be proliferating, the uterus should be removed without delay. In every abortion or full-time labor, when an unaccountable hemorrhage follows weeks and months afterward, an exploratory curetage should be done in view of the possible finding of malignant tissue." If curetage reveals the presence of chorioepithelioma, immediate hysterectomy is imperative with the excision of the metastases, if possible, as in case of vaginal involvement, although the chances for permanent recovery are very slight.

REVIEW OF LITERATURE

Operative Treatment of Uterine Cancer.—A. Sippel[1] asserts that no instance of undoubted permanent cure of cancer without operation exists, and believes that of all forms of cancer, that of the body of the uterus is most likely to be permanently cured by operation. Statistics show that only 10% of cases of uterine cancer which come under treatment are cured, or are free from occurrence after 5 years; and Sippel emphasizes again the importance of early operation to prevent recurrence, and especially the necessity of examining with care, every case of abnormal appearance at the climacteric period of a woman's life in order to detect the disease in its incipiency. [W.K.]

Tubal Pregnancy.—E. C. Orthmann,[2] during the last 4 years has operated upon 45 cases of tubal pregnancy with 4 deaths. In 42 instances the pregnant tube was removed, 30 times by celiotomy and 12 by colpotomy. Of these cases he selects 8 of especial interest which he reports in detail; 2 of repeated tubal pregnancy; 2 of contemporaneous abortion and rupture of the tube; 2 of association with diseases of other organs; and 2 of tuboabdominal pregnancy. These instances of tuboabdominal pregnancy did not arise as usual from the attachment of the ovum to the ampulla of the tube, but through a rupture of the tubal wall; the greater part or upper half of the ovum projected into the abdomen, while the other part with the placenta was firmly inserted in the tubal wall and in this manner a further development of the ovum was possible after the rupture. [W.K.]

Echinococcus of the Uterus.—The localization of the echinococcus in the pelvic region is a great rarity, only about 90 reported cases being known. S. T. Kusmin[3] adds an original observation. The patient, a young woman, sought advice for an abdominal tumor. The latter was diagnosed as an interstitial fibroma and a laparotomy was done, which resulted in the unexpected discovery of an echinococcus, numbering 25 to 30 cysts of various sizes up to that of a pigeon's egg. Although the other organs are to all appearances healthy, the author is undecided in pronouncing his case to be a primary uterine echinococcus. This would be a unique occurrence, and the possible existence of a latent focus elsewhere must be considered. The patient made a smooth and rapid recovery. [L.J.]

Cicatricial Constriction Attributed to Compression by Umbilical Cord.—C. O. Hawthorne[4] describes with illustrations a case of complete girdle or constriction in the abdominal wall of a 10-year-old child, the groove in the abdominal wall

[1] Münchener medicinische Wochenschrift, August 11, 1903.
[2] Zentralblatt für Gynäkologie, August 8, 1903.
[3] Chirurgia, June, 1903.
[4] Lancet, August 8, 1903.

being depressed from ¼ inch to ½ an inch below the surface. According to the mother's statement, delivery took place at the seventh month, and the groove in the abdominal wall and a similar one above the knee were occupied by the umbilical cord. The skin forming the floor of the groove was normal in every respect and just what might be expected from compression by a broad, smooth ligature. The evidence that in this case the groove was caused by stricture of the cord seems quite strong, and such a conclusion bears upon the question of the causation of intrauterine amputation which sometimes occurs, and goes to show that such amputations are caused by extra-fetal bands constricting in an extreme fashion the fetal part. [W.K.]

Fibroma of the Ovary.—Of all solid ovarian tumors, fibromas are an extreme rarity, occurring about twice in every 1,000 laparotomies. Indeed, several high authorities deny the very existence of fibromatous growths in the ovaries. This, however, is too sweeping a statement, and the report of a case by A. F. Kablukow[1] offers an additional proof against it. A woman of 52, otherwise in good health, had an abdominal tumor the size of a 10-year-old child. The tumor appeared 5 years ago and slowly but steadily increased in dimensions, causing dull pains and general discomfort. The woman had only 1 child at 20. Laparotomy disclosed the tumor at the site of the left ovary, which was absent. The right ovary was atrophied. The growth was removed, found to weigh 5 pounds, and showed the typical features of a fibroma: white color, considerable solidity, stratified structure, all resembling the fibromas of uterine origin. Microscopic examination revealed connective tissue and round as well as fusiform cellular elements. The patient is on the way to recovery. [L.J.]

Disadvantages of the High Pelvic or Trendelenburg Position.—K. Franz[2] discusses at length the effects of the Trendelenburg position upon the breathing of the patient who is etherized. He has compared the effect upon the action of the lungs of this position and the dorsal position, showing that in a great proportion of cases the former depresses lung action, that the abdominal action in breathing is lessened without any compensation in increased activity of the chest. He gives statistics showing that bronchitis occurs 4 times as often after etherization in the high pelvic position as in the dorsal position. He explains this by the statement that the mucus, which in the latter remains in the mouth, in the former collects in the naso-pharyngeal cavity and causes the bronchial irritation. Further, he thinks that the greater disturbance of the general system after laparotomy, as compared with a vaginal operation, is due to this cause, the interference with lung and heart action consequent upon the pelvic elevation in the Trendelenburg position; and he cites cases of apoplexy and cerebral hemorrhage after operation, probably due to this position. [W.K.]

Postpartum Atony of the Uterus.—W. Brill[3] reports in detail the cases of 3 patients, who, after normal delivery, were suddenly attacked with symptoms of severe collapse. There was no visible hemorrhage, and as no other causes could be discovered, the symptoms were attributed to uterine atony, which may occur without such hemorrhage. One of the women died, the other two were saved by energetic massage of the uterus. [E.L.]

TREATMENT

SOLOMON SOLIS COHEN
H. C. WOOD, JR. L. F. APPLEMAN

REVIEW OF LITERATURE

Treatment of Paresis.—According to F. X. Dercum (Rest Treatment, Mental Therapeutics and Suggestions. Blakiston, 1903) there is in paresis a wasting of the brain, closely allied to the degeneration of the nerves and cord in locomotor ataxia. The condition is neither more nor less than tabes of the brain. Because of the undoubted role which syphilis plays in the etiology of paresis the question of specific medication confronts us as soon as the diagnosis is made. In a certain number of cases the thorough administration of mercury and iodids is for a time at least followed by benefit. Indeed, it is advisable to institute in every case still in the early stage, a thorough course of mercurial inunctions for a period of several weeks, and to follow this up with the free administration of the iodids. Both the mercurial and the iodids should be pushed vigorously, but should not be persisted in for too long a period. Inasmuch as the lesion is not syphilitic or gummatous, these remedies probably do good by stimulating absorption and for a time clearing up the perivascular and periganglionic lymph-space. Good effects are, as a rule, observed only in relatively early cases; when the paretic is in the well-developed second stage mercury and iodids do harm, inasmuch as they tend to depress vitality. If the patient comes under the care of the physician during the initial period he should at once be withdrawn from his ordinary occupation and surroundings. Work, physical and mental, should be prohibited; worry, annoyance, care, and excitement should be avoided. Unfortunately, and especially with men, a radical plan of treatment cannot usually be carried out. Not infrequently, however, remissions more or less prolonged can be brought about by a properly directed plan of treatment. The remissions so frequently seen in cases committed to the asylums, are due to the rest and the quiet, the regular feeding, and the monotony of institution life. Insomnia can be combated by warm sponge bathing before retiring, by hot foot-baths, or by brief immersion of the entire body in a warm bath. Small doses of hyoscin or scopolamin, trional, or paraldehyd may also be administered. Undue excitement is to be treated in a similar manner. Full feeding, rest, exercise, massage, and tonics should variously be employed. Every now and then a full course of bed treatment, carried out as in neurasthenia is followed by decided improvement, occasionally lasting for many months, and even for a year or more.

Treatment of Accidents Caused by Lightning and Electric Currents of High Voltage.—Bois[1] reports the case of a man who had been struck by lightning during a storm. His suffering was so severe that two hypodermic injections of 1 cg. (⅛ gr.) of morphin hydrochlorate were given in quick succession. The patient was then removed to a neighboring hospital and for some days the pains persisted. Cold douches were tried, but increased the pain. When again seen by Bois an injection of 1 cg. (⅛ gr.) of morphin hydrochlorate was ordered night and morning, beside, a hot bath at 100° to be given at 4 o'clock in the afternoon and continued for 1 hour. The patient was removed to a quiet room and food restricted to milk, bouillon and eggs. The baths caused immediate cessation of pain and sleep was possible. At the end of 4 days the injections of morphin were reduced to one daily, and after the eighth day they were discontinued. The baths were continued for a month. At the end of this time, the patient was able to get up and walk. In cases of injury by currents from large electric cables, the treatment is entirely different. A case of this kind is reported in which a man was rendered unconscious. The following day he was attacked with complete paralysis of his right arm with loss of sensibility. There were no traces of burns, no signs of suffering, no sharp pain. Treatment consisted in the application of the fardaic current for half an hour daily. Gradually the motility returned and the cure was complete in a few weeks. As a rule, the treatment of accidents by lightning consists mainly of physical procedures; during the loss of consciousness, if there is disturbance of the respiration and circulation, artificial respiration, friction and flagellation, may be performed. Later, after return of consciousness, friction, massage and electricity may be used. The pain and delirium should be calmed by the use of the ordinary sedatives and analgesics. Hot baths are very useful when administered at a temperature of from 97° to 100° F. for a period of 1 hour. Drugs are only employed if the baths fail to give relief, which is very infrequently. [L.F.A.]

The Education and Treatment of Individuals with Mental Defects.—A disposition to mental and nervous diseases is usually inherited, and shows itself through the acquisition of such diseases upon the slightest provocation.[2] Such a

[1] Chirurgia, June, 1903.
[2] Zentralblatt für Gynäkologie, August 8, 1903.
[3] Wiener klinische Rundschau, 1903, No. 14.

[1] Lyon Médical, June 21, 1903.
[2] Münchener medicinische Wochenschrift, February 17 and 24, 1903.

disposition may be supposed to exist when hereditary stigmas are found in the family history. It should, therefore, be our duty to protect such children as much as possible against the onset of such diseases by guarding them very carefully against all unfavorable psychic or bodily influences. Sometimes the slightest of these may produce a nervous breakdown in predisposed individuals. Severe punishment and production of fright should not be permitted. The training of such children should be free from all extreme variations and demands; it should be firm and loving. They should be accustomed systematically to unpleasant impressions and privations, and should always have the best examples set them. Should parents be unable to perform their duties in this manner, or should they themselves present marked degrees of psychic defects, it were better to remove such children to institutions. Even though it should be the wish of such children to perform mental work excessively, and they seem able to do it, yet it should not be permitted. As they grow older they should be taught gymnastics and be made to exercise their bodily strength, thus increasing their resisting power against unhealthy influences. After illness of any kind, the period of convalescence should be prolonged to permit recovery of the nervous system. Late pleasures, as the theater, balls, dinners, etc., are poison to such individuals. Both alcohol and tobacco should be kept from them. When the time comes to choose an occupation, one should be selected which would not tax them too much. They should marry late, and only into perfectly healthy families. [E.L.]

Creosotal in Croupous Pneumonia.—B. Friedemann[1] reports excellent results with creosotal in croupous pneumonia, even in drunkards and in other life-threatening cases. He uses it very early in all cases, usually on the first, at the latest, on the second day of the disease. He gives it in emulsion; 8 gms. (2 drs.) within 24 hours; in children from 8 to 14 he gives from 4 gms. to 6 gms. (1 dr. to 1½ drs.). In almost every case the fever and other symptoms disappeared within 24 hours; but he gives the drug from 1 to 2 days longer until the entire dulness has cleared up. Friedemann explains the rapid fall of temperature, the early clearing up of the lung, and the quick improvement of the general state, by either a bactericidal or inhibitory action of the creosotal on the pneumococcus. [E.L.]

DERMATOLOGY

M. B. HARTZELL.

EDITORIAL COMMENT

Radium as a Therapeutic Agent in Dermatology.—Radiotherapy has received a new and powerful impulse in the discovery of the radioactive properties of radium, and already the successful employment of this agent in the treatment of epithelioma is reported from the hospitals of Vienna and London. In connection with this subject a recent paper by Halkin[2] is of interest. This investigator experimenting with radium-barium bromid upon the skin of young pigs, found that the rays emitted by this substance acted upon vessels, epithelium and connective tissues alike, and much in the same way as the Röntgen rays. Experiments were also made as to the therapeutic effects of these rays, patches of lupus vulgaris being exposed for variable periods. It was found that exposures of moderate duration were apparently without effect; but when the exposures were from two to four hours' duration, repeated daily for 14 to 19 days, ulceration occurred. Even in the cases in which superficial necrosis occurred as the result of prolonged exposures, the microscope failed to show any effect upon the deeper lupus deposits. From which it would appear that even if radium should be found useful in superficial affections of the skin, it is not likely to be of service when deeper structures are affected. However, the subject is so new that nothing definite can be said as yet.

[1] Therapie der Gegenwart, February, 1903.
[2] Über den Einfluss der Becquerelstrahlen auf die Haut, Archiv für Dermatologie und Syphilis, Bd. lxv, Heft 2.

REVIEW OF LITERATURE

A Critical Review of Philippson's Proposed Reform of Dermatology.—Hermann G. Klotz[1] has made the subject of a review Philippson and Torok's "General Diagnostics of the Diseases of the Skin, Founded on Pathologic Anatomy" (1895), and several articles published by the former in the *Archiv f. Dermatology* (Vol. lviii, 1901), principally one entitled: "The morphologic tendency and the anatomic-genetic tendency in the dermatology of the present day." Here Philippson tends to show that dermatologists are paying too much attention to the morphologic changes, particularly to the socalled elementary lesions, without allowing due importance to the anatomic process which produces them. He explains by numerous examples from the writings of distinguished authors how often this leads to errors and to confusion. He therefore demands that the examination and description of diseases of the skin be made with the sole view of discovering the anatomic process and its genesis; that under all circumstances an anatomic diagnosis first be made and that the diagnosis of the disease itself not be insisted on unless all the conditions for the construction of a clinical entity be fulfilled. To accomplish this a general pathology of the skin in conformity with the general pathology of the human body and a general diagnosis founded on pathologic anatomy have to be created. Klotz agrees with Philippson that there exists sufficient reason for reform; he considers the proposed plans not only as practicable, but as the most natural, probably the only correct one to follow, and is convinced that it is much more in use already than is admitted by Philippson. He also believes that it would work a real reform of dermatology.

The Treatment of Cancer of the Skin by the Czerny-Trunecek Method.—Beck[2] has employed this method of treating cancer of the skin in 5 cases with favorable results. The method consists in the daily application of solutions of arsenious acid in 50% alcohol, which are gradually increased in strength, the solutions varying from .66% to 2%. From his experience with the method the author concludes that satisfactory results may be obtained by it in cases in which the disease is superficial and the lymph-glands are not affected. Recurrences, however, are just as likely to happen after this method of treatment as after excision, curetment, or cauterization.

The Etiology of Acne Vulgaris.—Gilchrist,[3] pursuing the line of his previous studies, has found a bacillus which he names the *Bacillus acneis* in a large number of typical acne lesions taken from 86 patients. This bacillus was obtained in pure cultures from 62 lesions taken from 29 patients. Observed in smears it is short and thick, but in cultures it becomes much larger; and in old cultures it exhibits distinct branching forms. It grows on acid glycerin-agar, forming a pultaceous, easily movable mass. It was found to be pathogenic in mice and guineapigs. The serum of patients suffering from acne produced clumping of the bacillus, from which the author infers that the microorganism produces a specific toxin which, absorbed by the blood, produces a specific agglutinin. He also thinks it possible that the anemia, constipation, headache, and digestive disturbances which are commonly regarded as predisposing causes of acne, are really the results of the continuous absorption of toxins produced by large numbers of bacilli present in the lesions.

Blastomycosis of the Skin from Accidental Inoculation.—Evans[4] reports the case of a physician, 28 years old, who at an autopsy on a case of systemic blastomycosis, pricked the skin on the palmar surface of the left index finger with a needle. This slight wound apparently healed, but at the end of a week a small pustule appeared, which was opened and evacuated. A few days later a pustule again appeared, which was evacuated as before, and this was repeated several times. About a month after the infiltration of the wound, symptoms of

[1] Journ. of Cutan. and Gen. Urin. Diseases, xx, 487, November, 1902
[2] Monatshefte für Praktische Dermatologie, Bd. 36, No. 37.
[3] Journal of Cutaneous Diseases, March, 1903.
[4] Journal of the American Medical Association, July 27, 1903.

acute inflammation appeared, the finger being swollen, red, and painful, and lymphangitis of the forearm with swelling of the axillary glands occurred. The finger was incised, but did not improve, and some days later it was cureted. Examination of the granulation tissue thus removed showed numerous blastomycetes. The wound healed after a few weeks, leaving a scaly scar with reddened, swollen margin about which small pustules formed from time to time. Treatment with the actinic ray was tried, exposures of 10 minutes each being made daily for one month. Under this treatment improvement took place, but upon discontinuing it the finger grew worse. The entire lesion was then excised.

The Faradic Current in the Treatment of Alopecia Areata.—Ehrmann[1] at a session of the Vienna Dermatological Society, exhibited a young man suffering from complete alopecia lasting from his fourteenth to his twentieth year, who had been treated with the faradic current. The treatment was carried out by the patient himself, and at the end of 6 months there was complete restoration of the hair. Ehrmann has frequently seen areas which had been purposely left untreated, remain hairless, while those to which the current had been applied showed growth of hair. He regards this as conclusively demonstrating the curative influence of this method of treatment.

A New Nail Parasite.—Dreuw[2] reports a case of parasitic disease of the nails, which he believes to be due to a form of fungus not hitherto described. The nails of all the fingers of the left hand and the thumb of the right hand were raised from the nail-bed, and beneath the nails were grayish and yellowish horny masses, which were cast off spontaneously. The nail substance was extremely brittle. Neither redness, swelling, nor pain accompanied the disease. The author believes the affection to have been contracted through handling straw wrapped around bottles which the patient was employed in filling with a sweet liqueur. The clinical course, as well as culture experiments, pointed to the mycotic nature of the malady; and the morphologic, cultural, and biologic characters of the fungus distinguished it from both the trichophyton and the achorion.

Estival Areate Desquamation of the Palms.—Carayon[3] calls attention to an affection of the palms occurring in summer, characterized by areas of desquamation which gradually extend. There are 2 forms of the malady, one quite mild and very common, the other much more extensive and quite rare. The first form occurs exclusively in the heat of summer, and is situated upon the palms, the palmar surfaces of the fingers, more rarely upon the sides, but never upon the backs of the hand. It begins as small whitish spots, varying in size from the head of a pin to a large lentil, which are formed by a thin layer of loose epidermis. The skin beneath this epidermic scale is slightly redder than the surrounding parts, but absolutely dry. The duration of the lesion is very brief, each lasting from 24 to 48 hours. New ones are continually appearing, however, so that the affection lasts throughout the summer. There are no subjective symptoms. In the second variety the lesions are much deeper, more extensive, and more lasting. The spots are formed by thick dry epidermis loosened from the underlying parts, varying in size from a lentil to a franc. They continue to increase in size for 1 or 2 weeks, then the epidermis splits and is detached in a thick sheet. At no time is there any redness, infiltration, nor induration of the skin. Although there is never any pain, if the lesions are very numerous and extensive there may be a disagreeable dryness and roughness of the palms, and when the ends of the fingers are affected, slight impairment of the sense of touch. Each lesion requires from 20 days to a month for its evolution. The disease does not seem to be in any way connected with hyperidrosis.

Eczema Scrofulosorum.—Riehl,[4] at a meeting of the Vienna Dermatological Society, exhibited a case of a peculiar form of eczema occurring in an anemic young man. Coin-sized, moderately scaling, red patches were scattered over the trunk and extremities. Those upon the trunk were discrete, those upon the thighs partly crusted, while upon the legs they were confluent, forming a crusted eczema. The discs upon the trunk showed, upon close examination, scattered, hempseed-sized, brownish nodules which were situated about the lanugo hairs, and were distinctly palpable. The glands in the groin were indurated. Riehl has seen similar cases in which typical lichen scrofulosorum was also present, and he has also observed the follicular nodules in the patches of eczema, after the disappearance of the latter, transformed into lichen scrofulosorum with infiltration of the lymph-glands and anemia. This form of eczema must be regarded as an intermediate stage between eczema and lichen scrofulosorum.

[1] Archiv für Dermatologie und Syphilis, Bd, lxv, Heft 2.
[2] Monatshefte für Praktische Dermatologie, Bd. 36, Heft No. 27.
[3] Annales de Dermatologie et de Syphilographie, No. 4, 1903
[4] Archiv für Dermatologie und Syphilis, Bd. lxv, Heft 3.

The Influence of the Röntgen Ray on Epithelial Tissues.—M. Perthes[1] gives the results of experiments made to determine the effect of the Röntgen ray on epithelial cells. After noticing the disappearance from his own hand of a wart following a slight Röntgen dermatitis, the writer treated similar growths on 18 patients by covering one-half of the wart with a lead shield and exposing the other half to the Röntgen ray. In 16 cases the exposed part of the wart became hard and then scaled, leaving an epidermal bed which healed after a few days; in 2 cases the reaction was more intense, giving rise to vesiculation. Two cases recurred. From a study of portions of tissue removed during the treatment, M. Perthes states that the effects of the Röntgen rays is exerted principally on epithelial cells. This conclusion was also reached by the results obtained by treating a recurrent rodent ulcer, which was entirely cured. The experiments were carried further by wounding equally both ears of a rabbit and exposing one ear to the Röntgen ray while the other was protected. Healing was greatly retarded in the exposed wound. M. Perthes concludes that the Röntgen ray exerts its influence principally on young epithelial cells, normal or cancerous. [A.G.E.]

Diffuse Scleroderma. — Heynacher's[2] patient passed through several attacks of acute articular rheumatism, which induced a mitral insufficiency and cardiac dilation. After his last attack of rheumatism the skin around the joints, the face and the neck became hard, tense and cold; this cutaneous state spread gradually to all parts of the body. Massage, warm applications and tonics resulted in a complete cure. [E.L.]

Light Treatment in Lupus and Other Diseases of the Skin.—Morris and Dore[3] contribute a valuable review of this treatment and report the results obtained in a large number of cases. Their results, though not so brilliant as those claimed by Finsen, have been satisfactory in a considerable number of the cases of lupus vulgaris treated by them. Of 65 cases 11 have remained without relapse for periods varying from 6 months to 2 years; of 11 cases of lupus erythematosus great improvement took place in 7; favorable results were obtained in 12 of 27 cases of rodent ulcer. The writers state that the Röntgen rays should not be included under the term light-treatment though they used it also in many of their cases of rodent ulcer. Of the many light lamps in use they prefer the original Finsen. The cosmetic effects are stated to be the most valuable asset of the light-treatment. Clinical notes and photographs of 5 cases of lupus vulgaris and one of rodent ulcer accompany the article. [A.G.E.]

Alopecia Areata.—Richter[4] reviews the literature on alopecia areata and reports a case in a woman of 52. Since an accident in 1898 she has had neuralgic pains around the second cervical vertebra to the right of the median line. She developed two bald areas on the right side of her head. These spots are sensitive to heat, cold, pain, and electricity. Richter concludes that alopecia areata is not an infection but a condition due to neurotrophic disturbances. Division of the second cervical nerves in the lower animals causes alopecia areata. Thallium acetate administered in pulmonary tuberculosis has caused not only neuralgia but also baldness. Atrophy of the fibers of the sympathetic nerves is followed by alopecia areata. [W.E.R.]

Congenital Syphilitic Pemphigus Not Affecting the Soles of the Feet and the Palms of the Hands.—Shukow-

[1] La Semaine Médicale, June 10, 1903.
[2] Deutsche medicinische Wochenschrift, April 9, 1903.
[3] The Practitioner, April, 1903.
[4] Berliner klinische Wochenschrift, December 20, 1902.

sky[1] reports a case of congenital pemphigus proved to be syphilitic both by the mother's confession and the autopsy performed on the child. The blebs covered all parts of the body of the child, with the exception of the soles of the feet and the palms of the hands, which were absolutely normal, barring two or three small pustules of the right foot, and remained so until the child's death on the tenth day. Numerous other syphilitic signs existed. The autopsy revealed white pneumonia, syphilitic hepatitis, nephritis, encephalitis, pemphigus, hypertrophic spleen with hemorrhage. [E.L.]

The Dermatoses Occurring in Exophthalmic Goiter.—J. N. Hyde and E. L. McEwen[2] report four interesting cases and give an instructive discussion of the relation between exophthalmic goiter and certain cutaneous lesions. The first case was one of facial hidrocystoma, the second was one of facial and cervical telangietases, the third was that of cutaneous pruritus, the fourth, cutaneous pruritus and angioneurotic edema. The writers state that about 111 reports of cases of this character have been made, theirs being, however, the only one of hidrocystoma. The latter is of special interest as showing that hidrocystoma may develop in classic symptoms upon the face of a woman in nowise exposed to a moist atmosphere. The article concludes with a discussion of the association of edema with exophthalmic goiter and of the relation of the latter condition to myxedema. [A.G.E.]

A Case of Local Ichthyosis.—This affection is usually described as general in its distribution. S. W. Snamenski[3] reports the case of a man, 21 years old, who presented numerous small areas of ichthyosis, symmetrically distributed. Such spots were present on the neck, arms, thighs and around the umbilicus. The nervous system was repeatedly tested but found to be normal. [L.J.]

Treatment of Pityriasitic Seborrhea of the Hairy Skin.—Gaucher[4] divides the treatment of this condition into general and local procedures. General treatment consists in the correction of disturbances of the gastrointestinal tract by proper diet in those subject to rheumatism and proper laxatives for the relief of constipation. Local treatment consists in (1) dissolving the fatty materials; (2) modifying glandular secretions; (3) stimulating the growth of the hair. The fatty materials may be dissolved by one of the following solutions: 8 gms. to 15 gms. (2½ drs. to 4 drs.) of sodium bicarbonate to 100 cc. (3½ oz.) of water.

Hillairet's solution, as follows:

Borax	12 gms. (3 drs.)
Sulfuric ether	15 gms. (4 drs.)
Water	235 cc. (8 oz.)

M.—Shake before using.

A decoction of Panama wood mixed with an equal part of 90% alcohol. Ammonia water in the proportion of 2 cc. to 3 cc. (30 m. to 45 m.) to 100 cc. (3½ oz.) of water. The glandular secretions may be modified by preparations of sulfur, resorcin or mercury; 10% sulfur ointment or 1% solution of potassium sulfid may be used. Resorcin is used in a 1% to 2% ointment. A 1 to 1,000 solution of corrosive sublimate or a .5% to 1% ointment of salicylic acid may also be employed. To stimulate the growth of the hair, preparations containing alcohol are the best. Gaucher employs the following:

Corrosive sublimate	0.2 gm. (3 gr.)
Castor-oil	0.4 gm. (6 gr.)
Glacial acetic acid	1.0 gm. (15 gr.)
Resorcin	2.0 gm. (30 gr.)
Chloral hydrate	4.0 gm. (1 dr.)
Tincture of pilocarpin	5 cc. (80 m.)
Tincture of cantharides	10 cc. (2½ dr.)
Alcohol 90%	200 cc. (7 oz.)

In falling of the hair following pregnancy or typhoid fever, the following lotion is preferred:

Chloroform, Tincture of benzoin, Castor-oil, of each	4 cc. (1 dr.)
Vegetable tar	0.4 gm. (6 gr.)
Alcohol	200 cc. (7 oz.)

Mix. [L.F.A.]

[1] Archiv für Kinderheilkunde, 1902, xxxiv, 272.
[2] American Journal of the Medical Sciences, June, 1903.
[3] Russki Vratch, May 31, 1903.
[4] Journal des Praticiens, Vol. xvii, No. 26, 1903, p. 408.

Concerning Scleroderma.—Buschke[1] reports a case of subacute edema in a man of 45 who otherwise was perfectly healthy. Following an attack of influenza he developed an edema involving the deeper layers of the skin, the subcutaneous connective tissue, and the muscles. With the exception of an indurated area on the face the condition disappeared in two years, leaving no marks. In scleroderma the edema is in the superficial layers of the skin, and its disappearance is accompanied by atrophy and pigmentation. All of these three signs were absent in the above case. The author concludes that his case was not a typical one of scleroderma, and calls it sclerofascia. The pathology consists in a diffuse disease of the lymph vessels. Buschke treated his patient by massage. [W.E.R.]

Pemphigus Vegetans.—L. P. Hamburger and M. Rubel[2] discuss the nosology of pemphigus from the historical standpoint and report a case with autopsy and bacteriologic findings. The patient was a man of 52, who died 14 months after the onset of the disease, which began as a skin eruption and sore mouth. Before death no part of the body surface except the palms, soles and scalp was entirely free from lesions. Autopsy showed normal organs except the lungs, which were the seat of emphysema and bronchopneumonia. There was no ulceration in the gastrointestinal tract or the bladder. Cultures from the blebs were either negative or contained *Staphylococcus aureus*. Cultures from the mouth revealed the presence in almost pure culture of a small bacillus which, from its growth or nutrient media and the results of animal inoculations, was undoubtedly a member of the pseudodiphtheria group. After death the micrococcus lanceolatus was isolated from the lungs, a pseudodiphtheria bacillus from the blood. [A.G.E.]

[1] Berliner klinische Wochenschrift, October 13, 1902.
[2] Johns Hopkins Hospital Bulletin, March-April, 1903.

THE PUBLIC SERVICE

Health Reports.—The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended September 5, 1903:

		Cases	Deaths
	SMALLPOX—UNITED STATES.		
California:	Sacramento.....Aug. 6-23.....	2	
	San Francisco.....Aug. 16-23.....	1	
Colorado:	Denver.....July 25-Aug. 15...	6	
Illinois:	Chicago.....Aug. 22-29.....	4	2
Indiana:	South Bend.....Aug. 22-29.....	1	
Massachusetts:	Fall River.....Aug. 22-29.....	1	
Michigan:	Marquette.....Aug. 22-29.....	1	
	Port Huron.....Aug. 22-29.....	1	
Mississippi:	Natchez.....Aug. 22-29.....	1	
New Jersey:	Camden.....Aug. 22-29.....	1	
Ohio:	Dayton.....Aug. 22-29.....	3	
Pennsylvania:	Erie.....Aug. 15-22.....	1	
	Pittsburg.....Aug. 23-30.....	95	13
		1 imported.	
Texas:	San Antonio.....July 1-31.....	14	
Utah:	Salt Lake City.....Aug. 15-22.....	1	
		Imported from Idaho.	
Virginia:	Pocahontas.....Aug. 22-29.....	1	
Wisconsin:	Milwaukee.....Aug. 22-29.....	2	
	SMALLPOX—INSULAR.		
Philippine Islands:	Manila.....July 11-18.....	1	1
	SMALLPOX—FOREIGN.		
Belgium:	Brussels.....Aug. 8-15.....		3
China:	Shanghai.....July 11-18.....		1
Colombia:	Barranquilla.....Aug. 8-16.....		3
France:	Paris.....Aug. 1-8.....		1
Great Britain:	London.....Aug. 8-15.....	9	
	Manchester.....Aug. 8-15.....	1	
	New Castle-on-Tyne.....Aug. 8-15.....	10	1
	South Shields.....Aug. 8-15.....	1	
	West Hartlepool.....Aug. 8-15.....	2	
India:	Bombay.....July 28-Aug. 4....		5
Mexico:	Mexico.....Aug. 16-23.....	9	5
Russia:	Moscow.....Aug. 1-8.....	2	1
	Odessa.....Aug. 8-15.....	1	
	YELLOW FEVER—UNITED STATES.		
Mississippi:	Gulf Quarantine.....Sept. 1.....		1
	From schooner Henrietta G. Powell from Vera Cruz.		
	YELLOW FEVER—FOREIGN.		
Colombia:	Panama.....Aug. 17-24.....	3	1
Costa Rica:	Limon.....Aug. 13-30.....	4	2
	San Jose.....Aug. 13-30.....	2	
	Zent.....Aug. 13-30.....		4

Mexico:	Mexico..	Aug. 16–23		1
	Linares	Aug. 24		14
	Merida	Aug. 9–15	10	5
	Progreso	Aug. 15–22	2	
	Monterey	Aug. 26	1	
	Tampico	Aug. 16–22		19
	Tehuantepec	Aug. 8–15	4	3
	Teran	Aug. 27	Present	
	Salina Cruz	Aug. 9–15	3	2
	Valladolia	Aug. 9–15	1	
	Vera Cruz	Aug. 15–22	59	29

CHOLERA—INSULAR.

Philippine Islands:	Manila	July 11–18	7	7
	Provinces	July 11–18	1369	825

CHOLERA—FOREIGN.

China:	Hong Kong	July 15–22		1
India:	Calcutta	July 25–Aug. 1		12
Turkey:	Damascus	July 21–Aug. 18	16	57
	Damascus Province	July 21–Aug. 18		312
	Tripoli	July 25	Present	

PLAGUE—INSULAR.

Hawaii:	Honolulu	Aug. 18		1
Philippine Islands:	Manila	July 11–18	1	

PLAGUE—FOREIGN.

China:	Hong Kong	July 15–22	18	9
India:	Bombay	July 28–Aug. 4		100
	Calcutta	July 25–Aug. 1		12
	Karachi	July 26–Aug. 2	2	2

Changes in the Medical Corps of the U. S. Army for the week ended September 5, 1903:

FRICK, Major E. B, will, in addition to his present duties, take charge of the office of chief surgeon of the department, and transact the official business thereof during the absence of the chief surgeon.

HALOCK, Captain HARRY M., is detailed member, and First Lieutenant Wallace DeWitt is relieved as member of the General Court Martial at Fort Porter, N. Y.

ALLEN, IRA A., contract surgeon, Camp Stotsenburg, Pampanga, will proceed to Angeles, Pampanga.

WHITMORE, First Lieutenant EUGENE R., now at Angeles, will proceed to Camp Stotsenburg.

TALBOTT, First Lieutenant EDWARD M., now at Taal, Batangas, will, upon abandonment of station, proceed to Camp Gregg, Pangasinan, relieving Contract Surgeon Milton Vaughn, who will return to Panay Garrison, Manila.

SCHIMANN, OTTS, sergeant first class, and HOLMES, JOHN J., and DAVIS, HENRY C., privates first class, will report at Nueva Caceres, Ambos, Camarines.

HARREL, DANIEL B., private first class, will report at Batangas, Batangas.

QUINTON, Captain WILLIAM W., now at Calamba, Laguna, will proceed to Nueva Caceres, Ambos Camarines, relieving Captain Henry A. Webber, who will proceed to Manila and report to chief surgeon for instructions.

LEWALD, First Lieutenant LEON T., now at Camp Jossman, Guimaras, will report to commanding officer at that station for temporary duty during the absence of First Lieutenant S. H. Wadhams in Manila. Upon return of Dr. Wadhams, Dr. LeWald will return to his proper station, Base Hospital, Iloilo.

HARMER, J. R., contract surgeon, is granted leave for two months.

SABIN, W. E., contract surgeon, is assigned to temporary duty at Vancouver Barracks.

BIRMINGHAM, Major HENRY P., surgeon, is detailed for duty as chief surgeon on the staff of Major General J. C. Bates during the Army maneuvers to be held in the vicinity of West Point, Ky., and will report by letter to that officer for instructions. Major Birmingham will proceed at such time and to such place as may be designated by Major General Bates.

CABLE, G. L., contract surgeon, is relieved from further duty at Fort Clark and will proceed to his home for annulment of contract.

BISING, A. G., surgeon, is granted leave for one month.

IRELAND, Major M. W., surgeon, will report to the commanding officer, Third Battalion Engineers, for duty with the headquarters, staff, and companies L and M of that battalion while en route to San Francisco, Cal., and upon the completion of this duty will return to his station in Washington, D. C.

WILSON, Captain JAMES S, assistant surgeon, is granted leave for seven days, to take effect upon the completion of temporary duty at Fort Adams.

BAKER, Sergeant WALTER S., first class, company of instruction No. 2, hospital corps, Fort McDowell, will proceed to Fort Reno to relieve Sergeant Frank Lahna, first class. Sergeant Lahna will avail himself of the furlough this day authorized. Upon expiration of furlough he will proceed to Manila, P. I., for assignment to duty.

Changes in the Medical Corps of the U. S. Navy for the week ended September 5, 1903:

KOHLASE, O., assistant surgeon, on September 10, 1903, detached from duty at the naval hospital, Mare Island, Cal., and ordered to duty at the Naval Museum of Hygiene and Medical, October 1, 1903—August 29.

MCCLANAHAN, R. K., assistant surgeon, en route home from Asiatic station, via the Solace—August 31.

OMAN, C. M., assistant surgeon, detached from the Solace and ordered to the Monadnock—August 31.

DUNN, H. A., assistant surgeon, detached from the naval station, Cavite, P. I., and ordered to the Solace—August 31.

MUNSON, F. M., assistant surgeon, ordered to the Frolic—August 31.

BACHMAN, R. A., assistant surgeon, ordered to the naval station, Cavite, P. I.—August 31.

STRINE, H. F., assistant surgeon, ordered to the Isla de Cuba—August 31.

NEILSON, J. L, assistant surgeon, ordered to the Iris—August 31.

Changes in the Public Health and Marine-Hospital Service for the two weeks ended September 3, 1903:

GASSAWAY, J. A., surgeon, department letter granting leave of absence for two months from August 10 amended to read two months from August 13—August 24, 1903.

STONER, G. W., surgeon, seven days' leave of absence from August 29, 1903, under paragraph 189 of the regulations.

CARTER, H. R., surgeon, bureau letter granting leave of absence for thirty days from August 4 amended so as to read twenty-four days from August 5—September 1, 1903.

MAGRUDER, G. M., surgeon, granted leave of absence, on account of sickness, for thirty days from September 7, 1903, or so much thereof as may be necessary—September 2, 1903. Two days' leave of absence from August 20, 1903, under paragraph 189 of the regulations.

ROSENAU, M. J., passed assistant surgeon, detailed as chairman of Working Party No. 2, Yellow Fever Institute, and directed to proceed to Vera Cruz, Mexico, for special temporary duty in connection therewith—August 28, 1903.

WHITE, M. J., passed assistant surgeon, relieved from duty at Portland, Oregon, and directed to proceed to Honolulu, T. H., and report to medical officer in command for duty, relieving Assistant Surgeon J. M. Holt—August 28, 1903. Granted leave of absence for three days from September 5—September 3, 1903.

FRICKS, L. D., passed assistant surgeon, to proceed to Baltimore, Md., and report to Surgeon H. R. Carter for temporary duty in connection with the inspection of immigrants at that port—August 31, 1903.

PARKER, H. B., passed assistant surgeon, relieved from temporary duty at Washington, D. C., and as chairman of Working Party No. 2, Yellow Fever Institute, and directed to report to Passed Assistant Surgeon M. J. Rosenau and to proceed to Vera Cruz, Mexico, for duty under his direction—August 28, 1903.

STANSFIELD, H. A., assistant surgeon, upon being relieved from duty at Mariveles, P. I., to proceed to San Francisco, Cal., and report arrival by telegraph—August 28, 1903.

HOLT, J. M., assistant surgeon, upon being relieved from duty at Honolulu, T. H., to proceed to Manila, P. I., and report to Passed Assistant Surgeon V. G. Heiser for duty—August 28, 1903.

VOGEL, C. W., assistant surgeon, relieved from duty at San Francisco, Cal., and directed to proceed to Manila, P. I., and report to Passed Assistant Surgeon V. G. Heiser for duty—August 28, 1903.

WILLE, C. W., assistant surgeon, upon completion of duties at Baltimore, Md., to proceed to Philadelphia, Pa., and assume temporary command of service at that port during absence, on leave, of Surgeon F. Irwin—August 22, 1903.

AMESSE, J. W., assistant surgeon, upon being relieved from duty at Jolo, P. I., to proceed to San Francisco, Cal., and report arrival by telegraph—August 28, 1903.

GLOVER M. W., assistant surgeon, granted leave of absence for one month from September 8—August 31, 1903.

FRANCIS, EDWARD, assistant surgeon, relieved as temporary chairman of Working Party No. 2, Yellow Fever Institute, and directed to report to Passed Assistant Surgeon M. J. Rosenau as member of Working Party No. 2 upon his arrival at Vera Cruz, Mexico—September 1, 1903.

CREEL, R. H., assistant surgeon, relieved from duty at Immigration Depot, New York, N. Y., and directed to proceed to Manila, P. I., and report to Passed Assistant Surgeon V. G. Heiser for duty—August 28, 1903.

BEAN, L. C., acting assistant surgeon, granted leave of absence for two days from September 4—September 2, 1903.

ECHEMENDIA, D. M., acting assistant surgeon, granted leave of absence for seven days from August 20, 1903, on account of sickness, under paragraph 210 of the regulations.

GIBSON, L. P., acting assistant surgeon, granted leave of absence for six days—August 24, 1903.

HUNTER, S. B., acting assistant surgeon, granted leave of absence for six days—August 27, 1903.

KIMMET, W. A., acting assistant surgeon, granted leave of absence for two weeks from August 25—August 26, 1903.

O'REILLY, W. J., acting assistant surgeon, granted leave of absence for three days from September 8—September 2, 1903.

PETERS, R. H., acting assistant surgeon, granted leave of absence for twenty days from August 4—August 24, 1903.

MACDOWELL, W. F., pharmacist, granted leave of absence for thirty days from September 14—August 29, 1903.

STEARNS, W. L., pharmacist, granted leave of absence for thirty days from September 8—August 29, 1903.

MORRIS, G. A., pharmacist, to report to chairman of board of examiners at Fort Stanton, N. M., September 12, 1903, for examination to determine his fitness for promotion to the grade of pharmacist of the second class.

SIEDENBURG, F., pharmacist, granted leave of absence for thirty days from September 5—August 26, 1903.

Boards Convened.

Board convened to meet at Fort Stanton, N. M., September 12, 1903, for the examination of Pharmacist G. A. Morris, to determine his fitness for promotion to the grade of pharmacist of the second class. Detail for the board: Surgeon P. M. Carrington, chairman; Assistant Surgeon J. W. Trask, recorder.

Board convened to meet at Washington, D. C., on call of the chairman to consider certain matters relative to uniform regulations of the service. Detail for the board: Assistant Surgeon-General A. H. Glennan, chairman; Assistant Surgeon-General G. T. Vaughan, Assistant Surgeon-General H. D. Geddings, recorder.

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PUBLISHED WEEKLY AT 1321 WALNUT STREET PHILADELPHIA BY THE AMERICAN-MEDICINE PUBLISHING COMPANY

VOL. VI, No. 12. SEPTEMBER 19, 1903. $5.00 YEARLY.

The Mystery and Wonder of Memory.—The newspapers are telling of the remarkable feat of a postal clerk who, in a civil service examination did not make a single error in properly sorting 42,000 test postal cards, each representing a post office in a certain territory assigned. This was done at the rate of 33½ cards a minute. Far more noteworthy is the memory of an expert piano player, who will play an entire season's concerts without a note of printed music before him. His memory is so perfect that hundreds of thousands of notes must be at the orderly and instant disposal of the will. And this is combined with a multiplicity of synchronous recollections of timbre, tempo, expression, etc. The mystery is at present past the hinting of any explanation, and this fact is as beautiful as it is appalling. It shows us how far we are from any real science of psychology. Physicians note the strange thrusting of disease among the mechanisms of memory, the morbid effects of some neoplasm or injury to parts of the convolutions of the brain whereby some memories are lost temporarily or permanently, in part or completely, while others are unaffected. Even this leaves us in amazement at the inscrutable complexity and methods of the cellular machine. But through these morbid injuries we catch tantalizing glimpses which someday, properly studied and followed up, may bring some psychologic physician to an unraveling of the mystery.

Malthus and Infant Mortality.—If, as one hears, there are left any who dispute the fundamental principle of Malthus, he should observe carefully the figures of vital statistics, and especially those of infant mortality. The deathrate of children under 5 is a fairly accurate register of the success or failure of nations or races in the struggle for existence. One of the most striking exhibitions of the fact is shown by the mortality of the children of Bombay. Superstition and deepseated prejudices have vied with poverty, filth, famines, and epidemics to bring about a condition which is indicated by the story of the slaughter of the babies which as has been truly said is a disgrace to civilization. During the year 1899 there were 593 deaths among every 1,000 infants born, and 867 deaths among every 1,000 children under 1 year of age. One-quarter of the total mortality of the whole city consists of deaths of children under 5 years of age. From 1892 to 1900, 70% of the total city mortality was among children less than 1 year old. The number of still births has almost doubled within the last decade, while of the infants born alive few possess any constitutional strength. It appears that smallpox commits great ravages among children under 5 years of age, and especially among those who are less than 12 months old.

Insurance against appendicitis has been undertaken by the Royal Exchange Assurance Company of England, which will issue policies at the rate of $1.25 a year for every $500. The holder is guaranteed all the medical, surgical, and nursing expenses up to the amount insured. In commenting upon this impolitic policy, the *Lancet* wonders how the applicant can answer the question, "Have you or any of your family ever suffered from appendicitis or from any of the symptoms pertaining to it?" What is meant by "family," and is a pain in the belly a symptom of this disease only? Moreover has the patient the requisite medical knowledge either of himself or his family to give a discriminating answer? The Insurance Company's leaflet says that during 1900, 15,000 operations were performed in the United Kingdom for appendicitis. Were there so many in the whole world? The company estimates that about one in 400 per annum will be attacked by the disease. But would the rate be the same in the United States with its appendiceal beliefs as in conservative England? And then how about all the other ailments and accidents which may happen to one? There are a thousand ways in which one may be sick or die; should the prudent man not secure a policy for each one of them? This would in time result in a distinct form of monomania, a morbophobia which might be called insurance disease. Could the companies devise a policy for these afflicted ones?

Quantity the Chief Factor in Alcoholic "Poisoning."—What constitutes a poison seems to be as much a matter of opinion as what is meant by the word "food." According to Fick (Würzburg), a poison is "any substance which, introduced into the blood in comparatively small amounts, causes disturbances in the functions of any organ." Dr. Abel[1] asserts that "there is no substance which is always and everywhere a poison. The term is relative. . . ." Cyanid of mercury is never a

[1] Physiologic Aspects of the Liquor Problem.

food. It is not used therapeutically. The reason why it is not "always and everywhere" a poison is that so minute a dose can be ingested that no symptoms will follow. "Even sugar in concentrated solution is a powerful cell poison" (Abel), and enough water can, no doubt, be consumed to injure the kidneys. According to Atwater, all substances are poisons when taken in sufficient quantity. He seems to think that the term poison might well be restricted to such substances as always do harm to the body—that is, are poisonous in all doses. He does not name any of these substances. According to Dr. Hewes (Boston) a poison is "any substance which, when incorporated into the blood or applied to the body surfaces in relatively small quantities, produces disturbance of any body function." If anything may be a poison when taken in sufficient quantity, it follows that there is nothing which is always a food, for even water, the chief component of the body, may act as a poison if ingested in excessive quantity. In spite of these quibbles—for that is what they are—and notwithstanding all the special pleading of some enthusiasts, the fact remains that a wineglassful of water never poisoned any person in good health. Upon the other hand, the alcohol idiosyncrasy of some women—and a few men—is so marked that a part of a wineglassful of sherry (20% alcohol) invariably acts as a poison by causing vomiting or by "souring on the stomach." Such cases may not be common, but they are not extremely rare. Again, there are numbers of persons in good health who rarely take alcoholic drinks, although they do not dislike the taste of them, because a single glass of wine produces a feeling of dizziness. The objective symptom of alcohol poisoning in such instances is the distention of the bloodvessels which causes the flushed face.

"Dilation" or "Dilatation?"—Twice recently we have been taken to task for using the word *dilation* instead of what our critics suppose the more properly formed word, *dilatation*. Even if the latter were more etymologicly correct we should still prefer the shorter one because, first, it is shorter, and it expresses the idea as well as the longer one. As the Sabbath, by good authority, was made for man, and not the reverse, so by equal right and authority language exists for human use. All "pernickety sticklers" seem, or affect, to believe man was made for language. Moreover the language is largely made up of words not etymologicly formed. We live in a grammarless Eden. Philologic barbarism is the substance of English or of any other modern derivative language. The effort to lead it back to what are supposed "scientific" or philologic principles and laws, is arrantly pedantic and laughable. The spirit of English is especially scornful of the pedant and of all his silly attempts to bind it down to formal rules of evolution. But the pedant's contention as to *dilatation* is most ludicrous, because, if he were sufficiently scholar, he would know that this long form is a perfect example of the very "abuse" against which he contends. It is the bad, unphilologic, degraded, unetymologic form, and *dilation* is the correctly made word. For, the root is the Latin, *dilat-* (*dilato, dilatare, dilatus*), and not *dilatat-*, and the past participle is *dilatus* and not *dilatatus*. Our suffix *-ion* is from the Latin accusative *-ionem*, and in a thousand words we add it directly to the root form to make the substantives we desire. Did the critic's error arise from supposing the suffix is *-tion* instead of *-ion?* He had no right to criticise, then, without knowledge. If *-tion*, he should have spelled *fustion, excurstion*, etc., instead of *fusion* and *excursion*. From exactly the same root *-lat*, used in *dilation* (*diferre, dilatus*), we derive *elation, collation*, etc., which the pseudophilologists do not spell *elatation, collatation*, etc. One would have to be much dilatated in order to be elatated at such a collatation. That the monks of the middle ages stuck in the extra syllable was proof not of their scholarship, but of want of it. This page could be filled with words correctly formed and made, as *dilation* is; indeed we know of no other word of this kind, except *dilatation*, which has come down to us with the added *-at*. Confer, *cremation, collection, denudation, designation, oration, malediction, fusion, prehension, redemption*, and hundreds more. The roots are *cremat-, collect-*, etc., and the *-ion* is added directly to the roots, not with the addition of a syllable *-at*. To be consistent our critics must write *mutilatation, dentitition, permutatation, crepitatation*, etc., instead of *mutilation, dentition*, and *crepitation*. Were it not for the sake of the principle involved, and to illustrate a morbid tendency in some writers, the space devoted to this single word would manifestly be out of proportion to the importance of the subject.

Internecine Osteopathic War.—One marvels that that marvelous sect, the osteopaths, has been able, even for the few years of its existence, to avoid further divisions and fundamental differences of doctrine. Fortunately, it seems at last to be coming. It is difficult to make out quite clearly just what is happening, osteopathic philology and ethics being very peculiar, but we gather that the protestant schismatic is squarely contradicting the "Lesion Osteopath." The heretic seems not to have taken or been given a name, unless, as usual, he claims the word, "liberal" as his very own, and stigmatizes the poor old stick-in-the-muds as "lesion osteopaths," or "orthodocs."[1] "Dr. C. W. Young, D.O.," contributes the leading article in this issue, called, "The Issue Which Confronts Us." His opening sentences may give an intimation as to the possible issue, and as to the possible meaning of the term "lesion osteopath." One would suppose that a "lesion osteopath" is an osteopath who is, or who makes, a lesion, but that is grammarless guessing:

> The issue is not whether we believe that "there is a deviation from normal structure at the foundation of every disease," in the language of Dr. Ashmore in the June *Osteopathic Physician*. We all believe in lesions. Personally I never had a case where I thought I was unable to find any anatomical lesions. Ever since I stopped the aching of an ulcerated tooth by the manipulation of muscles on one side of the axis I have believed that every disorder causing much pain or discernible discomfort creates such resulting abnormality of structure as can be detected by the skilled touch. But facts, as I understand them,

[1] The etymology suggested by this spelling would surely be acceptable to the editor of the *Osteopathic World*, who will spell *œnema* instead of *enema*—and also thinks that form is plural—and who repeatedly derives the English word *carotid* from KOPAS.

and not theories, have convinced me that manipulation is not the sole method of curing disease or of assisting nature to normalize anatomical disorders. I am sure a dentist could have treated the diseased tooth without relaxation of the cervical muscles.

In a word, Dr. Young believes in some "healing agencies other than manipulation," and the A.O.A. was not in sympathy with his paper and refused to publish it. The orthodox D.O.'s, therefore, are absolutely opposed, not only to drugs, but even to "electricity, x-radiance, etc." Now Dr. Young has no trouble in convicting the whole fraternity, from chief to littlest, of terrible illogicality; even "the Old Doctor" (Still) "advocating the breathing of cantharadin by smallpox patients." Moreover, he convincingly adds, concerning the "Old Doctor:"

> Chapter XIV is devoted to the treatment of diphtheria and other diseases by pouring glycerine and water in the ear. He describes a desperate case of croup, where water, glycerine and a wet rag were used and "osteopathic treatment." I have heard the book ridiculed for this chapter. I do not believe in ridiculing anything until you know what you are talking about. I tried this ear treatment in the case of the surgically maimed child who died while under my treatment for diphtheria. It seemed to give relief and she begged to have it repeated. She seemed to be improving at the time she choked to death when the nurse attempted to force her to swallow too much water all at once. I am satisfied that this ear treatment is all right as well as all other treatments described by Dr. Still. Too many osteopaths are neglecting to read the Old Doctor's books. He says God and experience are his authorities. I believe in these authorities. They are far ahead of the authority of theory.

The Ostheopathic Luther has, so far, the best of it.

Antivivisection Theory and Practice.—Passing recently a fashionable restaurant we happened to see the unloading of a huge turtle, to be used for making green turtle soup—to be eaten, of course, only by vivisectionists! How long the poor animal had been out of the water could not be learned, but for several days after arrival at the restaurant it was kept upon its back before it was killed. Fearing that we might be a member of the S. P. C. A., the chef, before any remonstrance or criticism had been suggested, was profuse in explanation that if the animal were turned upon its belly it would at once die! The answer to this biologic discovery was a little disconcerting: "Especially if the tight cords (piercing the limbs and binding them together) should finish cutting through the flesh and the animal thus get loose!" The tension was so great that they had already cut through several inches of flesh in each arm and leg. How fortunate, we added, that your restaurant is not called a bacteriologic or medical laboratory! The hypocrisy of the antivivisectionist crusade is amusing when it is not too disgusting. In England, according to the *British Medical Journal*, the presidents of the antivivisectionist societies are not seldom men who slaughter for amusement with terrible pain and mutilation of the poor tortured animals. A noble lord has been known to curse vivisection and in the same speech praise "sport," and this while standing beneath a banner upon which were inscribed the lines:

> He prayeth best who loveth best
> All things both great and small!

Sir Frederick Banbury while promoting a bill against vivisection succeeded in killing a bill for suppressing "the gross and wanton barbarity of turning a defenceless dishorned stag out of a cart and subjecting it to repeated chases by bloodthirsty dogs." Another of their helpers, who has the greatest horror of "the disgusting proceedings of the vivisectionists," and who, according to his own testimony, is a great friend of animals, has no sympathy with reptiles. They may be tortured as one pleases, provided the one is a sportsman and not a vivisectionist.

The etiology of the eddyistic disease is not difficult to find. Several conditions were necessary to produce it: A sudden liberation of the ignorant from social and religious control was the fundamental one, whereby the empty mind, without education, was freed from ethical, political, and church control. It was, therefore, forced in upon itself and had to find satisfaction in the drivel and insanities of these endless books, schools, lectures, and journals. That is the whole psychology of the sad affair. To make the result worse, upon these mushroom growths suddenly came the rain of American prosperity. So we have the logical conglomerate: A mechanical, not chemic, mixture of superstition, irreligion, worldly cunning, scientific ignorance, historic indifference, and mystical moonshine, the like of which will never again exist. It is a unique product in the world's history, and students of sociology and morbid psychology should gather every possible datum. The feature which gives it an especial interest to the physician is the peculiar medical or antimedical cast of the whole movement. For this the American medical profession is to some extent responsible. The former low state of medical education, the rampant quackery within the profession, the crude ill-educated doctor, etc., all gave license to the Quimbies and quacks of the past two generations to out-Herod Herod. They have certainly not failed to improve the opportunity, and the later representatives have even gone so far as to speak, at times, disrespectfully of another personage, worshiped aforetime, by the name of Hahnemann—now almost as much scorned as any "alopath."

A Modern Psychosexual Epidemic.—There is one peculiar characteristic of the eddyistic outbreak which has been too little noted, although in its latest degenerative sectarian endings it becomes most remarkably manifest. Poor Nordau had ludicrous trouble in constraining many of our greatest geniuses into the dirty corral of his "intellectual sadism" and masochism. If he would come here and study our "vibrationists" and "mental healers," he would have no trouble in getting illustrations. Why all the filthiness of diseased "sexology" should have stormed into life and have caught up this (estimated) million of people would be a mystery to all but the psychologic historian who knows of the law it all illustrates, and has seen it in French, medieval, and Roman history. Traubelism in metaphysics, Hubbardism in literature, the yellow newspaper in science, Whitmanism in poetry, and Karezzaism in love—such, if they ever do glance outside of their own fevered

brains, is their conception of the world. Our modern masochism has, of course, its own variant and the hundred or two of its well-worshiped priestesses are as much adored by women as by men. To be sure, these women are males, and the few men that show themselves are apparently sexless. Twenty-five-cent fortune-tellers and "mediums" have suddenly grown to flaming opulence and power all the way from California to Connecticut by posing as priestesses and omniscients —this is an astounding fact. It needs facing if not explanation!

The favorite "medical" journals of the vibralogists are the *Medical Brief*, *Medical Mirror*, and *Medical Talk*. From these they quote continually when they can find time for anything outside of the whiz of their own minds and semblances of ideas. *Medical Talk* even advertises in some of their journals, and this is what it says of itself:

There is no journal like it in the world, and no magazine is being more frequently quoted by the daily press. Its influence in the United States can favorably be compared with the influence that the London *Lancet* has throughout Europe. It brings to the family, in plain language, the most noteworthy and interesting matters, which are usually discussed only through medical journals.

It is on sale at all the newstands, so it was not difficult to get a copy. The front page of the cover at once told the psychopathic-sexualic, or "sexology" story, and partially explains the love of the eddyites. The reading pages still better explain. It is called medical, we suppose, because it is antimedical, just as a most rabid antivaccination journal is called *Vaccination*. But *Medical Talk* is as antivaccination as the best or worst of them. (The editor's photograph, of course, heads the editorial page, tense, of "magnetic gaze," etc.) Antivivisection, too, as this concerning antitoxins and serums and medical men, would seem to indicate! The article is entitled, "Slaughterhouse Waste in Medicine."

They suffice to keep the whole gang out of worse mischief, which is a good deal. While they are doing this they are not torturing rats or guineapigs.

The reading notice attracts attention, journalistic morality, of course, being scorned. People using patent medicines are editorially pronounced "emancipated," and President Eliot, of Harvard, is spat upon for discouraging their use. There is delight and chuckle over a surgeon sued for malpractice; "sexual troubles" are well considered, vaccination everlastingly damned, drugs likewise, the famous Viavi quackery given a two-page reading notice, etc. And the advertising pages! "Chiropractic," "Perfect Figures," "Actina," "Every Woman," "Osteopathic Colleges," "Personal Magnetism," "Systems of Healing," "Sight Restorers," "Purity Books," "Psychratism," "Bust Developers," "Self-hypnotic Healing," "The Virile Powers," "Superb Womanhood," "Osteopathy," "Occultism," "How to Heal," "I Was a Physical Wreck"—such things bring money and are called "medical."

Trichinosis Spreading.—Information from Berlin, under date of September 11, states that 40 cases of trichinosis, several of them of a gangrenous nature, have occurred at Neustadt, near Coburg.

AMERICAN NEWS AND NOTES.

GENERAL.

Fighting Yellow Fever with Fire.—Under date of September 5 announcement is made that the health authorities of Tampico are taking desperate measures to stamp out the yellow fever epidemic there. They have just burned 200 residences which had been inhabited by yellow fever patients.

The American Academy of Railway Surgeons will hold its next annual session at Room L 38 of the Great Northwestern hotel, of Chicago, Ill., on Thursday and Friday, October 1 and 2, 1903. An extensive and interesting program will be presented, and the secretary, Dr. T. B. Lacey, expresses the hope that many members may be present.

The Patient Objected.—A wellknown English surgeon was imparting some clinical instructions to half a dozen students who accompanied him on his rounds the other day. Pausing at the bedside of a doubtful case, he said: "Now, gentlemen, do you think this is or is not, a case for operation?" One by one the students made their diagnosis, and all of them answered in the negative. "Well, gentlemen, you are all wrong," said the wielder of the free and flashing scalpel, "and I shall operate tomorrow." "No, you won't," said the patient, as he rose in his bed; "6 to 1 is a good majority; gimme my clothes."—[*St. James's Gazette.*]

Negro Population Paradox.—News has previously appeared in these columns which showed, that in 56 of the larger cities in this country the negro deathrate was in excess of the birthrate to a very considerable extent. Later information on the subject appears to prove conclusively, however, that while this is true in the larger cities, in the rural districts the negro population is rapidly increasing, which far more than offsets the decline in the loss in the cities. The idea that the colored population of the United States is dying out is contradicted by the census figures. There were 6,580,000 colored people in this country by the census of 1880; 7,500,000 by the census of 1890, and 8,850,000 by the census of 1900. There is no diminution of colored population in the United States, or in any part of it, despite the figures the big cities show.

The yellow fever situation in Mexico is alarming, according to advices received by the Texas Health Department. In Linares, with a population of 9,000, about half of the people have either died from the disease or have fled to other places to escape it. The daily average of deaths from the disease is 8. It is stated that yellow fever has spread during the past few days to Montemorelos and Teran, which are situated close to Monterey, and it now exists in every town and village between Monterey and Tampico, on the Gulf division of the Mexican Central Railroad. There are also reports of insufficient quarantine and precautions at Linares and elsewhere. The Texas Health Department has purchased fumigating plants which it will install at Laredo and Eagle Pass. Dr. I. P. Seisson has been sent to Monterey by the State Health Department to make a further investigation of the situation.

War on Impure Foods.—The Agricultural Department is making strong efforts to keep out of the country all imported goods the entry of which is inhibited under the pure food act. Since August 1, when the act went into effect, approximately 600 shipments of meat, wine, olive oil, etc., have been held up pending an examination as to their purity or the determination of the question whether their use is prohibited in the country whence they are imported into the United States. Up to this time only one shipment, consisting of a number of cases of white wine, has been refused entry. Special agents and consuls abroad keep the department advised by cable of all shipments of goods which may come within the prohibitions of the law, and instructions are sent at once to the collectors at the ports where they are to arrive to hold them in warehouse and send samples to Washington for analysis or other examination.

The Prize Essay of the American Medical Association.—The American Medical Association offers annually a gold medal, value of $100, for the best essay on any subject relating to medicine or surgery. The recipient of this prize will be given the option of the gold medal, or a bronze replica of the medal, and the balance of the appropriation (about $90) in money, or the entire amount ($100) in money. Inasmuch as the Association annually sets apart the sum of $500 for original research, this prize is offered to stimulate the production of a superior practical paper based either upon experimental studies or clinical investigation, or both. The committee will give preference to papers having the greatest brevity consistent with thorough consideration of the subject, and recommends that the paper shall not exceed 5,000 words. The committee, while not restricting the choice of subjects, recommends as an important subject for consideration "The Therapeutic Value of the Digestive Ferments." Competing essays must be type-written, and bear no mark revealing their authorship; but instead of the name of the author there must appear on each essay a motto, and accompanying each essay a sealed envelope containing the

name of the author and bearing on its outer surface the motto of identification. No envelope will be opened by the committee until a decision has been reached as to the most deserving essay. The other essays will be returned to their respective authors. The committee reserves the right to reject all essays if none are found worthy of the Association medal. Competing essays must be in the hands of the chairman of the committee not later than April 1, 1904. Lewis S. McMurty, Louisville, Ky., chairman; Burnside Foster, St. Paul, Minn.; M. H. Fussell, Philadelphia, Pa., committee.

Cadets May Use Tobacco.—An important change in the rules of the United States Military Academy is noted. An order has been published announcing that "cadets are permitted to use tobacco during relief from quarters" within the barrack's limits. It was also announced that cadets would be permitted to buy tobacco and pipes from the post store. It was the result of a recommendation made by Col. Mills to the Secretary of War a month or more ago. For 23 years no restriction upon the freedom of the cadets has been more irksome than the prohibition of the use of tobacco. It was impossible to enforce the rule. Smoking on the sly has been the practice of almost every cadet in the academy throughout his course. Most of it has been cigaret smoking. The penalty for being caught smoking cigarets or any other form of tobacco has varied with the superintendents of the academy. By giving the cadets the freedom of pipe and tobacco it is hoped the pernicious cigaret habit may be broken up.

NEW YORK.

To Examine School Children.—Fifty-five health inspectors and 30 nurses met the influx of school children September 14 at the public schools for the purpose of separating those afflicted with trachoma, conjunctivitis, ringworm, mumps, whoopingcough, or any other contagious disease. They are to work under the supervision of the assistant chief inspector of the Department of Contagious Diseases. The work of the nurses pertains to the care of the afflicted children after they have been inspected. They will take them to their homes, and see that they receive proper medical attention, to enable them to return in a healthy condition to school as soon as possible.

Cornell University Medical College in New York City has provided for a chair of experimental pathology and bacteriology to carry on research work, independently of the regular instruction given to undergraduates. Dr. B. H. Buxton is to be in charge and will be assisted by Dr. Victor C. Vaughan, Jr. The pathologic organic chemistry, so intimately associated with all the problems of disordered metabolism will be under the direction of Mr. Beebe. This work is to be entirely distinct from all undergraduate or postgraduate instruction, and purely for the advancement of scientific knowledge, and is to be conducted in the Loomis laboratory, a building originally designed especially for this purpose.

Formaldehyd in Milk.—Information from Buffalo states that as a result of the arrest and conviction of William Hipkiss, a local milk-dealer, District Attorney Coatsworth has been informed of practices carried on in Buffalo and New York on an extensive scale for the preservation of milk and cream by putting formaldehyd into the fluid. Formaldehyd prevents the milk and cream from turning sour, and is so effective that many milkmen are able to dispense with ice, even in the summer. The district attorney has instituted proceedings for the arrest and conviction of men connected with several firms that have been distributing the "milk preservative," on the charge of selling poison without labeling it as poison. This is a violation of Section 404 of the Penal Code.

The Barbers Protest.—Imprisonment and fine hang over the barber who after September 1 is caught shaving a patron without having washed his hands in warm water and soap, or who does not do half a score of other things. The regulations of the Board of Health affecting the tonsorial sanitary code are now in force and the barber is disgruntled. Protests against the new rules are loudest with regard to the clause requiring shears and clippers to be soaked. A clean towel with each patron, it is also objected, is a dismal prospect at the "shave for a nickel shops." Among other restrictions, the new regulations provide that no alum or other astringent may be used in stick form to stop the flow of blood. Only in powdered form are these remedies to be applied when necessary. The use of sponges is strictly prohibited. Mugs and shaving brushes must be thoroughly washed after use on each person. Combs, razors, clippers, and scissors must be thoroughly cleaned by dipping in boiling water or other germ destroyer after each separate use. No barber, unless he is a licensed physician, must prescribe for any skin disease. Floors must be swept clean or mopped every day, and all furniture and woodwork kept free from dust.

PHILADELPHIA, PENNSYLVANIA, ETC.

The Medical Library, at Trenton, N. J., is reported as being in a flourishing condition. The librarian has recently received a gift of books from the Orange library, which has added very materially to the equipment.

St. Francis Hospital, at Trenton, is being considerably enlarged and improved.

Situation in Philadelphia.—It appears that a slight misunderstanding had arisen between the Board of Education and Director Martin, who advised certain members of the vaccine corp of physicians to visit the public schools for the purpose of inspecting the children. This has been arranged with entire satisfaction, and hereafter the vaccine physicians will not visit the schools until further notice.

Seven Thousand Dollars for a Broken Leg.—For injuries suffered in the Westfield wreck last January, Howard A. George was awarded $7,000 at a special session of the Court of Common Pleas. Both sides agreed on the amount, but George being a minor it was necessary to bring the case into court. The young man receives the money for a leg fracture of such a character that it is doubtful if he will ever be able to walk again without crutches.

Must Admit Unvaccinated Pupils.—Information from Warren, Pa., states that the children of Mr. and Mrs. Hubert Cousins, not being vaccinated, were refused admission to the public schools several months ago during a smallpox scare. A certificate was presented, signed by a physician, averring that the children had had smallpox. The Board of Education questioned the veracity of the certificates and declined to admit the students. The matter was taken to court, where it was decided that the Board must admit the children on the certificates.

More Violations of the Pure Food Law.—Dr. B. H. Warren, Dairy and Food Commissioner, continues his vigorous investigation of foods and drinks put upon the market. That this investigation is fully warranted is proved in the finding of a number of adulterated products, and warrants have been issued for the arrest of several persons. Among the important articles which have been found adulterated are blackberry brandy, which is alleged to contain coal-tar, coloration, and salicylic acid; oleomargarin, which is sold as butter; ice cream containing boric acid; impure vinegar, etc.

Rabies Attacked Father and Son.—It is reported that Andrew Marks, aged 60, and Sylvan Marks, his son, aged 35, both farmers near Williamsport, Pa., have gone to the Pasteur Institute, New York, to be treated for hydrophobia. It appears that 3 months ago a son of the elder Marks was bitten by a dog, and that the wound healed promptly and everything appeared in good condition. Some 6 weeks later hydrophobia developed and the young man died. It is believed that the elder Marks contracted the disease by kissing his son during the latter's delirium previous to his death, and that the brother contracted the disease by using a syringe which the young man who was bitten by the dog had used previous to his death.

SOUTHERN STATES.

To Enlarge the Naval Hospital.—Surgeon-General Rixey has decided to urge on Congress the enlargement of the General Naval Hospital at Portsmouth, Va. The institution now has 200 beds and he will recommend that it be enlarged so as to accommodate 500. Two modern wings will be erected in rear of the present structnre, and a third wing will connect these. There will be isolation wards, and every modern convenience. A new steam-generating plant and a pest house will form part of the scheme of improvement. Dr. Rixey states that as Portsmouth is to be one of the largest naval stations in America, the facilities for the care of the sick and wounded must of necessity keep pace with the growth of the naval establishment in size and importance.

WESTERN STATES.

Improvement of the Milk Supply.—The report of the Chicago Health Department for the week ended September 5, says: "The efficient work of the Milk Division in its supervision of the city milk supply is best shown in the week's report. A total of 918 samples—nearly a third more than ever before—were analyzed in the laboratory, with only 3.05% below grade. Of these, 672 were collected by the inspectors from receiving platforms, wagons and shops and 21 were found below grade, or 3.1%. Of 246 samples brought in by milk dealers and private individuals only 7, or 2.8% were below grade. The milk supply of Chicago was never before so satisfactory; it is unquestionably now the best in the country."

Effect of Vaccination.—The Bulletin of the Chicago Health Department for the week ended August 5, makes the following statement to the public school teachers of the city: "Although probably unnecessary to remind school principals and teachers of their obligations under the city ordinance in regard to vaccination it is worth while repeating that no vaccinated scholar of the Chicago public schools has ever contracted smallpox. There have, it is true, been 7 cases of the disease among children admitted to school on false certificates of vaccination during the last 3 years. No blame attaches to the teachers for these cases, but they serve to emphasize the necessity for the greatest watchfulness and for the examination of all scholars by the public vaccinators at the beginning of each school year."

FOREIGN NEWS AND NOTES

GENERAL.

Cholera in Syria.—Under date of September 11, information from Constantinople is to the effect that cholera is reported to be raging fiercely at Birejik, a town of 10,000 inhabitants, in Syria.

Dr. Charcot to Seek Nordenskjold.—News from Brest, under date of August 31, states that the steamer "Francais," with the Antarctic expedition under Dr. Jean Charcot, son of the well-known alienist, which will endeavor to find Nordenskjold's missing expedition, sailed August 30.

Italy Will Prevent Plague.—News from Rome, under date of September 14, says: The French Government having officially notified it of plague at Marseilles, the Italian Government has ordered the sanitary measures of protection established by the international conference at Venice to be put in force.

Destruction of Mosquitos in the Soudan.—Major Penton, the medical officer of the Soudan, has made a report in which he said that Ismailia had been practically freed from mosquitos, while at one time the air was literally swarming with them. It is now possible to sleep in comfort without the use of nets, which, the Major said, he had done for the purpose of experiment, and during the nights in question he had sustained but a few bites. This result had been accomplished largely by the abolition of 2 large marshes in the northeastern part of the city which had been filled in with sand, and the work of draining a third is about to be commenced. It is a very remarkable and significant fact that the present season is freer from fever than any one of which there is any record. During the period from January to July in one hospital there were only 3 cases of malaria, while during the same time of the previous year the total number was 52. Major Penton says that he hopes that malarial fever will disappear entirely when the present work of treating the marsh lands will have been completed.

OBITUARIES.

James Farquhar Hibberd, at his home in Richmond, Ind., September 8, after a long illness, aged 86. He was born at Monrovia, Md., November, 1816. He received his academic education at Alexandria, Va. He attended medical lectures at Yale University, and in 1840 began practice at Salem, Ohio. Several years later, after a course of lectures, he received his degree at the College of Physicians and Surgeons (New York), in 1849. He then spent several years in California, and in 1860 he was made Professor of Physiology and General Pathology in the Ohio Medical College, Cincinnati. He was one of the founders of the Ohio State Medical Society, one of the organizers of the Indiana State Medical Society, and the first vice-president of the American Medical Association, to which place he was elected in 1865. He was a member and honorary member of many medical organizations. At one time he served as mayor of his home town, and represented his home county in the Ohio Legislature from 1845 to 1847 inclusive. He received the degree of LL.D. in 1885 from the University of Indiana.

David Barnes Cotton, one of the oldest practitioners in southern Ohio, died at Portsmouth, Ohio, August 30, 1903, at the age of 69. He was a lineal descendant of Rev. John Cotton, the second minister of the First Church of Boston, Mass., and the grandfather of Cotton Mather. Dr. Cotton graduated from Jefferson Medical College in the class of 1856, and was the preceptor of a large number of physicians practising in southern Ohio and in other sections of the country, among them the late Dr. A. B. Richardson, Superintendent of the Government Asylum at Washington, and Dr. David Riesman, of Philadelphia. Dr. Cotton was a member of the American Academy of Medicine, the American Medical Association, the Ohio State Medical Society, and the Hempstead Memorial Academy of Medicine, of Portsmouth, Ohio; and an honorary member of the California State Medical Society.

George William Balfour, recently at his home in Edinburgh, aged 81. He was graduated from St. Andrews in 1845 and received the degree of F.R.C.P. from Edinburgh, in 1861. He was a celebrated teacher of the Edinburgh Medical School. Among his published writings were "An Introduction to the Study of Medicine," "The Senile Heart," and "Clinical Lectures on Diseases of the Heart." He was a member of the Royal Medical College, Medico-Chirurgical and Obstetric Societies, and consulting and attending physician to many hospitals.

Joseph Schnetter, in the Black Forests of Wurtemburg, August 16, aged 82. He was graduated from the University of Würzburg and came to New York in early life. He was one of the founders of the German Hospital and Dispensary of that city and an active practitioner for more than 40 years.

George B. Russell, at his home in Detroit, Mich., August 31, aged 87. He was born in Chester county, Pa., and was graduated from the Jefferson Medical College in 1836. He rendered valuable assistance to the city of Philadelphia in the great cholera epidemic which raged in that city in 1844 and 1845.

Robert A. Patchin, at his home in Des Moines, Iowa, August 31, aged 53. He was graduated from the University of Buffalo in 1869, was a member of the Iowa State Medical Society and Iowa State Association of Railway Surgeons, and International Association of Railway Surgeons.

Eli E. Josselyn, suddenly, in Philadelphia, September 13, aged 56. He was officially connected with the Hospital for the Insane, at Forty-fourth and Market streets. He was graduated from the College of Physicians and Surgeons, New York, and was a specialist in nervous diseases.

Norton Folsom, at his home in Cambridge, Mass., September 12. He was graduated from the Harvard Medical College in 1864, and was an inspector during the Civil war, and in recent years had held important staff positions at the Massachusetts General Hospital.

George H. Cummings, of Berlin, Me., died suddenly while on a yachting cruise, August 22, aged 53. He was graduated from the College of Physicians and Surgeons, New York, in 1875, and was a member of the Health Board of Berlin for a number of years.

Charles Hart Boynton, at his home in Lisbon, N. H., August 16, from cerebral hemorrhage, aged 76. He was graduated from the Berkshire Medical College, Pittsfield, Mass., in 1853. He represented his home county in the State Legislature for two terms.

Jesse C. Pfaffer, at his home in Philadelphia, September 6, from typhoid fever, aged 22. He was a graduate of the Medico-Chirurgical College, Philadelphia, and officially connected with the Orthopedic Department of the Medico-Chirurgical Hospital.

Charles Brooks Brigham, at his home in San Francisco, from apoplexy, August 23, aged 58. He was graduated from the Harvard University Medical School in 1870, and was surgeon in the French army during the Franco-Prussian war.

Charles C. Lewis, at his home in Owensboro, Ky., August 31, from angina pectoris, aged 54. He was graduated from the University of Louisville in 1873, and was vice-president of the Kentucky State Medical Society in 1902.

Henry M. Hunter, at his home in San Luis Potosi, Mexico, August 26, from pneumonia. He was born at Union Springs, Ala., and was graduated from the College of Physicians and Surgeons, of Baltimore, in 1886.

Joseph A. Stout, at his home in Ottawa, August 25, from paresis, aged 85. He was graduated from the Medical College of Ohio in 1845, and was a member of the American Medical Association.

Joseph P. Oliver, of Boston, died recently in Paris, aged 58. He was a graduate of Harvard Medical School in 1871, and was formerly lecturer on the diseases of children in that institution.

George W. Stevenson, after an illness of four months, with a tumor at the base of the brain, at Nicholson, Miss., aged 26. He was graduated from the Tulane University in 1903.

Frank N. English, at Mendota, Ill., September 1. He was graduated from the Homeopathic Medical College in 1886. He was 56 years old and had practised at Mendota for 20 years.

Robert D. Hudson, formerly of Atchison, Kas., was drowned in the Neosho River, near Emporia, August 24, aged 57. He was a graduate of the University of Pennsylvania in 1879.

Alexander M. Atherton, at Liberty, N. Y., August 28, aged 28. He was graduated from the Johns Hopkins University in 1901, and was married but a few days before his death.

Henry K. Leonard, from heart disease, at his home in Plymouth, Pa., August 23, aged 49. He was graduated from the Hahnemann Medical College, Philadelphia, in 1881.

Edwin C. Kerney, at his home in McKeesport, Pa., August 31, from heart disease, aged 59. He was graduated from the Western Reserve University in 1876.

Dean Seman, suddenly, at his home in Beaver Dam, N. Y., August 22, from apoplexy, aged 47. He was a graduate of the Jefferson Medical College in 1879.

Victor A. Frederick, at his home in Brandon, Ohio, August 24, from paralysis, aged 56. He was graduated from Columbus (Ohio) Medical College in 1879.

Luis P. Walton, suddenly in London, September 8, of angina pectoris. He was graduated at the College of Physicians and Surgeons, New York, in 1870.

Thomas Palmer Wynn, suddenly, in New York, August 23, of ptomain poisoning, aged 42. He was a graduate from the University of Maryland in 1886.

Newton Sayer, at his home in Lafayette, Ohio, August 22, from cancer of the face, aged 85. He was a graduate of Jefferson Medical College in 1843.

Joseph D. Casey, at his home in Latrobe, Pa., from paresis, August 22, aged 33. He was a graduate of the Jefferson Medical College in 1902.

K. O. Austin, suddenly, September 7, in Chicago, aged 38. He was a graduate of the College of Physicians and Surgeons, Chicago, in 1896

CLINICAL NOTES AND CORRESPONDENCE

[Communications are invited for this Department. The Editor is not responsible for the views advanced by any contributor.]

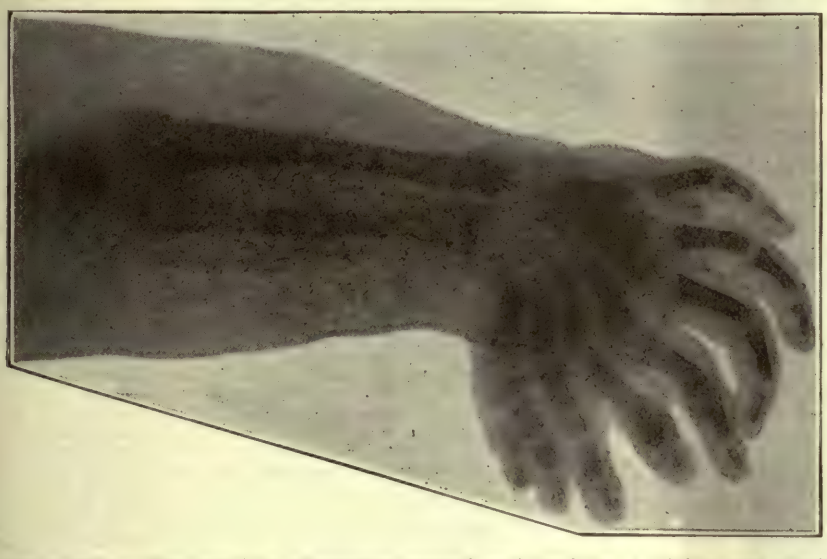
CHILD WITH EIGHT FINGERS ON ONE HAND.

BY

D. J. GIÄRTH, M.D.,

of Kittanning, Pa.

Mrs. J. W., aged 22, a primipara, gave birth May 1, 1902, to a female child of 7 pounds, having 8 well-developed fingers without thumb on the right hand with the hand flexed upon the wrist and forearm, and dislocation of both bones of the forearm at elbow articulation with the humerus, as shown by accompanying skiagram. The palm of the hand assumes the posterior position. The child is otherwise normal and healthy, and the mother has since borne another child without any deformity. I have not been able to learn or find on record of any similar congenital deformity. This child has now good use of the hand, being able to flex the forearm to right angle with the body at the elbow, but is not able to carry the hand to the mouth, being left-handed. I have recently removed 3 fingers with one metacarpus, leaving a well-developed hand with 5 fingers without thumb or stump.



ACUTE FULMINATING APPENDICITIS, PERFORATION, OPERATION, SEPTIC PHLEBITIS OF OPPOSITE LOWER EXTREMITY COMPLICATING CONVALESCENCE.

BY

A. L. BRITTIN, M.D.,

of Athens, Ill.

To the Editor of American Medicine:—J. N., a young farmer, aged 38, German-American, presented himself at my office, June 23, with the following symptoms: Patient anemic, body poorly nourished, tall and very spare build, complained of violent pain existing 4 days in right lower quadrant of abdomen, not specially localized but severe in character. He had been vomiting, and his pulse was 80 and temperature 99°; urine normal. He had ridden to my office from his home 6 miles in the country, making the journey alone in a buggy. I expressed the belief to him that his was a case of appendicitis and recommended him to return home and take to his bed, which he proceeded to do. I instituted the Ochsner treatment at once, but the patient's condition not improving on the afternoon of the second day after his coming under my charge I strongly insisted on operation as the symptoms at that time pointed to rupture of the appendix. Twenty-four hours after his coming under my observation the abdominal symptoms seemed to indicate the McBurney point as being the seat of trouble. The bowels remained constipated and vomiting was intense. On the afternoon of the second day the pain suddenly stopped and the tenderness became more diffused. The patient subjectively seemed better, the pulse being about 70, but the temperature subnormal. I made diagnosis of rupture of the appendix and urged immediate operation. Surgical consultation was called and although the hour was late and the surroundings for an abdominal section were not ideal yet we proceeded by the dim light of a kerosene lamp to operate. The incision was followed by the evacuation of pus which seemed to be free in the abdominal cavity. A very highly inflamed and gangrenous appendix was found which had ruptured close to its attachment to the cecum, the rupture including two-thirds of the circumference of the appendix. Fecal concretions were found floating in the pus in the abdomen which was I believe the foulest smelling pus which I have ever encountered. The operation was completed as quickly as possible and the patient put to bed in a state of profound collapse from which he gradually rallied and the case pursued the usual course until July 19, on which date he had a severe chill, or rather a succession of rigors, with pain in left lower extremity from the groin to the foot, most marked over the course of the saphenous vein. The extremity became very much swollen and congested, very painful, especially on motion. The temperature reached 103°, with corresponding pulse-rate. The patient lost appetite and the outlook was gloomy. The abdominal wound was still discharging pus though not in large amount. The leg was enveloped in cotton and lightly bandaged and elevated, and the patient was put on tincture ferric chlorid, digitalis and strychnia with brandy given freely. This condition of affairs persisted without noteworthy change for 2 weeks when there were signs of improvement noted and convalescence now seems fairly well established with considerable edema of left lower extremity still persisting. September 1, patient had so far recovered as to be able to ride in a buggy from his home to my office. Left lower extremitiy still edematous.

One very noticeable feature about this case was the apparent cardiac weakness, while no murmurs were present, yet all the heart-sounds were weak, and sudden alarming attacks of dyspnea would develop without warning, and these would last for several minutes at a time, and would come on during sleep as well as when awake.

It seems to me that the unusual features of this case consist in its acute fulminating character in the outset, the symptoms of rupture of appendix being so well marked as to enable the physician to recognize its probable occurrence, and the development of acute septic phlebitis as a complication of convalescence. This case shows further what can be done for surgical patients by physicians who by force of circumstances are compelled to live and practise medicine in the country, where they cannot give every case that demands it, the advantages of an aseptic operating-room and the trained nursing afforded in our best hospitals. I do not maintain for a moment that as good results attend operations done in the country homes as obtain in the hospitals, for my own personal experience in country practice for 20 years has proved the contrary, yet I do believe many patients have been allowed to perish, because of averseness to operate in the lack of hospital facilities, who might have been saved by modern methods in country homes by country surgeons. There is but one treatment for appendicitis, where circumstances will admit of it, and that is the aseptic scalpel in the hands of a clean surgeon in a modern hospital. When these favorable circumstances do not obtain then the medical attendant must judge each case on its merits and decide accordingly. I believe it to be the duty of the profession to so educate the lay minds that they will set aside their prejudice against operative surgery and not withhold their consent to necessary surgical procedures until the time when relief from such might reasonably be expected.

Milk in the Public Schools.—According to newspaper reports the children in the Chicago public schools will no longer have to drink impure water if a proposal of the milk commission meets with the approval of the Board of Education. Pasteurized milk on sale at a penny a bottle at every school is the solution of the problem suggested by the commission. Many plans have been suggested to provide pure water in the schools. Last winter it was proposed to have plants put in to boil the water, and filters have been recommended. All reforms thus far advocated have been discountenanced because of the expense.

NEW METHOD OF APPLYING ADHESIVE STRAPS IN UMBILICAL HERNIA.

BY

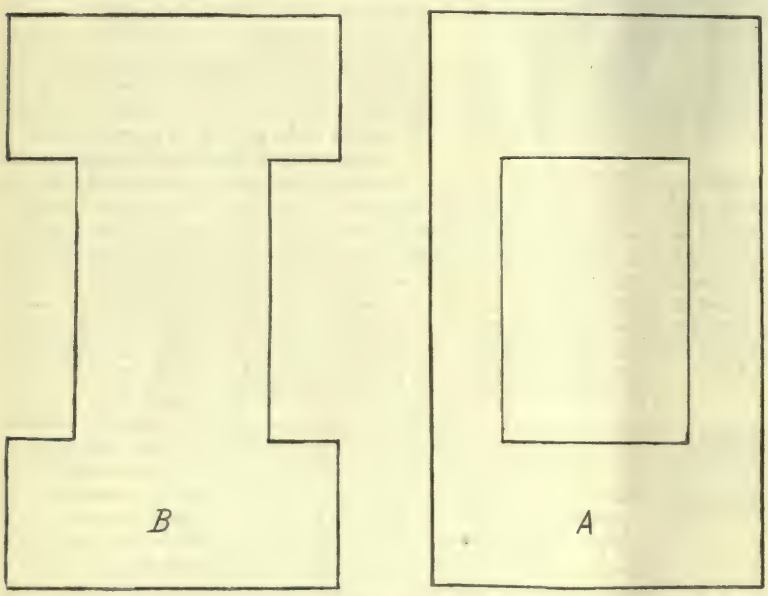
G. M. DORRANCE, M.D.,

of Philadelphia.

Difficulty in getting the edges of the hernia in approximation by ordinary strapping suggested the following method, originally used by Dr. Beyea, of Philadelphia, when much tension came on celiotomy wounds. Use zinc oxid adhesive plaster. The strips should be about 3½ in. in width, by 6 in. to 8 in. length—according to the age of the child. Cut the strips as shown in diagram. A. Cut out center 2 in. in width by 3 in. in length. B. Cut out long edges, as in illustration, 3 in. in length by ¾ in. in depth.



Method of Application.—Place one end of A on child's abdomen; end of B on opposite side—be sure to have these opposite the hernia. Have an assistant hold a hand on each. Now put free end of B through opening in A. When abdomen is relaxed, gradually pull equally on each free end until edges of hernia are approximated, then put ends down on abdomen and hold them until adhesion is secure. If one desires to use a button, it can be placed under B after first trying the adhesive and noting the exact point of B that is over the hernia.



AN IMPOSTOR.

To the Editor of American Medicine:—Permit me through the medium of your valuable journal to warn the profession concerning a young man who pretends to be my nephew, and on various pretexts secures money, mostly I regret to say from personal friends. I have no nephew by the name of Musser, and know of no one who dare use my name in any scheme whatsoever.

I should add Mr. P. Corzilius, representing the American Medical Association, has a letter from me, as well as other means of identity, for the purpose of carrying on his work.

Yours very truly, J. H. MUSSER.

DEATH FROM CHLOROFORM.

BY

D. H. GALLOWAY, M.D.,

of Chicago.

The patient, a boy of 7, appeared for operation at Dr. Van Hook's clinic at the Northwestern University Medical School, held in Wesley Hospital, July 11, 1903.

The operation was for the correction of a deformity of the face which had resulted from the scars following laceration of the face by the bite of a dog some weeks before. The anesthetic was started with nitrous oxid gas which was continued for one minute, followed with ether for one minute more, when chloroform was substituted. The face was carefully prepared, a proceeding which required 6 or 7 minutes, and he was then taken into the operating-room. Instruments were not quite ready and this necessitated a delay of about 10 minutes. During this time I gave him a drop of chloroform occasionally. His pulse at the wrist was good, about 100 per minute. The pupils were contracted to mere pin points. When Dr. Van Hook was ready to begin he asked me whether the patient was well under the anesthetic and I replied that he could not be very profoundly anesthetized, but that there were no reflexes about the eyes and that I did not like to push the chloroform until I was sure he did not have enough. The doctor made an incision in the cheek and immediately the boy began to struggle and turned his head strongly to one side and tried to draw up his arms which were under the sheet that covered him. When he turned his head the small piece of gauze on which I had been administering the chloroform was thrown to one side. I let go of the wrist to hold the head and at the same time shook some chloroform onto the gauze, which was lying on the table, with the idea of replacing it over his face, but before I could do so I noticed that his face was very white and his breathing slow. I made pressure on his chest and the breathing improved, but it was gasping in character. I put my finger on the radial artery but there was no pulse. I requested the operator to stop the operation, the head was lowered and artificial respiration by Sylvester's method was at once instituted. The gasping efforts at respiration continued for 3 or 4 minutes and then ceased. Hypodermics of nitroglycerin and strychnia were administered, ammonia and amyl nitrite applied to the nostrils, massage over the heart, rhythmic traction on the tongue and dilating of the sphincter ani tried, but to no avail. A battery was brought in after the first few minutes and a current passed from the base of the brain to the apex of the heart. We worked with the body for 35 minutes, at the end of which time the case was considered hopeless.

An inquest was held and a verdict of death from chloroform narcosis rendered in accordance with my report to the coroner. The coroner would not order an autopsy and the parents would not consent to one so that we were unable to learn whether there was any heart lesion or other pathologic condition which might throw some light on the cause of the sudden death from heart paralysis. It was afterward said that the child had but recently recovered from an attack of acute inflammatory rheumatism.

It will be noted that no chloroform was given after the struggle began. Like so many cases in which death occurs from chloroform the operation was to have been a rather trivial one. Unlike many cases death did not occur at the beginning of anesthesia though it did occur at the beginning of the operation. It is plain also that this was a case of heart paralysis and not respiratory paralysis.

The World's Summary with Reference to Plague.—The Surgeon-General of the Marine-Hospital Service, Dr. Wyman, has sent 2 surgeons and a pharmacist to Cebu, Philippine Islands, because of the outbreak of plague there. A cablegram was received from Surgeon Heiser, at Manila, announcing plague at Cebu and asking for surgeons and a pharmacist. Plague and cholera continue to infest many localities throughout the world and to cause thousands of deaths. During the period from August 1 to 7 there were registered in the whole of Egypt 14 cases of plague, with 8 deaths. During the week ended July 18 there were registered in the Bombay presidency of British India 2,457 cases of plague, with 1,817 deaths. In Nagasaki, Japan, according to an official report dated June 30, plague has been stamped out. During the months of April and May over 20,000 rats were killed. In Cape Colony, British South Africa, during the period from June 12 to 18, the following cases were registered: Port Elizabeth, 1 case; East London, 1 case; Queenstown, 1 case. Plague rats continue to be found in Port Elizabeth, Queenstown, and King Williams Town. In Calcutta during the period from July 5 to 11, 15 persons died of plague and 35 persons died of cholera. According to weekly bulletin regarding cholera in Syria, Turkey, the disease continues to spread. There have recently been registered 1,391 fresh cases and 1,116 deaths.

ORIGINAL ARTICLES

LABIA URETHRÆ AND SKENE'S GLANDS.*

BY

HOWARD A. KELLY, M.D.,

of Baltimore, Md.

[*Concluded from page 431.*]

Dr. Skene distinguishes 2 kinds of inflammation:

1. A milder form in which the mouths of the ducts are enlarged and surrounded by very narrow areolas of a bright red color. By pressing upon the urethra from behind forward, one may cause a discharge of a white serous fluid. This condition gives the patient but little trouble, and is readily overlooked.

2. The most important pathologic condition, a purulent and continuous inflammation extending from the mucous membrane of the duct to the surrounding tissues. The mouths of the ducts thus inflamed are usually seen externally, being brought into view by a slight prolapsus and eversion of the mucous membrane caused by swelling of the parts. The orifices of the duct may appear like very small ulcers of a yellowish-gray color. The lower third of the urethra is slightly thickened from the swelling of the inflamed parts, there is exquisite tenderness to the touch, and in walking or sitting the patient suffers great discomfort, but there is no pain on urination, as a rule. This last point is important as differentiating it from urethritis or caruncle. It is probable that by far the majority of cases are of gonorrheal origin, although as Dr. Skene observes, the glands may become involved in any inflammation of the vulva, urethra, or vagina.

I have never seen a tumor arising from Skene's glands, the only other pathologic condition I have noticed, was a displacement to the left of Skene's gland, due to a suburethral cyst the size of a pea, and it is not impossible that the cyst arose from an occlusion of the glandular orifice.

In 2 cases cited by Skene in his article, the patients both suffered as well from a marked inflammation of the external genitalia or the vagina, in the one there was a mucopurulent secretion bathing the parts, while in the other, the acute suffering was due to a vaginitis and an inflamed urethral orifice, which had been mistaken by a physician for a vascular tumor of the urethra. Both cases recovered under local treatment.

I will now offer the few simple observations I have made within recent years touching these most minute and yet important structures:

First, as to palpation. I am not aware that the observation has as yet been made that Skene's glands are often easily detected by palpation even when not enlarged or diseased, and that when inflamed they may feel to the palpating index finger like fine wires, 1 cm. or 2 cm. in length, imbedded under the tissues of the anterior vaginal wall lying parallel to the urethra. I have found the following methods most serviceable for examining the glands:

1. Palpation to determine their size, length, as also their consistency, and whether tenderness be present.
2. By compression, in this manner discharging their contents.
3. Inspection of their orifices.
4. By sounding to test their length and direction.
5. By injection to find out the capacity.

They are best felt by the end of the index finger making gentle pressure upon the anterior urethra against the lower surface of the pubic arch and rolling the urethra from side to side.

The glands thus easily discovered are also in an admirable position for treatment by massage, which I often carry out systematically when they are diseased. When both glands are felt in this way, the urethra often feels like a gutter or sulcus which ends in a hole where the glands end. I have not yet seen any case of diseased gland in which they were not palpable, while I have also been unable to palpate them in many cases where there was no secretion and no evidence of disease. One patient complained of an intense desire to urinate when on her feet and without a pessary. On examining I could find no other affection than of these glands, which were very distinct to palpation, and pressure upon them produced the same strong desire to urinate.

When the urethral orifice lies open for inspection, as is often the case in multiparas, the orifices of the glands are also readily seen upon simply drawing out the nymphas.

If the urethral orifice is not everted, the little openings to the ducts can be exposed lying posteriorly and just inside the urethra, by using a speculum made of a fine wire hairpin with the legs bent at an angle and grasped with a pair of artery forceps. This simple improvised speculum is now inserted and used to draw

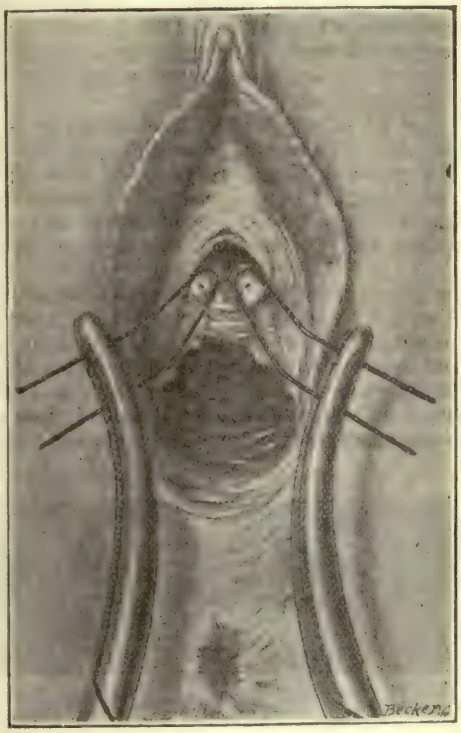


Fig. 14.

the urethral orifice back and open on one side or in the middle. Two hairpins used in this way, one on either side, serve to expose the entire anterior half of the urethra in an admirable manner. (See Fig. 14.)

In order to enlarge the speculums the legs of the hairpins are spread and clamped nearer the points. The orifices of the glands exposed in this way, or by simply everting the urethral labia with a finger, may then be injected with solutions either of silver nitrate varying from 2% to 5% or 10% or even stronger. Pure carbolic may also be used, as suggested to me by Dr. Dickinson, of Brooklyn. Tincture of iodin may also be used as in a case cited by Schüller.

The following methods of treatment have proved satisfactory in my cases:

1. Systematic emptying the gland by pressure as described above.
2. Massage of the gland.
3. Injection of fluids such as silver nitrate and pure carbolic acid or tincture of iodin.
4. Injection and distention of the gland which can be

*Read before the Philadelphia Obstetrical Society, December 8, 1902.

done by introducing the point of the syringe and compressing the orifice with the finger under the symphysis while forcing the fluid in.

5. By an incision through the anterior vaginal wall into the abscess.

6. By an incision exposing the gland through its entire length.

7. By destruction of the gland; to do this the gland is split from end to end and the mucosa is burned out with the cautery.

By this method the difficult dissection for the extirpation of the gland is obviated.

Extirpation is the most satisfactory and reliable mode of treatment in bad cases, it is a delicate and difficult operation on account of the intricate relation of the gland with the tissues of the urethra as well as the position of the glandular orifice within that of the urethra.

The operation is best done by introducing a metal probe as far as the extremity of the gland and keeping it there while the vaginal wall is split, the margins of the wound pulled apart and the deepseated gland dissected out of its bed, if possible without rupture. Fine interrupted silkwormgut or silver wire sutures should be used to close the wound. In almost every instance both glands will require excision, even when one is more markedly affected than the other.

I have had no experience with electrolysis or a seton carried into the gland and brought out through the vagina. In general the emptying of the gland and massage are palliative procedures only; sufficient sometimes if the inflammation is noninfectious or nonspecific such as in Case II. In Case III this method was unsatisfactory.

My first attempt to inject these glands when infected was made with a hypodermic syringe with a blunt point as recommended by Dr. Skene in the article cited. I encountered, however, two serious difficulties, one of the risk of injecting more of the solution than was desirable, when a strong solution of any kind would flow out and bathe and cauterize the tender vulvar tissues; the other



Fig. 15.

the serious damage invariably done, the packing of the syringe by the nitrate of silver, causing it to work in a jerky manner.

I finally managed to overcome these annoyances by devising an extremely simple and satisfactory instrument with which to perform this delicate operation. I have needles made of several sizes somewhat longer and larger than the common hypodermic needle, being a millimeter or less in diameter and about 30 mm. long; I now make a perfectly satisfactory syringe out of this hollow needle by attaching a piece of rubber tubing about 10 cm. long (4 in.) at the large end of the needle (see Fig. 15). Upon pinching the tubing between thumb and index fingers, or on doubling the tube on itself and pinching it, the air is forced out and if the point is immersed in the solution a few drops of the fluid are easily drawn up. The blunt point of the needle is now introduced to the bottom of the gland when the rubber tube is squeezed and the gland distended with the fluid. As only small quantities of fluid are needed this simple device is in every way better than a regular syringe. (Fig. 16.)

Whenever I inject a gland I watch the orifice carefully until the fluid begins to escape. Any excess of fluid is taken up on a pledget of cotton placed in the vaginal orifice beneath, if carbolic acid is used it is best to touch the whitened orifice with a little pure alcohol followed by a warm boracic solution, if I use nitrate of silver I place a pledget of cotton saturated with a salt solution over the orifices and leave it there.

As illustrating some of the above methods of treatment, the following cases are of interest:

CASE I.—*Chronic gonorrheal infection. Acute involvement of Skene's glands.*

Mrs. H., aged 30, October 25, 1901, married 2 years and had had 1 miscarriage; about a month ago she noted for the first time a slight discharge and severe burning on urination. The

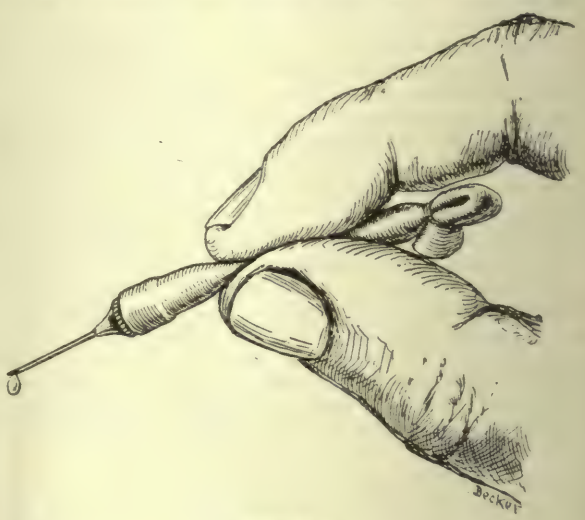


Fig. 16.

discharge proved to be gonorrheal, and there was a definite history of marital gonorrhea. There had been no swelling of the genitalia.

On examination the vulva appeared normal, but the urethra was slightly swollen with some reddening posteriorly. There was no injection of the orifices of the vulvar glands. A mucopurulent vaginal secretion was found coming from a point half way up the vagina, and the lateral structures were normal. In the knee-chest posture the vagina appeared bathed with blood and mucus and its mucosa showed alternate pale and red patches.

The Urethral Glands.—Both glands distinct on palpation and hard, like little bits of straight wire buried in the tissues of the anterior vaginal wall on either side of the urethra, the softer urethral tissues between felt like a sulcus. They were tender on pressure and on squeezing a little drop of pus exuded from right or left side of urethral meatus. Smears were repeatedly taken from the anterior urethra, the urethral glands, the fourchette, the cervix, and the vagina. In the anterior urethra and the urethral glands, and there only, the gonococci were found.

The glands were then treated as follows:

Silver nitrate varying in strength from 5% to 10% was injected by means of a syringe through the ducts into Skene's glands 9 times.

Eight times pure carbolic acid was injected. Three treatments were given of carbolic acid and glycerin 50%.

Twenty-six treatments in all were taken by the patient, the last one occurring December 28, 1901. There was a progressive improvement, and the patient was sent home well, no discharge or signs of inflammation remaining about the urethra or the glands, and by recent advice, almost a year later, she continues well.

CASE II.—*Acute catarrhal inflammation subsiding into a chronic inflammation of Skene's ducts.*

Miss H., aged 40, came to my private hospital on November 26, 1901. Her present illness began 3 years ago with gastric trouble and symptoms of pressure over region of bladder. She had been examined by her physician, who found a few drops of blood on the urethral orifice. Her urine, which was examined at the same time, was found to contain some pus. She was advised to apply 1 to 5,000 bichlorid after every evacuation of the bladder. There was, however, little improvement in her condition. Her stomach symptoms continued, accompanied by very severe hiccoughs; pressure over the bladder was intensely painful. There was great increase and frequency of micturition, the patient being obliged to evacuate the bladder about every half-hour. There was also some increase in the amount of urine voided, amounting to 1,700 cc. to 2,000 cc. daily. She found herself obliged to abandon all nitrogenous food on

account of its irritating effect upon the bladder. Walking was labored, the calves often aching after walking any distance. On examination the external urethral orifice appeared normal, but on making pressure from above down through the anterior vaginal wall, I milked 2 or 3 drops of pus from the left Skene's gland, followed by a small amount of clear fluid. There was sensitiveness, but no decided pain. The urethral glands could not be felt. The urine contained no albumin. Specific gravity 1,012. A few pus cells were found, but no casts. She returned to the sanatorium between November 27 and April 15, 8 times and received the following treatments:

Three times pure carbolic acid was injected. Silver nitrate varying in strength from 5% to 20% was used 5 times, once by means of a syringe a 10% solution was injected into the gland; 4 times the solution was injected into the urethra.

Smears and cultures were made from the urethra and gland at almost every treatment, but no suspicious organisms were obtained, except a smear from the left gland on January 18 showed a few suspicious looking diplococci. Pus cells were present in urethra and gland until May 25. And during the early stages of the treatment the staphylococci and streptococci were obtained from the urethra.

The patient was discharged completely relieved of all symptoms. The condition of the glands was greatly improved, although from the right gland a well-defined drop of milky discharge could still be expressed.

This is a most interesting and instructive case for several reasons; in the first place the severity of the symptoms and the general malaise naturally led her physician to infer that her condition was much graver than it really proved to be.

In the second place there was blood and pus in the urine, a definite pyuria. What conclusions might not have been drawn from that fact!

CASE III.—*Chronic cystitis, with involvement of Skene's glands.*

Mrs. Q., aged 35, was admitted to my private hospital on February 6, 1902, for treatment.

There was some history of tuberculosis in the family, otherwise her family history was unimportant. About 7 years ago she was operated on for fistula in ano, and hemorrhoids. There was postoperative suppression of urine and the patient was obliged to be catheterized for 6 weeks. This was followed by cystitis, from which the patient has never completely recovered. At present the bladder is very irritable, the patient voids every hour, but does not have to get up at night. The capacity of the bladder is about 400 cc.

Owing to dragging pains in lower abdomen over region of bladder, especially on voiding, and other indications of pelvic disturbance, it was decided to do an exploratory laparotomy. Extensive inflammation was found with adhesions binding down the sigmoid flexure and rectum. Both tubes were also adherent, the adhesions were universal, choking the entire pelvis. The appendix was also atrophied and adherent. The adhesions were broken up and both tubes removed from the uterine cornu outward. The uterus was found in excellent position from a previous suspension operation. Appendectomy was also done. The abdomen was closed in the usual manner and the patient made an uninterrupted recovery so far as the laparotomy was concerned. In connection with the cystitis there was found a marked secretion from Skene's glands.

On October 22 it was decided to excise the infected glands. It was done in the following manner: A probe was passed into the mouths of the Skene's duct and forcibly brought out into the vagina. Using the probe then as a director, the ducts were laid bare and the whole infected area excised with scissors. The wound was closed with interrupted silver sutures. A retention catheter was inserted into the bladder and a piece of iodoform gauze left in the bladder.

It is of interest in connection with this case to add that although repeated coverslips were made from urethral glands and the urethra, at no time were gonococci obtained. Many smegma bacilli were present. Cultures from the bladder showed the colon bacillus.

One peculiarity of the discharge of the Skene's gland was that when expressed it had a curd-like consistency resembling somewhat the contents of a sebaceous cyst.

The patient made a long and interrupted recovery owing to the cystitis clearing up and returning again constantly.

CASE IV.—*Gonorrheal cystitis and urethritis involving Skene's glands.*

Mrs. B., aged 25, came to my private hospital on October 10, 1901, for treatment. She had been married 3 years, no children, no miscarriage.

Leukorrhea: Patient has now a thick, creamy vaginal discharge, no odor, not blood stained. There is a history of syphilitic infection for which she has been under treatment for 2 years. Her present trouble began about 2 months after marriage, with symptoms of burning and scalding during urination, and very severe pain, especially after voiding. She had considerable vaginal and urethral discharge, accompanied by some pain. Her bladder has never been well since, and at times the pain has been so severe as to necessitate the patient going to bed.

On examination patient was found to have secondary syphilis, gonorrhea, cystitis, and urethritis. The gonococcus was repeatedly isolated from Skene's glands and from the urethral discharge. The condition of the glands was treated by means of massage and injections of silver nitrate solution from 3% to 5% in strength. She went home greatly improved, although all signs of inflammation about the glands had not subsided.

CASE V.—*A dangerous condition of Skene's glands following a gonorrheal infection.*

Mrs. P. illustrates a condition the glands may assume, especially following gonorrheal infection. She was operated on in my private hospital on April 4, 1901. Skene's glands were easily palpable, feeling like fine wires when rolled under the finger, about 1½ cm. long. In this condition the glands may easily harbor the gonococcus, and at some subsequent period give rise to an active gonorrheal process,

CASE VI.—*Chronic gonorrheal cystitis and metritis with chronic involvement of Skene's glands.*

Mrs. D. L., aged 28, admitted to Johns Hopkins Hospital, February, 1902, complaining of "bladder and womb trouble."

Marital history: Married 9 years ago, no children, 1 miscarriage 8 years ago following injury. The patient gives a history of being treated for syphilis 5 years ago, and for gonorrhea 2 years ago.

Bladder symptoms: For 2 years there has been a purulent discharge from the urethra with considerable irritability of the bladder and frequency of micturition. At first there was blood in the urine; there has been none recently. The gynecologic examination revealed redness about the external urethral orifice. No pus could be expressed from the urethra on the first examination.

Cystoscopy showed a normal bladder, except for increased redness about the right urethral orifice. The urethra was inflamed throughout.

At a subsequent examination Skene's glands were both found enlarged and exuding pus freely. They were repeatedly treated with a 20% strength of silver nitrate solution which was inserted on the rounded end of a uterine sound. After weekly treatments for several weeks the condition was not improved. The following radical operation was then performed by Dr. Guy L. Hunner.

One percent cocain was injected in the suburethral tissues. With the sharp pointed scissors, the 2 Skene's glands were joined by splitting the urethrovaginal wall posteriorly. The gland substance was then cauterized with the actual cautery and a small strip of iodoform gauze was inserted into the urethrovaginal septum in order to prevent adhesions of the freshly opened surfaces. Within 4 weeks the urethrovaginal culdesac thus formed was entirely covered over by normal pale epithelium and there was no trace of purulent discharge.

CASE VII.—A shop girl, aged 22, came to Dr. Hunner's cystoscopic clinic at the Hopkins Hospital, complaining of an almost constant desire to urinate.

A catheterized specimen of urine was found to contain no abnormal elements. The labia minora were hypertrophied and the labia urethræ and the hymen seemed rather puffy and unusually large. From these appearances onanism was suspected, but no history of such practice could be obtained. There was no redness or other sign of inflammation about the vulva, but on stripping the finger downward under the urethra a creamy material looking like pus oozed from both of Skene's glands. Microscopic examination of this material showed no leukocytes, but many large squamous epithelial cells and myriads of smegma bacilli. Examination of the urethra and bladder showed these to be normal. The patient did not return for treatment of Skene's glands.

The above 7 cases can be divided into:

1. Those in which the gonorrheal process is still active and in which the gonococcus can be obtained on coverslip from the glands as in Cases I and IV.

2. Those in which there is a history of gonorrheal infection, but the symptoms have for the most part disappeared and no organisms can be isolated, such as in Cases V and VI.

3. Finally, those in which no history of gonorrheal infection can be obtained, and the stains are negative as to the presence of the gonococcus. Cases II, III, and VII.

The first 3 cases were treated by the injection of pure carbolic and silver nitrate. Of these one was entirely cured and the other two relieved of all symptoms, but still continued with some discharge from the glands.

The fifth was merely illustrative of a possible latent

condition the glands may assume after a general gonorrheal infection. Of special interest is Case III, both on account of the radical treatment of the case and the peculiar condition of the glands. This condition was noninflammatory although closely resembling in appearance the gonorrheal infection as noted above. A thick curd-like material could be expressed from the gland, which when examined under the microscope was found to be made up wholly of epithelial cells, smegma bacilli and debris, no leukocytes being present. The condition was probably one of catarrhal hypersecretion of the gland associated with some obstruction at the orifice. So closely did this condition of the glands, as was true in Case VII, resemble a gonorrheal infection that without the aid of the microscopic examination it would have been readily overlooked and classed with the latter.

I would like, finally, to call attention to an article by Jules Janet,[9] who gives some very valuable information on the treatment of infections lodged in small crypts in the male urethra, and whose methods of treatment in some instances closely resemble my own.

I trust I have made clear in this paper the following points:

1. That one often finds definite labia overlapping the urethral orifice.
2. That their function is protective and in part sexual.
3. That attention must be more regularly directed to Skene's glands.
4. That these structures are veritable glands (Schüller.)
5. That their function is to lubricate the labia urethræ, and is also largely sexual.
6. I call attention to the simple method of constructing a hairpin speculum to expose the orifices of these glands.
7. I present a simple and safe method of injecting them, a decided improvement over the hypodermic syringe.
8. I call attention to 2 cases (Nos. III and VII) in which smegma bacilli in large numbers were lodged in the glands.

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THE RATIONAL TREATMENT OF PULMONARY TUBERCULOSIS, WITH REPORT OF CASES.*

BY

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In describing what I would call the rational treatment of pulmonary tuberculosis, I have no single remedy or measure that I wish to put forth as a cure for this disease. On the contrary, I believe the rational treatment to be that combination of remedies and measures which best suits each individual case. Although at many times in recent years "cures" have been announced for this disease, as yet the medical profession has little faith in any of them.

Personally, I have far more faith in the curability of this disease than is shared by the profession generally. I recognize in many of the remedies and measures which have been brought forth valuable aids, which may be turned to the advantage of the tuberculous individual; nevertheless, I must admit that as yet there has been nothing produced which will cure more than a limited number of patients in the advanced stages in which we usually find them in general practice. The basis of treatment, no matter what measures are adopted, must be common sense; yet I believe it is the duty of the man who is treating tuberculosis to hold himself ready and willing to investigate every new treatment and every new remedy which has any rational basis for its existence.

In the cases which I herewith report it has been my aim to treat the individual as well as the disease. Often I am asked, "What is the remedy that you use in the treatment of tuberculosis?" (referring to the various culture products). To this I always reply that I use everything that I believe will aid in bringing about the recovery of my patient. In dealing with so complex a disease as pulmonary tuberculosis I believe this attitude to be imperative.

If there is any message of greater weight than others which the phthisiotherapist bears to the general profession it is the importance of making an early diagnosis. Tuberculosis can be diagnosed soon after the lung has been invaded, a long time before the advent of bacilli in the sputum; and fortunately for the afflicted, and to the honor of the medical profession, it is being discovered at this time far more often than formerly. The necessity of this early diagnosis is apparent to any one who will take the trouble to examine the records of those who are treating this disease. Whether or not the patient shall live, depends very much on whether or not the disease is discovered early. If diphtheria is not discovered until it is too late to use antitoxin successfully, if appendicitis is not diagnosed until it is too late for a successful operation, the physician is blamed for the loss of a life. In tuberculosis, the results of a failure to recognize the early symptoms of disease are just as direful to the patient; and, now that the question of early diagnosis has been so carefully worked out, a failure to recognize incipient pulmonary tuberculosis will soon be held just as blameworthy as a failure to recognize diphtheria or appendicitis. It should be thoroughly branded on the mind of every practitioner of medicine that tuberculosis is curable, and also that its curability depends on the earliness of treatment. While from 50% to 95% of first-stage cases are being cured, only from 5% to 25% of those far advanced are having the disease arrested.

There are three elements which enter into the treatment of tuberculosis: the disease, the patient, and the physician. The stage of the disease we cannot control; its course we may check or modify; and in many instances we may bring about a cure. To produce this desired result, there must be a hearty cooperation on the part of patient and physician. I believe that one of the strongest points in a successful phthisiotherapist is his power to secure a hearty and intelligent cooperation on the part of his patient.

Other things being equal, the chances of cure in a given case are far greater if the patient is willing and determined to carry out the directions of the physician. I have seen patients in the early stage have a hard battle for life, simply because they thought it was not necessary to obey all the whims, as they considered them, of the medical attendant. Life is too dear, and tuberculosis is too serious a disease ever to be treated in any other way than as a grave malady. A life is always in the balance, and both patient and physician must recognize the absolute necessity of uniting their efforts in order to tip the scales on the favorable side.

In most cases I have had the hearty cooperation of my patient. In a few instances, however, I have seen

* Read before the thirty-third annual meeting of the Medical Society of the State of California, Santa Barbara, Cal., April 21 to 23, 1903.

harm done, treatment prolonged, and recovery jeopardized by disobedience and indiscretion. Sometimes the tuberculous individual, for long periods, is at a point where he is just as apt to get worse as to improve. At such times the greatest care must be observed, an overexertion, an error in dress, or a night at the theater or at a social gathering may be sufficient to turn the tide against him. Although my patients have been treated in ordinary office practice without the advantages of a sanatorium, yet I have endeavored to carry out the same measures which have there been found so efficient. In doing this many obstacles have been in the way, and the patients have had the disadvantage, at times, of improperly situated and illy-ventilated rooms; and often have been obliged to subsist on food which was not at all suited to their needs. Nevertheless, in spite of these disadvantages, the results have been very satisfactory.

I now wish to discuss some of the remedies and measures which contributed to the cures and ameliorations in these cases.

CLIMATE.

These patients have been treated in what I believe to be one of the best all-year-round climates in the world. Most of them have been treated at Monrovia, a foothill town at the base of the Sierra Madre mountains at an elevation of about 1,000 feet; the rest, in Los Angeles. The special points of advantage in our climate are:

A Pure, Moderately Dry, Aseptic Air.—These special qualities of the air are shown in the slowness with which animal matter decomposes, dead animals drying up instead of decaying as they do in less favorable climates. This fact is taken advantage of by the natives, who are in the habit of hanging their meats up in the open air in order to preserve them. The favorable conditions of the weather make it possible for the tuberculous individual to spend his entire time surrounded with this pure, aseptic air.

A Maximum of Sunshine.—The weather bureau station for Sierra Madre, which is only two miles west of Monrovia, and which has practically an identical climate, shows for the year 1901, which was a year of unusual rainfall for this section, 258 clear days, 42 partly cloudy days, and 65 cloudy days, 34 of these being rainy. Thus it can be seen that patients can be in the sunshine 300 days in the year, and that they can be in the open air without being disturbed by rains 331 days in the year. The effect of this eternal sunshine aside from that upon the disease itself is to keep the patients cheerful and happy, driving away blues and homesickness.

Freedom from Storms.—The foothill region of Southern California is particularly free from storms. There is a constant movement of the air due to the gentle ocean breezes; yet we rarely have a severe wind storm. Sand storms and fog which are common in the valley below are seldom seen here. The rainfall in this region is very light being usually less than ten inches for the year.

Freedom from Sudden Changes.—This is very favorable to the patient, while a wide diurnal range produces a tonic effect. The cool nights, which accompany it, insure sleep and allow the patient to awake in the morning entirely rested.

Dry Porous Soil.—It is well known that drainage plays an important part in the tuberculosis problem and that a dry porous soil is the best and most favorable for the tuberculous individual. The character of the soil here is such that after a heavy rain in two or three hours the streets are dry and can be traveled on foot or bicycle without inconvenience.

Surely no place can be better suited for the "fresh air" treatment than here. My patients live in the open air all day and sleep in tents or in rooms with open windows at night, thus being constantly bathed in pure fresh air.

Food.—I order for my patients a very liberal diet, the basis of which is meat in the form of rare steaks, roasts, chops (lamb and mutton), beef juice extracted with a meat press, milk, eggs; and fats in the form of cream, fresh butter, and breakfast bacon; aside from this enough vegetables and cooked fruits are allowed to keep the appetite from tiring. All pastries and articles such as are apt to interfere with digestion are forbidden. Among the prepared foods I have found tropon, somatose, malted milk, and plasmon to be of inestimable value.

The purpose to be kept in view in prescribing a diet for a tuberculous individual is to provide a maximum of nourishment with a minimum expenditure of digestive energy; so, if patients will take from 1½ to 2 quarts of milk, and from 4 to 6 ounces of beef juice or ½ dozen eggs a day, it matters little whether they eat much solid food or not so far as nutrition is concerned; but the appetite will be better when patients partake liberally of solid food. The tuberculous individual who has a poor appetite or a disgust for food can usually digest much more food than he is willing to eat. His digestive power is much better than his appetite indicates, and it is surprising how much food can be taken and digested by one who spends the greater portion of his time in the open air, even though not exercising.

Hydrotherapy.—There are a great many hydrotherapeutic measures that can be applied in the treatment of tuberculosis, but one which I have found most useful and one which can be applied almost universally with benefit is the morning cold rub. This consists in the application of cold water to the surface of the body either with the hand, a sponge, or a coarse cloth, followed by a vigorous rubbing, so that the skin is left in a glow. If the baths are begun with tepid water and gradually reduced in temperature each morning, a week or more passing before the water is taken at room temperature, the percentage of people who cannot take them with benefit is very small. Their action is to increase the activity of the skin, harden the patient against "catching cold," aid digestion, and serve as a general nervous tonic.

Rest and Exercise.—To adjust the proper amount of rest and exercise to the individual is an important question. My plan, in brief, is to forbid exercise if the temperature has a tendency to reach 100° F. in the afternoon, unless it be a short walk in the morning about one hour after breakfast. Patients who have no rise in temperature, if they are in the early stage of the disease, are encouraged to walk enough to harden themselves and yet not enough to tire. Those in the advanced stages, in whom the temperature remains below 100° F., have exercises prescribed according to the lung condition and complications present. Those who are running a temperature are sure to gain faster if they spend much of their time, especially that time when the temperature is up, in the reclining position, preferably in bed. I believe one of the most important pieces of advice that can be given to the tuberculous individual is "never to tire himself."

Regulation of the Patient's Life.—Every act of the patient should be under the guidance of the physician. He must understand that he is a sick individual and that he cannot do what well people do. Dissipations of all kinds must be denied the tuberculous and a quiet, even life followed.

Thus far I have spoken only of measures for the building up of the individual. But this is not all that we can do. There are certain remedies that we can use which have a specific action in tuberculosis; and beside, there are many remedies and measures which can be advantageously directed against certain conditions and complications. There has been too much of a tendency in the treatment of tuberculosis for men to become known as the followers or representatives of some special remedy or measure. One is known as an exponent of the fresh air cure, another the creosote treatment, another the tuberculin treatment, another places his faith in inhala-

tions, while another cures his patients by electricity. How much better it would be if all could be known simply as phthisiotherapists, as men who are devoting their energies to the cure of tuberculosis and not to the advancement of any particular measure. To cure pulmonary tuberculosis, especially in the advanced stages, requires all the help that we can get, and he will be the most successful who will sacrifice pet measures to the cure of the disease. He who sees nothing more in the cure of pulmonary tuberculosis than the employment of fresh air is little, if any, better than he who sees nothing in the treatment of disease other than the administration of drugs. I now wish to mention several measures which have greatly aided me in the treatment of this disease.

Culture Products.—My experience with culture products in the treatment of tuberculosis began seven years ago. Since then I have been using them and studying their action. I have become firmly convinced that in them we have a very valuable aid in the treatment of this disease. I have given in all perhaps 7,000 injections and have never seen harm done nor have I seen an abscess at the point of injection. My experience tells me that they will do in practice what should be expected from theory and animal experiment, namely, afford an immunity to the healthy tissue against the extension of the disease; render those treated less liable to a relapse when an apparent cure has been attained and stimulate the tuberculous tissue to repair.[1 2 3]

Koch, Spengler, von Ruck, de Schweinitz, and others, have shown that the guineapig can be immunized against infection by the use of tuberculin. Recently this same immunizing property has been proved by Behring[4] and Pearson and Gilleland[5] in the case of cattle. Regarding the effect of tuberculin, Aschoff[6] says that it does not act as an antitoxin in the diseased areas but in the healthy tissues, producing an immunizing effect which protects the well tissues from invasion. There is also a stimulation of the diseased tissue which aids in repair. This I have repeatedly observed in the treatment of lesions in the larynx.

From statistics gathered, as well as from practical experience, I believe that these remedies will increase the patient's chances of cure by at least 20%. Their use requires care and skill, but no more skill than any intelligent practitioner can acquire by patient study and practice.

Direct Medication to the Air Passages.—I do not believe that anyone who understands the pathology of pulmonary tuberculosis believes that it is possible to cure the disease by the application of remedies directly to the air passages; nevertheless there are certain symptoms that can be greatly alleviated by this form of medication.

I make it a routine matter to look after the upper air passages and see that respiration is as free as possible; however, I do not think it wise to operate or make an open wound in the upper respiratory tract while the sputum contains bacilli. Until they have disappeared palliative measures are best. Many a cough can be alleviated and controlled by attention to the pharynx and larynx. This routine work also makes it possible to discover disease in the larynx before destructive changes have taken place.

Daily inhalations make the expectoration easier, lessen the cough, and have some power in disinfecting the larger air spaces. The importance of this line of treatment is over-estimated by the layman, for it appeals to him as going directly to the seat of the trouble.

A measure which I deem of great benefit in certain cases is the intratracheal injection of remedies. During the past year I have been treating two patients with large cavities in the upper lobes by this method. I have the patient sit inclined to the side on which the cavity is found, holding his head erect. Then with a good light and under the guidance of a laryngeal mirror, I quickly inject the remedy while the patient slowly inspires. The patient is then put upon a couch with his hips elevated and shoulders low, so that the remedy finds its way by the aid of gravity into the cavity. If the attempt has been successful the fluid can easily be detected in the cavity. I have been using for this purpose sterilized olive-oil containing 4% menthol, 4% camphor, and 2% iodoform. Recently I have substituted for this izal from 1% to 10% in Price's redistilled glycerin. The glycerin has the advantage over the oil in that it mixes readily with the sputum, and also in that it will diffuse itself further into the finer bronchi by means of capillary attraction. It has been shown by Professor Delépine that a cubic centimeter of an izal-glycerin mixture containing 1/125 cc. of the remedy will, when mixed with an equal quantity of sputum, kill the bacilli in one hour.[7] By the aid of these injections I have been able to help convert one secreting cavity into a dry one, and in the other case see the secretion markedly decrease. The largest quantity that I have used at any one time is 5 drams, although the patients can tolerate much larger quantities.

Pneumatic Cabinet.—I have used this apparatus with great benefit after activity has ceased and the moisture has largely or entirely disappeared. I have never been able to bring myself to the point of thinking it best to use it for patients who have much moisture in the chest. By its use collapsed air-cells can be opened, the capacity of the chest increased, and absorption hastened, thus relieving the embarrassment to the circulation and hastening the flow of blood in the part. The cabinet can also be used to advantage in developing the chests of those who seem to be especially predisposed to tuberculosis.

Drugs.—In my practice drugs play a secondary part to the measures which I have already mentioned. I only use them as adjuvants to general measures and for

	Pathologic.	Percussion.	Auscultation.	
			Breath sounds	Rales.
Stage I..	Bronchitis, peribronchitis, scattered foci in one apex. No, or little expectoration; generally no tubercle bacilli in sputum.	Normal to slight want of resonance over area of one lobe or over half of both lobes at most.	Over one or both apices, harsh or weak vesiculobronchial to bronchovesicular.	None or crackling, fine or medium over area of altered resonance.
" II..	Bronchitis, peribronchitis, infiltration of slight degree over both supraclavicular and supraspinous ossæ or infiltration of one lobe without other foci.	Decided localized dulness over one lobe, or medium dulness over half of two lobes.	Harsh to bronchovesicular breathing over the dull area.	Rales of medium quality.
" III..	All cases more advanced than stage II	Pronounced dulness. Tympanitic note and variations of pitch. Cracked-pot sound.	Bronchial or amphoric.	Coarse metallic rales.

the correction of certain symptoms. Cinnamic acid I have used in a few cases, and believe it to be of some value, although my experience is too limited to use as a basis for judgment. Ichthyol seems to facilitate expectoration and aid digestion in certain cases. Creosote and creosotal I never use for any specific action; however, I do use them in intestinal putrefaction, and in cases of severe cold when the inflammation has extended below the larynx, and I always employ creosotal in case of pneumonia. Aside from this, my use of drugs consists, for the most part, in the employment of a few stomachics, intestinal antiseptics, and general tonics, in cases in which they seem to be especially indicated.

The symptoms of cough, night-sweats, and hemor-

rhage I am rarely called upon to treat among my patients. The careful regulation of their lives makes these symptoms very rare. Although 34.6% of my patients gave histories of one or more hemorrhages before treatment, not one had one after treatment began. Cough is so well controlled by the care of the upper air passages, inhalations and regulation of the patient's life, that I have almost discarded cough mixtures. Night-sweats rarely call for measures other than a cool sponge with vinegar and water, or formalin and water, on retiring.

In my classification I have followed closely that of Turban (see table).

In recording results, I have designated those patients as apparently cured who at the time of discharge had no clinical symptoms; whose expectoration had disappeared, or if present, contained no bacilli, and whose lungs were either normal upon examination, or if the changes were too far advanced for this, at least showed no signs of activity. If, after one year, physical and clinical examination and the tuberculin test reveal no signs of disease, I believe that we are justified in calling the patient cured. Those cases are spoken of as arrested in which the clinical symptoms have disappeared, bacilli are absent, and physical examination reveals no activity, and yet the case has advanced too far to speak of as a cure until the lapse of time. Those are spoken of as improved in which gains have been made in general condition, clinical symptoms and physical signs.

With this as the basis of classification there have been treated * 12 patients in the first stage, of which number all were apparently cured. So far there has not been a single relapse, although 1 has been dismissed four years, 1 three years, 3 two years, and 2 one and a half years, and 5 less than a year. In the second stage there were treated 8 patients, of whom 6 were apparently cured and remain well today, and 2 grew worse; 2 have been dismissed one and a half years; 1, one year; and 5, less than a year. There were 7 in the third stage, in 2 of whom the disease was arrested and the rest improved. In not one case here reported has the patient died; and those who are designated as improved are, and have been since dismissal, doing a moderate amount of work with little inconvenience.

This report includes all the patients whom I have treated for a period of two consecutive months in the time covered. Of course, if those third stage patients who are reported as improved had remained under treatment longer, there is no doubt that one or two more would have been apparently cured, but I report them as they are.

I do not believe that such results as these can be produced by any single line of treatment, but only by a combination of the various remedies and agencies which we have at our command, such as I choose to designate the rational treatment of pulmonary tuberculosis. Then the same interest on the part of the physician must be maintained and the same obedience and cooperation on the part of the patient and his attendants must be had as though the case were one of pneumonia or typhoid fever; but, surely the end attained is worth the struggle.

CASE HISTORIES.

STAGE I.

No. 1.—Aged 26; history negative; ill 3 months; temperature 99.6°; pulse 90; cough slight; expectoration scanty; lungs, deposit in upper right lobe; weight 135 pounds.

Condition on discharge. Treatment 3½ months; temperature 98.4°; pulse 72; no cough or expectoration; weight 145 pounds. Result, apparently cured. Has been discharged 4 years and is still well, so we call the patient cured.

No. 2.—Aged 10; positive tuberculous history; ill 1 month; temperature 99.6°; pulse 100; slight hack; tuberculin test positive; slight deposit at right apex; weight 71 pounds.

Condition on discharge. Treated 2½ months; temperature 98.4°; pulse 90; no cough; chest clear; weight 80 pounds; result, apparently cured. Discharged 3 years; still well; cured.

No. 5.—Aged 34; history negative; ill 6 weeks; temperature 99.4°; pulse 84; slight hacking cough; no expectoration; tuberculin test positive; lungs, slight deposit in both apices; weight 112 pounds.

On discharge after 3½ months' treatment; temperature 98.4°; pulse 79; no cough; lungs clear; weight 115 pounds. Result, apparently cured; discharged two years; still well; cured.

No. 3.—Aged 28; history positive; ill 1 month; temperature 99°; pulse 80; slight hack; no expectoration; tuberculin test positive; lungs, tuberculous deposit in both apices; weight 131 pounds.

On discharge. Treated 3½ months; temperature 98.4°; pulse 74; no cough; lungs clear; weight 132 pounds; result, apparently cured; discharged 2 years; still well; cured.

No. 4.—Aged 25; history positive; ill 9 months; temperature 99.2°; pulse 90; hacking cough; no expectoration; tuberculin test positive; right upper lobe infiltrated with rales; weight 121 pounds.

On discharge. Treated 2 months; temperature 98.4°; pulse 80; percussion and auscultation nearly normal; weight 123 pounds; result, disease arrested. Discharged two years; married; lived in Indiana climate; still well and strong, so apparently cured.

No. 21.—Aged 32; history negative; ill 7 years; climatic arrestment with new outbreak, temperature 99.6°; pulse 100; slight hacking cough; expectoration scant, following three small hemorrhages; bacilli absent; tuberculin test positive; slight tuberculous deposit with rales at both apices; weight 110 pounds.

On discharge. Compelled to stop treatment at end of two months; temperature 98.8°; pulse 90; cough none; expectoration none; lungs nearly clear; weight 117; reexamined 18 months later; lungs clear; weight 125 pounds; result, cured.

No. 23.—Aged 29; history positive; ill 6 months; temperature 100°; pulse 90; bacilli positive; cough mornings; expectoration ½ ounce; deposit in right upper lobe; weight 191 pounds.

On discharge. Treated 3 months; temperature 98.5°; pulse 80; cough none; expectoration none; lungs clear; weight 199 pounds; result, apparent recovery. Discharged 1½ years; still well, so cured.

No. 45.—Aged 17; history positive; ill 2 months; temperature 99.8°; pulse 100; bacilli negative; tuberculin test positive; cough occasional dry hack; no expectoration; deposit in right apex; weight 120 pounds.

On discharge. Treated 3½ months; temperature 98.4°; pulse 68; lung clear; no cough; no expectoration; weight 132 pounds; result, apparent recovery; discharged 9 months; still well.

No. 47.—Aged 29; history positive; ankylosis of knee of tuberculous origin for 20 years; temperature 99.4°; pulse 100; cough severe hacking; expectoration bloody, 1 ounce; bacilli present; pleurisy over right lower lobe posteriorly with involvement of the lung, few rales; weight 160 pounds.

On discharge. Treated 2 months; temperature 98.4°; pulse 86; no cough; no expectoration; lungs clear; weight 190 pounds; result, apparently recovered; discharged 8 months, still well.

No. 48.—Aged 51; ill 5 months; temperature 99°; pulse 88; troublesome hacking cough; hemorrhage 2 months before followed by bloody expectoration; bacilli negative; tuberculin test positive; slight infiltration of left upper lobe with moist rales; weight 112 pounds.

Discharged. Treated 6 months; temperature normal; pulse 73; no cough; no expectoration; lungs clear; weight 117 pounds; result, apparently cured; discharged 3 months.

No. 63.—Aged 22; history positive; ill 3 months; temperature 99.4°; pulse 85; cough occasional; expectoration scant; no bacilli; tuberculin test positive; slight tuberculous infiltration in left apex with weakened and slightly roughened respiratory note; weight 124 pounds.

On discharge. Treated 6 months; temperature 98.4°; pulse 75; no cough; no expectoration; lung normal; weight 128 pounds; result, apparent recovery.

No. 67.—Aged 23; history positive; ill 4 months; temperature 99°; pulse 95; cough slight; expectoration none; tuberculin test positive; invasion of right apex with weakened, slightly roughened respiratory note and few rales; weight 100 pounds.

On discharge. Treated 4½ months; temperature 98.4°; pulse 80; no cough; no expectoration; lungs clear; weight 115 pounds; result, apparent cure.

STAGE II.

No. 12.—Aged 22; history positive; ill 18 months; temperature 100°; pulse 95; bacilli negative; tuberculin test positive; hacking cough; expectoration scanty, often bloody; right upper lobe infiltrated with recent extension to fifth rib posteriorly and also recent extension to left apex; fine crepitant rales over right upper lobe anteriorly; weight 151 pounds.

On discharge. Treated 5½ months; temperature 98.8°; pulse 80; bacilli negative; no cough; no expectoration; lung normal, except slight elevation of percussion note and slightly prolonged expiration over right apex; weight 160 pounds; result, apparent recovery; discharged 19 months; still well; so cured.

*All patients with exception of No. 1 were treated with culture products in addition to other measures.

No. 8.—Aged 34; tuberculous history; ill 3 months; pleurisy and pneumonia 1 month; temperature 99.5°; pulse 95; bacilli negative; tuberculin test positive; slight hacking cough; no expectoration; lower lobe of right lung showed delayed resolution and upper and middle lobes showed tuberculous deposits; weight 108 pounds.

On discharge. Treated 6 months; temperature 98.4°; pulse 74; cough none; lungs clear; weight 115 pounds; result, apparent recovery; discharged 18 months; still well; recovered.

No. 25.—Aged 19; history positive; ill 6 months; temperature 99.4°; pulse 96; slight hack; scant expectoration; tuberculin test positive; right upper lobe infiltrated with recent extensions to middle and lower lobe; weight 130 pounds.

On discharge. Treated 4½ months; temperature 98.4°; pulse 80; no cough; no expectoration; lungs clear; weight 142 pounds; result, apparent cure; discharged 1 year; still well, so cured.

No. 28.—Aged 43; history positive; ill 6 months; temperature 99°; pulse 90; bacilli present; cough mornings, occasionally during the day; expectoration, 2 ounces, mucopurulent; infiltration of right upper lobe with extension to middle and symptoms of softening at level of first interspace; weight 104 pounds.

On discharge. Treated 7 months; temperature 98.4°; pulse 78; no cough; no expectoration; lung clear; weight 106½ pounds; result, apparent cure; discharged 7 months; still well; weight 112½ pounds.

No. 34.—Aged 28; history positive; ill 2 years; temperature 99.5°; pulse 80; cough persistent; expectoration, 3 ounces, mucous and mucopurulent; bacilli present, also found 2 years previously; infiltration of both upper lobes with recent extension to left lower; mucous rales over both upper lobes; weight 99 pounds.

On discharge. Treated 10 months; temperature 98.4°; pulse 78; bacilli absent; no cough; lungs clear; weight 110 pounds; result, apparent recovery.

No. 53.—Aged 21; history positive; ill 5 months; temperature 101°; pulse 96; cough severe; expectoration, 3 ounces to 4 ounces, mucous and mucopurulent; many bacilli; infiltration of left upper lobe with recent extension to left lower and right upper lobes; numerous rales in left upper lobe and few in right upper; weight 121 pounds.

On discharge. Treated 7 months; temperature 102°; pulse 100; cough much decreased; expectoration, 2 ounces, mucopurulent; many short, thick bacilli, also streptococci and staphylococci; breaking down with evidence of cavity formation in left apex, with some fibrosis; lower lobe clear and right lung nearly clear; weight 128½ pounds; result, disease advanced in left upper lobe, but better in all other respects; classed as unimproved.

No. 54.—Aged 36; history positive; ill 2 years; temperature 101°; pulse 96; cough moderate; expectoration, 2 ounces to 3 ounces, mucopurulent; many bacilli; right upper lobe infiltrated with evidence of softening in an old focus; many medium mucous rales; recent extension to middle lobe; weight 102 pounds.

On discharge. Treated 4 months; temperature 100.6°; pulse 90; cough very severe; expectoration, 2 ounces to 3 ounces, mucopurulent; many bacilli; left upper lobe infiltrated with cavity present; rest of lung clear; weight 105 pounds; result, grown worse.

No. 52.—Aged 38; history positive; ill 2 years; temperature 99.6°; pulse 84; cough moderate; expectoration, 4 ounces, mucous and mucopurulent; bacilli present; lungs, infiltration of left upper lobe with extension to lower; few medium mucous rales throughout and pleural rub at base; weight 80 pounds.

On discharge. Treated 8 months; temperature 98.4°; pulse 84; occasional hack; expectoration scant; bacilli absent; lung clear; weight 86 pounds; result, apparent recovery.

STAGE III.

No. 11.—Aged 28; history negative; ill 2 years; temperature 99.4°; pulse 90; moderate cough; expectoration, 1 ounce, mucopurulent; many bacilli present; left upper lobe infiltrated with cavity at level of second rib; many rales; right upper lobe infiltrated with rales; larynx infiltrated with ulceration of left cord; weight 139 pounds.

On discharge. Treated 3 months; temperature 98.6°; pulse 90; cough and expectoration both slightly lessened; bacilli present; dulness over infiltrated parts not so marked; respiratory note improved and rales reduced; larynx healed; weight 141 pounds; result improved; discharged 2 years; has done light work steadily since.

No. 23.—Aged 19; tuberculous history; ill 2 years; temperature 99.4°; pulse 86; cough moderate; expectoration, 1 ounce, mucous and mucopurulent; sputum not examined; entire right lung infiltrated, with many rales; left showed recent invasion of upper lobe; tuberculous ulceration of left side of septum; tonsils swollen to point of almost meeting and very painful; left one ulcerated. The tuberculous character of these lesions was determined by the local reactions after administration of the watery extract of tubercle bacilli. Weight 147 pounds.

On discharge. Treated 8 months; temperature 98.4°; pulse 75; no cough; no expectoration; left lung entirely clear; right showed slight rise of pitch on percussion at apex and few rales along sternal and vertebral border of lung; septal and tonsilar ulceration healed, and tonsils nearly normal in size; weight 158 pounds; result disease arrested; discharged 10 months; able to do hard day's work on ranch without tiring.

No. 26.—Aged 17; history positive; ill 2 years 9 months; temperature 90°; pulse 88; occasional cough; expectoration ½ ounce; bacilli present; right upper and middle lobes infiltrated; right lower lobe anteriorly; infiltration and fibrosis in left upper lobe with evidence of cavity; rales throughout infiltrated area; weight after coming to California 3 months previous, had increased from 120 to 138 pounds, being 10 pounds above normal.

On discharge. Treated 9 months; temperature 98.4°; pulse 88; few bacilli; slight cough and scanty expectoration; left lung clear, except at junction of bronchus; increased fibrosis; right upper lobe still infiltrated slightly, with few rales; weight 134½ pounds; result greatly improved.

No. 31.—Aged 23; history positive; ill 21 months; temperature 100°; pulse 84; cough severe; expectoration 4 ounces; bacilli and staphylococci present; infiltration of right upper lobe and left apex with recent extension to right middle and lower lobes; softening at both apices; weight 128½ pounds.

On discharge. Treated 4 months; temperature 98.4°; pulse 84; no cough; expectoration ½ ounce; bacilli absent; left lung almost clear; right slight infiltration at apex; weight 139½ pounds; result, disease arrested; discharged 1 year, still well.

No. 35.—Aged 25; history negative; ill 7 months; temperature 102°; pulse 140; bacilli in great numbers; cough very severe; expectoration 3 ounces, purulent; entire left lung infiltrated with recent extension to right upper and middle lobes; extensive softening with cavity formation in left upper lobe; many coarse and medium rales throughout entire affected area; had suffered an acute attack of dilation of heart which had left the organ much weakened; weight 118 pounds.

Treated 10 months; temperature 99°; pulse 100; cough occasionally; expectoration 1 ounce; bacilli numerous; right lung nearly clear; much fibrosis through upper left lobe; few fine mucous rales throughout left lung, cavity nearly dry; weight 145 pounds; result, very much improved.

No. 44.—Aged 36; history negative; ill 8 years since first tuberculous; temperature 99°; pulse 100; cough severe; expectoration 2 ounces, mucous and mucopurulent; many bacilli; entire left lung infiltrated with recent extension to right upper lobe; cavity in left upper lobe; many rales throughout left lung and right upper lobe; weight 107½ pounds.

On discharge. Treated 5 months; temperature 98.6°; pulse 90; bacilli present; coughs mornings, little during day; expectoration 1 ounce; infiltration much less; rales fewer; right upper lobe almost clear; weight 101 pounds, loss due to worry and homesickness; after reaching home reached 112 pounds; result much improved.

No. 59.—Aged 20; history positive; ill 2 years; temperature 102°; pulse 100; cough very severe; expectoration 4 ounces; bacilli present; infiltration of both upper lobes with extension to lower lobes posteriorly; fibrosis throughout right upper and middle lobes; many medium mucous rales over both upper lobes; cavity on right side at level of first rib; suffering from an acute exacerbation due to over-exertion; weight 120 pounds.

On discharge. Treated 2½ months; lower lobes nearly clear; upper lobes much improved; cavity nearly dry; few mucous rales over upper lobe of left lung; weight 125 pounds; result, greatly improved; weighs now, 5 months after discharge, 131 pounds.

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THE TREATMENT OF CHRONIC ROUND ULCER OF THE STOMACH.*

BY

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Previous to February, 1900, no distinction had been made between the acute and chronic forms of gastric ulceration.[1] It had long been well known that at times ulcer of the stomach ran a very prolonged course, for Brinton mentions cases which lasted from 30 to 35 years. It remained, however, for Fenwick to point out clearly

* Read at the Annual Meeting of the American Gastroenterological Association in Washington, D. C., May 14, 1903.

the anatomic and pathologic distinctions between the acute and chronic forms of the disease. In considering the treatment of chronic gastric ulcer the most important fact to be borne in mind is, that while an acute ulcer, when properly treated, will usually heal in a few weeks, a chronic ulcer, even under the most favorable circumstances and with the best possible treatment, will generally persist for several months. It is impossible, for obvious reasons, to determine accurately the duration of a chronic ulcer of the stomach. Lebert concludes that the majority of chronic gastric ulcers persist from 3 to 5 years. Bouveret, on the other hand, believes that the duration of the disease is about 2 years. In Fenwick's series of cases the average duration was about 4 years and 8 months; and in my own series of 32 cases seen in private practice the average duration of the malady, from the commencement of the patient's illness until the beginning of treatment, was 4 years and 9 months, and from the beginning of treatment until the patient was able to partake of solid food was 3¼ months, making the total average duration of the disease about 5 years.

Hygienic Regimen.—The diagnosis of chronic gastric ulcer is usually made in the physician's consulting-room; and the first question which presents itself for decision is, whether rest in bed shall be insisted upon, or whether the patient may be allowed to be up and about. My own conclusion is that women, almost without exception, require absolute rest in bed, for a longer or shorter period of time, according to the severity of the symptoms. If for any reason this is found to be impossible, then the patient should dispense with corsets and waist bands, support her skirts by means of straps passed over her shoulders, and keep as quiet as her circumstances will permit. On the other hand, men suffering from chronic gastric ulcer do not, in my experience at least, ordinarily require rest in bed. But occupation is an important factor which must be taken into consideration. Thus manual laborers may as a rule pursue their various avocations and make good recoveries without any loss of time; while brain workers must be relieved of all mental work and worry, at least during the early months of treatment. For example, 2 bank clerks had to quit work for 2 or 3 months, and a student had to leave college; while a masseur in a bathing establishment, a man who was an interior hardwood finisher, and another who had charge of an engine in a large office building got well without the loss of a single day.

Before beginning the treatment of a patient with chronic ulcer of the stomach the state of the gastric secretions should be ascertained, unless there is some reason other than the presence of the ulcer for not passing the stomach tube. Should free hydrochloric acid be found present in normal or excessive quantities, milk will of necessity form the principal article of food. It may be given raw or heated to the boiling point to meet special indications; and to vary the monotony of a strictly milk diet, various infant foods may be mixed with it; or it may be diluted with strained barley or rice water, or flavored with plasmon cocoa. Beef juice prepared as directed by Fuetterer[2] is also of great value, especially in anemic cases. If free hydrochloric acid is absent, or if there is achylia, milk is not indicated, and in these cases white-of-egg in water, beef juice diluted with barley water, rice, vegetable, or barley soup, strained, leben, and last but not least, buttermilk will usually agree well. Buttermilk may be easily prepared from sweet milk. The milk is set aside for 24 or 36 hours until it thickens, when it is beaten for 5 minutes with an egg-beater or with a machine for making whipped cream. To show the value of buttermilk as an article of diet in chronic ulcer of the stomach when free hydrochloric acid is absent, I will report the following case:

On April 4, 1902, Mrs. B., aged 46, consulted me in regard to her stomach, giving the following history. Twenty-six years ago she began to have attacks of pain in the epigastrium, which came on at first quite frequently and then continued at intervals, until 8 years ago, when she had such a severe attack that she was confined to bed for 2 weeks, and required a hypodermic injection of morphia once or twice a day to relieve her pain. This attack was followed by jaundice. So soon as she was able to travel she went to Carlsbad. Her visit there benefited her greatly; and she had no further attack of pain until early in December, 1901, that is, about 4 months previous to the time I first saw her. During this attack, after being in bed 3 weeks, and having frequent hypodermics of morphia for the relief of pain, she had a profuse hemorrhage from the stomach. After the hematemesis the pain ceased, so that she required no more morphia. She remained in bed 2 weeks after the hemorrhage; and lived on liquid food for 6 weeks. In a month after resuming an ordinary diet the pains returned; and continued at frequent intervals up to the time of her first visit to my office; the pains being often so severe that she was obliged to take morphia to obtain relief. Examination showed that the whole epigastrium was exceedingly sensitive to pressure; but there was no circumscribed spot of tenderness. Free hydrochloric acid was absent. She was put on a liquid diet and given orthoform to be taken if necessary to relieve pain. For a week she had considerable pain, and had to take orthoform quite frequently, but at the end of that time being restricted to a diet of buttermilk, the pains entirely disappeared within a few days. I did not see or hear from this patient again for 4 months when on August 27 she wrote to me as follows: "I am feeling perfectly well, no pains of any kind. I drank about 10 gallons of buttermilk a week for 16 weeks, and nothing else, not even water. Then my busy season in millinery was over and I began to eat. I eat anything I like and nothing hurts me."

The foregoing is one of 3 cases of chronic gastric ulcer in women in which the patient recovered without rest in bed.

Medicaments.—Many drugs have been recommended in the treatment of gastric ulcer, but the two most commonly used are bismuth and silver nitrate. In cases in which free hydrochloric acid is present in excess, bismuth in 2-gm. (30 gr.) doses suspended in water may be given 3 times a day at a time when the stomach is as nearly empty as possible, or one 10-gm. dose as recommended by Fleiner may be administered in water every morning, an hour before any food has been taken. Gerhart advocates the use of silver nitrate in the treatment of gastric ulcer, and believes that it is especially indicated in cases of hyperchlorhydria. Bruce,[3] however, states that it is decomposed in the stomach by the hydrochloric acid and mucus, and that therefore its use in ulcer of the stomach must be questioned. Boas recommends the silver nitrate treatment in mild cases of ulcer; and Rosenheim prescribes it in cases in which there is hyperesthesia of the stomach with intolerance of food. I believe it is an exceedingly useful remedy in chronic gastric ulcer when there is hypochlorhydria or achylia. It probably acts by producing a thin film of coagulated albumin over the inflamed and sensitive mucous membrane round the sore.[4] As a laxative in chronic gastric ulcer Ziemssen recommends Carlsbad water. In this country the Carlsbad salts, or the artificial Carlsbad salts, are frequently employed. Should pain persist after the beginning of treatment, orthoform administered in 32-gm. (5 gr.) doses once or twice a day will afford prompt relief. In anemic cases, while iron may be indicated, it is not well borne in the early part of the treatment, and for this reason should not be prescribed until the epigastric tenderness has disappeared. Now I come to what I believe to be the most important question in the treatment of chronic gastric ulcer, namely, how long shall the patient be kept on a liquid diet? The latest works on diseases of the stomach are those by Einhorn and Reigel (American edition) both published this year, but no mention is made in either of any other treatment for ulcer of the stomach than the Leube-Ziemssen rest cure, which consumes from 4 to 6 weeks, at the end of which time the patient is allowed to resume an ordinary diet and gradually go back to work. It is true that Reigel throws out the warning that the patient should be very careful for a long time as to what he eats, avoiding all irritating articles of food, otherwise recurrences are apt to take place. Now while the Leube-Ziemssen rest cure is well adapted to the treatment of acute gastric ulcers, it is not sufficient for the cure of chronic ulcers of the stomach, for the

reason that it does not extend over a sufficiently long period of time. Again, do acute gastric ulcers as such ever recur? Is it not much more likely that the socalled recurring ulcer of the stomach is an acute ulcer, which having failed to heal has assumed a chronic form? Or, as in the case before mentioned in this paper, the patient had no pain while undergoing the Leube-Ziemssen rest cure, which extended over the usual period of 6 weeks; but the pain returned in 4 weeks after she had resumed solid food. One could not say that there was a recurrence of the ulcer. It was the same ulcer from which she had suffered for years and which had not been allowed sufficient time to heal, and not having healed was again irritated by solid food. Had she been kept on liquids for 4 months after the hemorrhage, as she was later on, there would in all probability have been no recurrence of the pain. It is evident, therefore, that patients suffering from chronic gastric ulcer should be kept on liquid food until the ulcer heals, but how are we to know with any degree of certainty when this has taken place? In an article on the "Diagnosis of Gastric Ulcer[5]" published 3 years ago I called attention to the fact that it was not safe to begin the administration of solid food until the epigastric tenderness had disappeared. For several years I have followed this rule and have never had cause to regret it. The length of time from the beginning of treatment until the tenderness in the epigastrium disappears varies greatly in different cases. In 2 of my patients the tenderness disappeared in 4 weeks. One of these was a young lady of 21, who had been complaining of stomach trouble for 2 years. She had pain after meals, bloating and belching, and severe attacks of gastralgia. Free hydrochloric acid was + 28. The other patient, a man of 36, had been complaining at intervals for 4 years. He had pain and vomiting after food, and a month before coming to me, a profuse hemorrhage from the stomach. Free hydrochloric acid was + 60. These patients were able to take solid food at the end of a month from the beginning of treatment, and made good recoveries; while a third patient, a woman, was obliged to remain in bed for 3 months and to live on liquids for 9 months, before the epigastric tenderness disappeared. She had been complaining of stomach trouble for 7 years, had pain after food, nausea, and vomiting, and had also suffered from frequent and severe attacks of gastralgia. She made a most satisfactory recovery, and is at present enjoying excellent health. Before beginning the use of solid food, a second examination of the stomach contents should be made for the reason that a great change may have taken place in the gastric secretions. For example, in four of my patients free hydrochloric acid was absent at the first examination, while at a second examination, made 2 or 3 months subsequently, it was present; in 1 case being + 52, in 2 cases + 44, and in 1 case + 36. In 2 cases in which achylia existed at the first examination rennet was found afterward; in 1 case in 6 months, in the other in 8 months. In 1 case rennet was present at the first examination, and absent at a subsequent examination made 13 months later. That hydrochloric acid may at times be absent in otherwise typical cases of gastric ulcer, there can be no doubt. Instances of this have recently been contributed by Ageron;[6] and Hemmeter[7] believes that in these cases the glands have become exhausted from overwork.

Complications.—The most serious complications that are met in chronic gastric ulcer are hemorrhage and perforation. Immediately fatal hemorrhage from the stomach is rare. In Brinton's series of cases it occurred in 5%, and in Fenwick's in 3.4%. In all cases of hematemesis absolute rest in bed should be insisted upon, and nothing should be given by the mouth, excepting small pieces of ice; an icebag should be placed on the epigastrium, and nourishment should be given by the bowel. Should these means not be sufficient to control the hemorrhage various other remedies may be tried. Einhorn[8] recommends gelatin given internally; 1 tablespoonful of a 10% solution every 3 hours, or 100 grams of a 2% watery solution to be injected hypodermically. He has had good results in 2 cases of gastric hemorrhage from the injection of one Pravaz syringeful of adrenalin chlorid (1 : 2,000) twice daily, and in two other cases he administered 15 drops of the same solution 3 times daily by the mouth with apparent benefit.[9] Floersheim[10] and Benedict[11] have also given this remedy by the mouth in cases of hematemesis, and found it of great value in checking the hemorrhage. In persistent hematemesis Ewald[12] recommends washing out the stomach with ice water, first cocainizing the fauces and administering a small hypodermic of morphia. If all these means fail to arrest the hemorrhage, operation should be considered. When perforation occurs laparotomy should be performed as soon as the diagnosis is made.

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THE BACILLUS OF SYPHILIS.

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Bacteriology was still a comparatively new department in medicine, when the revelations identifying special microbes with certain pathologic lesions assumed an aspect of such importance, that the medical world began to look for a bacterial origin of every disease. Among the first diseases taken up in this line of investigation was syphilis, since in this malady both clinician and bacteriologist found common and harmonious grounds for a theory. The clinician had long observed that the etiologic factor of syphilis resided in the general circulatory fluid. Even further—he had investigated the blood and found that it and no other liquid of the body contained the infective principle. For the blood spreads this disease to every organ, to the remotest part of the human economy, and all the fluids of the body, when unmixed with blood, prove themselves innocent, when inoculated in animals and the human subject.

What more alluring field of investigation for the bacteriologist? An easy task, certain of successful accomplishment, apparently awaited the experimenter. The clinician having demonstrated that the infection resided in the blood, all that remained was for the bacteriologist to plant syphilitic blood upon the ordinary culture media, and isolate the germ; even this expedient seemed scarcely necessary, for why should not the microorganism be seen, and studied in the blood itself.

It is useless here to mention the negative results obtained from the numerous investigations made upon all the lesions of syphilis, including the physiologic and pathologic secretions of syphilitics. This work has, however, fructified in two conclusions: 1. The positive demonstration that the blood and the blood alone contains the contagion, and that if any secretion, either pathologic or physiologic, is infectious, it is so because it contains more or less blood. 2. The detection in the blood of syphilitics of a minute, spherical, highly refractive body, that is endowed with motion.

What this body is, and whether it has anything to do with the cause of syphilis, remains yet to be demonstrated. Two suggestions might be made; that it could

be either the spore of a microorganism, or a degenerate form of the syphilitic bacillus. For this latter hypothesis some grounds will be offered later in this paper.

That a disease may be caused by a microorganism which invades the blood, and yet totally disappear when specimens of the diseased blood are withdrawn from the natural vessels of circulation, is well established. Had investigators confined their researches to the caseous deposits in the lungs, or certain tuberculous glands, the bacillus of tuberculosis would still be undiscovered, in spite of the undoubted tuberculous nature of the lesions mentioned. An examination of the blood of an individual after the defervescence of relapsing fever; or immediately after the paroxysm during an attack of malarial fever, proves it sterile. Modern research has, of course, revealed the hiding place of these parasites, and solved the mystery.

Another microorganism, although one exerting no influence in man, will serve us to illustrate a step in this thesis. This organism is present in a certain septicemia of geese, and reveals itself as a spirillum circulating in immense numbers in the blood current. Let the blood of one of these animals, suffering with this disease, coagulate, and not a trace of the spirillum can be found. Ample time is allowed for this observation, because the blood of geese is slow to coagulate.[1]

What is known as "Pfeiffer's reaction," that is to say, the conversion of the comma bacillus of Asiatic cholera into a mass of granules, when a culture of this microbe is injected into the peritoneal cavity of a guinea-pig that has been vaccinated against Asiatic cholera, is another example of the disintegration suffered by bacteria in the presence of certain liquids of the body.[2]

Without going into the details of the humoral theory of immunity, or the citation of more examples of the bacteriolytic power of blood-serum, I will mention briefly a few points that have a direct bearing upon the subject we are now discussing.

While studying the mechanism of immunity Bordet[3] clearly demonstrated the bactericidal and bacteriolytic properties of blood-serum. Later, Gengou[4] produced conclusive experimental evidence, that when certain microbes (*e. g.*, comma bacillus of Asiatic cholera) were mixed with serum (*e. g.*, rabbit) these microbes were killed; consequently, they gave no growth when planted upon the ordinary culture media. But when like quantities of the same microbe were mixed with like quantities of plasma, and then planted in the ordinary culture media, the growth of the microbe was neither interrupted nor retarded.

To come a little closer to the subject with which we are dealing, I will cite the classic experiment of Pellizzari, of Florence. The object of this experiment was to elucidate, and forever set at rest, the controversy over the inoculability of the blood of a syphilitic. On December 6, 1860, three young men, Drs. Gustave Bargioni, Henri Rosi, and Henri Passigli, offered themselves for inoculation. The blood for inoculation was taken from the median cephalic vein of a woman in full eruption with secondary syphilis. Bargioni was the first to receive the blood as it started from the vein, but by the time Rosi and Passigli were inoculated "the blood had become cold," as Pellizzari explained, and "had coagulated." The result of these inoculations was a typical case of syphilis for Bargioni, whereas the other two young men escaped. Some few years ago I met Bargioni's cousin, and he repeated to me all the details of the experiment, with the additional information that two years after the inoculation the martyr Bargioni died of cerebral syphilis.

One more point of importance. In the course of the experiments leading up to the final results detailed hereafter it was observed that the cadavers of all animals used were sterile. This led to an inquiry regarding similar investigations upon man, and brought to light a surprising fact; for of the thousands of autopsies that have been performed in special hospitals, amphitheaters and morgues, medical records furnish no instance of a specific contamination resulting from a wound received during the autopsy of a syphilitic cadaver.

Summing up the points I have tried to bring out in the brief review just given:

1. Clinicians and bacteriologists are agreed that syphilis is caused by a microbe.

2. It has been positively demonstrated that the microbe exists in the blood.

3. Examinations of the blood with the present ordinary means have inevitably given negative results.

4. It has been demonstrated that when blood coagulates there is generated or freed an element that possesses a high degree of bactericidal property.

5. Experimental evidence has proved that the blood of a patient with secondary syphilis is virulent before coagulation, but will not communicate the disease after coagulation.

The deduction is clear. The microbe of syphilis is destroyed at the moment the blood clots. In a rapidly coagulating blood, such as that of man, the complete disappearance of a microbe that is highly organized may reasonably be looked for. We must therefore search out a fragile, motile, and very sensitive microbe as the causative agent of syphilis, because the more highly organized the microbe the more rapidly is it attacked and destroyed by the alexin.[5]

With the above conclusion in mind, I first undertook the investigation of this subject at the prison of St. Lazar, Paris, in collaboration with Professor Louis Jullien. A portion of the technic detailed below has already been published in a communication to the French Academy of Medicine.[6]

In following this technic the difference between serum and plasma should be carefully borne in mind. Serum is the liquid that is formed after the blood has coagulated. Plasma is the clear liquid that overlies blood that has not coagulated. The essential difference between these two bodies is their bactericidal properties, and has been explained and illustrated above.

In selecting cases it was the invariable rule to choose patients who presented pronounced manifestations of secondary syphilis. The method of obtaining the blood is extremely simple. It consists in first making a constriction just above the bend of the elbow. As soon as the median cephalic and basilic are sufficiently swollen, a convenient point on either of these veins is selected and sterilized by touching with a piece of red-hot iron or glass. The vein is now punctured with a sterilized needle attached to a sterile hypodermic syringe that holds at least 40 cc. The blood is quickly transferred to a solution of neutral potassium oxalate. The strength of the oxalate solution should be so calculated as not to exceed 1 to 1,000 after the blood has been added. Other solutions, such as an extract of leech heads, potassium citrate, magnesium sulfate, etc., can be substituted for the oxalate mentioned above. The oxalate solution has been found the most satisfactory, however. The oxalated blood is submitted to centrifugation, all the cellular elements of the blood are thrown to the bottom of the tube, and the supernatant plasma removed with a sterile pipet and mixed with an equal quantity of neutral or slightly alkaline meat broth. In centrifugating, if naked glass instead of paraffin lined tubes are employed great care must be used in not increasing the revolutions to such rapidity as to injure the blood globules, otherwise the alexin will be freed; and although potassium oxalate prevents the coagulation of the blood, it does not neutralize the alexin.

The mixture of syphilitic plasma and neutral meat broth is now pipetted into a sterile collodion sac, which is hermetically sealed, and deposited in the peritoneal cavity of a guineapig.

A microscopic examination of syphilitic blood-plasma obtained by the oxalate method, has frequently revealed

the presence of a nonmotile bacillus, and a large number of small round bodies that appear to be in constant motion. When this plasma is planted upon the ordinary and several special culture media, it frequently gives luxuriant growths of the bacillus, but it has always seemed to thrive much better after having acclimated in the peritoneal cavity of the guineapig. The sac is left in place 6 to 10 days.

If the animal does not die of toxemia before the end of the time specified, a laparotomy is performed. The sac is found completely encysted and its contents are cloudy. If the technic has been perfect no leukocytes are present. Should they be present, contamination has taken place and the experiment has failed. The contents of this sac, when planted upon the ordinary culture media, give a growth of the microbe described below.

The technic was frequently varied by passing the mixture of plasma and broth through a sterilized Chamberland filter. The filtrate is then free from all contaminations, and also mature bacilli, but the little round active body before mentioned is always present. Planting from the collodion sac containing the filtered mixture, has always yielded satisfactory growths of the bacillus.

This microbe is essentially polymorphous; its dimensions varying from 5 microns to 8 microns in length. Sometimes these measurements are increased until the bacillus reaches the size of a filament that completely traverses the field of the microscope. The ends of the organism are vaguely rounded, but not swollen or clubbed. The bacillus is endowed with motion. It stains with the ordinary colors, but does not stain by Gram's method. Planted in ordinary broth it causes a cloudiness after 24 hours. A thin, fragile veil forms over the surface of the culture in 4 or 5 days. It slowly liquefies gelatin. Stab cultures in gelatin slowly liquefy, but never in the form of a cone or funnel. The surface of the solid gelatin is always flat, the liquefied gelatin is cloudy with flocculent matter, and is of a greenish shade, but the still solid gelatin is not tinted. Upon plain agar, glycerin agar, and peptonized agar it gives a moist creamy growth, and the surrounding medium is colored a light greenish tint. It grows very well upon glycerin potato, and gives a culture which is never dry nor scaly, but has more the appearance of a thick, whitish cream. No growth can be seen upon solidified serum, and this medium is never liquefied. Amniotic fluid is the medium in which the bacillus seems to thrive best. The organism grows very satisfactorily in culture media that have been vaccinated with the pyocyaneus and the coli communis. It does not coagulate milk, but causes a precipitation of the casein, and leaves a layer of fat floating on the surface; the reaction is alkaline. Its anaerobic development is slow. It never produces indol nor pyocyanin. The odor generated by the cultures is rather disagreeable, but not fetid. The presence or absence of a spore has not yet been determined.

The modifications of this microbe are varied and important. Its length increases with the age of its culture, so that at the end of 5 or 6 days it becomes filamentous. After 10 days or 2 weeks it becomes granular and assumes the aspect of the small round body described above as having been seen in the plasma, but at this moment a replanting in fresh culture media causes a reproduction of the bacillus, with all its primitive characteristics. Thirty-day old cultures all appear to be granular and dead; replantings in fresh media remain sterile; but at this time, or even after a longer interval, a passage by the sac will cause reanimation. Young cultures of this microbe injected into the peritoneal cavity of a guineapig cause paraplegia, marasmus, abortion and death, in from 10 to 15 days. An injection under a part of the skin that has been previously injected with a weak solution of lactic acid, causes the formation of a hard ulcer, with engorgement and swelling of the neighboring lymphatic glands, accompanied by falling out of the hair, paraplegia, abortion, death, etc. At the postmortem we find the bladder distended with albuminous urine, the spleen contracted, and at times a fatty degeneration of the liver and kidneys. Injections into the frog cause that animal's death in 30 hours.

A young culture of this microbe, when placed in contact with the blood of a syphilitic exhibiting the secondary manifestations of the disease, is immediately agglutinated, that is to say, the bacilli cease their movements and are clumped together in masses. This reaction does not take place when the blood of a healthy individual is substituted for that of a syphilitic. To obtain this reaction of agglutination, the fresh blood must be submitted to a temperature of 56° (Cent.) during an hour, in order to destroy the alexin.

We have endeavored to inoculate syphilitics with cultures of this bacillus, by injections, and also by painting the culture upon bleeding surfaces on the skin and mucous membrane. The result has always been negative.

The principal argument offered to disprove that this microbe is the causative agent of syphilis is, that when cultures are injected under the skin of a guineapig a hard ulcer, with involvement of the neighboring lymphatic glands, paraplegia, etc., is the effect; whereas, when a like animal is inoculated with surely virulent syphilitic tissues like the blood, or secretions such as the juice of a chancre or mucous patch, there has been invariably no effect. In answer to this we offer the result of an experiment, repeatedly performed, which is as follows:

After shaving and cleansing with antiseptic solutions the skin on the back or hip of a guineapig make a small incision just through the skin. At the same time prepare antiseptically the finger of a syphilitic who has secondary manifestations and make a small puncture with an antiseptic needle. Now let these two bleeding surfaces be brought together. In the course of 8 or 10 days a hard ulcer, with involvement of the neighboring glands, paraplegia, etc., will be observed in the guineapig. These lesions are identical with those following an inoculation with the culture. A control experiment, wherein a healthy subject furnishes the blood, is negative.

An additional proof identifying this microbe as the bacillus of syphilis is founded upon its reaction toward the special sensitizing body generated in the organism of an animal that has been vaccinated with syphilitic blood. Investigators who have undertaken the study of the intimate mechanism of immunity have observed that by certain reactions a given microbe can be identified as the pathogenic cause of a given disease. This phenomenon is based upon the generation, in the blood of an animal that has been vaccinated with a certain microbe, of a body that has a specific affiinity for the particular microbe that has been injected. This body is called the sensitizing body (sensibilitrice). It unites with the microbe, for which it has an exclusive and specific affinity, and sensitizes that microbe, so that in the presence of an alexin, which is found in large or small proportions in all serums, the particular microbe is dissolved. This constitutes the phenomena of bacteriolysis.

In applying this reaction to the identification of the bacillus of syphilis I do not, as might be presumed, inject the animal with cultures of the microbe. This would simply generate the sensitizing body for this microbe, and consequently prove nothing. If the microbe of syphilis resides in the blood, then by injecting the blood of a syphilitic, consequently the microbe of syphilis, the serum of the injected animal should contain the specific sensitizing body for the germ of syphilis. Without burdening this paper with the details of the experiments performed in the above line, I will state that the result has invariably led to the production of a sensitizing body that unites with the germ that I have isolated and call the bacillus of syphilis.

It has been suggested heretofore by observers that inasmuch as the germ of syphilis had not been seen or isolated, it was very probable that it belonged to that class of bacteria called invisible microbes. Under this heading were also included the germs of hydrophobia, smallpox, aphthous fever, peripneumonia, etc., the last two being diseases peculiar to the lower animals. Pfeiffer's work upon influenza, which revealed the presence of an extremely minute bacillus, thus demonstrating the variability in size of bacilli, and the results obtained by Nocard and Roux in their experiments upon peripneumonia and aphthous fever, wherein an invisible microbe was made visible, threw much light upon the subject under discussion. According to Nocard and Roux, the bacillus of aphthous fever is capable of passing through the walls of a certain grade of Chamberland filter.

In order to make this particular microbe visible, it is only necessary to submit it to the collodion sac method, and then plant it upon the ordinary culture media, whereupon it grows luxuriantly, forms large colonies, can be stained, and is easily seen under the microscope.

In another part of this paper a small round body, visible in syphilitic blood, was mentioned, and later on its power of passing through the Chamberland filter was referred to. Lastly, the change noted in the microbe found in this filtrate, after it had been treated by the sac method, was described. Therefore, if the bacillus of syphilis did belong to the invisible microbes, it is now a member of the visible class.

We have many examples in bacteriology of the degeneration of microbes. This degeneration may be brought about by age and exhaustion of culture media, or by the presence of some inhibiting substance. *Bacillus pyocyaneus*, the cladothrix in general, and *Cladothrix actinomyces* in particular, are illustrations of degenerate forms consisting mostly of "small round bodies."

Long before the discovery of the bacillus of syphilis had been announced many attempts toward the serum therapy of syphilis were undertaken. The generation of an antisyphilitic serum, by injecting animals with the blood of syphilitics, seemed to offer the most favorable promise. Starting with the theory that the organism of syphilis resides in the blood, then by the injection of animals with this blood it seemed that it must naturally follow that an antisyphilitic serum would be obtained. Since modern experimental biology has revealed to us the mechanism of the production of cytotoxins, it is very easy to see why such a serum as suggested in the theory above, must necessarily fail to be of value. More than this, it is sure to prove an exceedingly dangerous substance. The injection of the blood of an animal of one species (let it contain what microorganism it may) into the organism of an animal of a different species, will excite in the latter animal the production of a serum that will dissolve the blood globules of the animal that furnishes the blood. Therefore, if a horse be injected with the blood of a syphilitic (human) and the serum of the horse be injected as a therapeutic agent into another syphilitic (human) it will cause a solution of that individual's blood globules, and in large doses his death.

With cultures of the microbe of syphilis I have submitted a series of horses to repeated injections, and at this time have the resulting serum under rigid experimental investigation. Inasmuch as the early manifestations of syphilis are undoubtedly due more to the presence of a microorganism than to a toxin, and also in consideration of the fact that cultures of this microbe contain a very feeble toxin, it has been my effort to generate a *bactericidal serum* rather than an antitoxin. To this end the injections of the animals used consist almost wholly of the bodies of the microbes. If this serum proves of clinical value this will be strong additional scientific proof of the authenticity of the bacillus, and the fact of its manufacture is stated solely with this view.

CONCLUSIONS.

1. This microbe is found in *all* patients during the secondary manifestations of syphilis.
2. This microbe is agglutinated or clumped by the serum of individuals with secondary syphilis, but no reaction takes place with the serum of healthy subjects.
3. This microbe can be grown after having passed through a porcelain filter.
4. The direct inoculation of animals with the blood of syphilitics during the secondary manifestations causes the production of a hard ulcer, involvement of the lymphatic glands, paraplegia, etc.
5. Inoculations of the laboratory animals with cultures of this microbe occasion special lesions comparable to those observed in syphilitics.
6. It combines with the special sensitizing body (sensibilitrice) generated in the organism of animals vaccinated with syphilitic products.
7. Cultures of this bacillus are without effect when inoculated into syphilitics.
8. Like syphilis in man, this microbe dies with the infected animal.

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PLACENTA PRÆVIA AND ITS TREATMENT, WITH SPECIAL REFERENCE TO COMBINED VERSION.[1]

BY

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In order to introduce the subject of "Placenta Prævia" and its treatment for discussion, I shall report in such detail as seems necessary all the cases that have come under my personal observation. A preponderating number of these was treated by a special method—combined version, a plan first introduced by Braxton Hicks over 40 years ago. Lomer nearly 20 years later called attention to its advantages in an able paper in the *American Journal of Obstetrics*. Among the cases reported was a list of 93 in the hands of himself, Behm, and Hoffmaier with but a single maternal mortality.

A method capable of such splendid results demands respectful consideration. We may ask at the outset, should not all cases be submitted to this particular plan of treatment? When we bear in mind the mortality of placenta prævia that prevailed under plans of treatment in vogue other than this, and that this mortality ranged from 10% to 40% of the mothers, and that the prospect for the child was even worse, it would at first sight seem imperative that the plan of combined version be uniformly adopted. I am, however, convinced this would be an error, that there is a field for other plans, and that he who wisely elects the appropriate method for the individual case will have the best results.

In support of this *a priori* conclusion, I have selected the cases in the hands of two American operators who do not follow one exclusive plan, and added my own:

H. D. Fry, 14 cases; no deaths.
Lee, 25 cases; 1 death from sepsis in 3 days; patient in the hands of midwives for 3 weeks.
My own, 17 cases; 1 death.
Total, 56 cases; 2 deaths.

While this is not such a splendid record as Lomer makes, it is significant.

Had I concluded my paper a few days earlier my record would have been without mortality, but my last case proved as disastrous as the first was brilliant. Both

[1] Read at the Obstetrical Society of Philadelphia, June 4, 1903.

patients were treated by the method of combined version, and in both this operation was elected at a time when the women appeared in good condition, neither having lost much blood and neither being septic.

Combined Version.—The first in the list of my cases is reported in some detail in order to show in a concrete manner the plan of procedure which I believe to be especially recommended in cases occurring after fetal viability and yet sufficiently long before term to make the advent of labor very uncertain.

CASE I.—A primipara, expected March 15. On January 11, a little more than 8 weeks before term, a slight hemorrhage occurred. She was not certain of its origin, and thought it might have been rectal; it had entirely ceased on my arrival. Two weeks later she called at my office complaining of a distressing cough, and a very few days after this I was hurriedly called to her house. Without the slightest warning bleeding again occurred; this time she lost about a teacupful and there was no doubt of its origin. It was now 6 weeks before the date of her expected labor. On vaginal examination the cervix was still present, the os admitting only the tip of the examining finger. Pelvic excavation empty, head at brim, dorsum to the left, and fetal extremities to the right; heart tones distinctly audible. On gently pushing the examining finger into the os repetition of the bleeding occurred, however the loss was slight. Pains were absent. Hot vaginal douche and enema of soapsuds were ordered, otherwise the patient was advised to rest quietly on her back.

Assistance having been secured, 2 hours later she was etherized and the os dilated so as to admit the index and the middle fingers; this took 30 minutes. With the hand in the vagina, the fingers pushed up the head and the other hand depressed the breech, and literally coaxed a foot through the os, so slight was the dilation. As the leg was about to be extracted the membranes were ruptured at the placental margin which completely covered the os internum. The extracted thigh tightly closed the os. In the course of an hour pains followed, but it required 8 hours to complete the dilation and the spontaneous birth of the child, a male weighing 5 pounds. There was no postpartum bleeding. At first the baby's existence was somewhat precarious, but later it did well. At 3 months it had more than doubled its weight, having reached 11½ pounds and was well and plump. The mother passed a perfectly normal puerperium and like her child continues doing well.

The next 5 cases belong in the same class.

CASE II.—Physician's wife, fourth pregnancy, 2 at term, and a miscarriage at 5 months about 2 years before.

A slight hemorrhage occurred in thirty-second week, and again in thirty-fourth. On the latter occasion it was deemed wise to etherize, do bimanual turning, and terminate the case. The ether acted badly, but when fully etherized there was no trouble in passing 2 fingers and rupturing the membranes at the placental margin which completely covered the os. As in the preceding case the membranes were not ruptured until the foot was grasped. Labor spontaneously ended in 6 hours in the birth of a dead baby. There was a markedly eccentric attachment of the cord to the placenta—a battledoor placenta—and the cord was caught between the child's back and the anterolateral pelvic wall and thus subjected to undue pressure, resulting in fetal death, even before the final stage of extracting the head. The patient passed her convalescence without a symptom, and is as well as ever.

CASE III.—Mrs. G., wife of a tailor, German, fourth pregnancy. She bled slightly in thirty-sixth week, and in her thirty-seventh. She was brought to my office by a midwife, bleeding. She was sent home, cleaned up and chloroformed. It was found impossible to reach the placental margin after the dilation, therefore the placenta was perforated and a leg brought through it. Fetal heart tones were inaudible on completion of the version. A 7½-pound dead girl baby was born in two hours. Examination of the placenta after its expulsion disclosed rupture of one of the main vessels near its entrance to the cord. The patient made a good recovery and was discharged in 2 weeks.

CASE IV.—Mrs. H. was seen in consultation with Dr. Joseph S. Gibb at about the thirty-sixth week of her gestation. There had been slight bleeding a week before to which little importance was attached. On the present occasion, owing to the severity and persistence of the hemorrhage, there was much alarm, and the priest was summoned at the same time as the physician. Precious moments were lost while the last rites were administered. There were some ill-smelling clots in the vagina. A leg, also a loop of feebly pulsating cord was quickly extracted, and in a half-hour a dead baby. The woman's temperature continued normal, and she quickly and perfectly recovered.

CASE V.—Mrs. G., a Russian, aged 22, second pregnancy. She had been for 10 days under the care of a midwife, who kept her at rest in bed and gave her bichlorid douches.

I saw her in the thirty-fifth week, 4 hours after a severe hemorrhage. Ether, dilation to admit two fingers, and combined turning. A large, dead boy baby was delivered in 2 hours. In this case delivery was hastened by traction, and the woman bled postpartum to an alarming degree from a torn cervix. The hemorrhage was finally controlled by several yards of iodoform gauze intrauterine pack. It was a central placenta prævia, and although the woman made a good recovery, she had a narrow escape.

Earlier turning and less haste in extraction would have avoided maternal peril. The result to the child could not have been worse, and perhaps it might have been better.

CASE VI.—Northern dispensary outpatient. An Irish woman, aged 28, second pregnancy, was first seen in thirty-fourth week; slight bleeding a week before, but she called no physician. Bipolar version without an anesthetic, the os being dilated to admit 2 fingers. Partial placenta prævia. A living 6½-pound girl baby was born in 2 hours. Both did well.

CASE VII.—Ruptured membranes and suprapubic pressure. Outpatient of Philadelphia Lying-in Charity, second pregnancy. In labor near term with lateral placenta prævia. Membranes were ruptured at once and the head forced into the pelvis by suprapubic pressure. Labor was thus completed within a short time by the birth of a living boy baby. Mother made a rapid and perfect convalescence in spite of a decided loss of blood which had continued with slight interruptions during some 12 hours. There had been a slight loss of blood 2 weeks before.

CASE VIII.—Outpatient of the Philadelphia Lying-in Charity, under the care of the late Dr. R. A. Taylor. Mrs. M., aged 38, primipara. In labor near term for 10 hours, during which time much blood was lost; she had had a sharp hemorrhage 2 weeks before. When I first saw her she was depleted badly, and fetal heart tones were scarcely audible. Central placenta prævia was found. The hand was passed through both it and the os, and turning was done by the internal method under ether. An 8-pound dead boy was extracted within a comparatively short time by forceps to the after-coming head. The patient was greatly prostrated, her pulse at one time reaching 160. She finally recovered.

CASE IX.—Mrs. M., aged 28. Had been in labor with her fourth child at term 2½ hours before I saw her. (There was a history of early and rapid labors, the youngest child having been born 14 months before.)

There had been a slight hemorrhage 3 weeks before, and with the commencement of actual labor this was repeated and continued. I found the os dilated to admit 2 fingers, and a marginal placenta. Membranes were immediately ruptured and the head forced into the pelvis by external and internal manipulation. Although it took only a little over an hour to end the case the baby was born dead. Thirty minutes before this, fetal heart tones had become inaudible. Thus it is clearly evident that even the marginal placenta may lead to fetal death without version.

CASE X.—Mrs. D., aged 38, was seen in labor near term with Dr. C. P. Noble. This was her twelfth pregnancy. The membranes had been ruptured some hours before, but as slight bleeding continued she was chloroformed and a living 8-pound girl baby was extracted with forceps. It was a marginal placenta prævia. The patient made a good recovery.

CASE XI.—Patient of the Northern Dispensary; Dr. R. J. Hess saw her with me. The case is ancient, since it occurred 2 years before the appearance of Lomer's paper; nevertheless, it has many interesting features.

Mrs. C., American, aged 38, married 18 months. In February, March, and April she missed her periods. After this there was a somewhat regular occurrence of what she supposed her menses until early in October, when the flow continued quite constantly until the latter part of November. At this time she was seen early in labor at or near term. As labor progressed bleeding grew more alarming, and after some delay I did internal version, perforating the placenta, which was centrally implanted. A large, dead baby was extracted by forceps to the after-coming head in less than 2 hours. The woman made a slow but otherwise satisfactory recovery. The continuance of irregular bleeding throughout pregnancy has interesting symptomatic relations. It led a homeopath, who saw this patient repeatedly, to diagnose a tumor.

CASE XII.—Margaret W., aged 32; out-patient Lying-in-Charity; sixth pregnancy. When near term she had a sudden and profuse hemorrhage, followed by labor pains. Placenta partially over the os, which under chloroform easily admitted 2 fingers; combined turning was done, and in 30 minutes a small, living baby was born naturally. After its birth a little chloroform was again given, and a second baby was likewise turned and born alive. Their combined weight was 9⅞ pounds. What the ultimate fate of the twins was after a few months I do not know. The patient was horribly dirty and poor. She got up soon, had pneumonia, but finally made a perfect recovery.

CASE XIII.—Mrs. H., aged 40, wife of a baker; eighth pregnancy. At seven months she commenced to lose blood; called a physician, but on his arrival the bleeding had ceased. Nevertheless, he ordered her to get a pound of absorbent cotton, intending to tampon. Each time on his arrival the bleeding had ceased and the cotton remained unused. Combined turning under chloroform was followed by pains in 2 hours, and in 7 hours a small, living, girl baby was born. The mother made a good recovery. What became of the child after the first few months I do not know. Placenta was completely over the os.

Case XIV.—Mrs. F. was seen with Dr. Jurist. Had borne a child 7 years before, and was in labor at the thirty-sixth week. Bimanual turning under chloroform was followed by the birth of a dead baby in one hour. It was a central placenta prævia, and considerable blood had been lost at the time I first saw her. The bleeding during and after turning, as in the other cases of its class, was insignificant. Her recovery was not marred by a single bad symptom. Prolapse of the cord during version was a noteworthy feature of the case, and it doubtless was a factor in causing the child's death.

Case XV.—Mrs. D., aged 36, patient of the Jewish Maternity Hospital; sixth pregnancy. Commenced to bleed at about the twenty-eighth week; 2 weeks later she was admitted to the house, kept in bed 10 days; there was an occasional slight bleeding. The placenta could be clearly outlined in the lower uterine segment by external palpation, and it was felt presenting at the patulous os, examining per vaginam. The resident physician, with my assistance, did combined version, introducing 2 fingers; and in 2 hours a living baby was born. It was placed in the incubator, but it survived only 19 hours. The woman lost very little blood either during delivery or after, and she made a perfect recovery.

Case XVI.—Patient of Dr. Modell. She was aged about 35, internal version, eighth pregnancy. In labor some hours at term—placenta presenting at the partly dilated os, and considerable bleeding more or less continued. The operation of combined version was suggested, as it was not possible to engage the head sufficiently to make the application of forceps possible. Instead, the doctor introduced his hand, making internal version. Spontaneous delivery of a dead full-time baby occurred in a half-hour. There was no further intrapartum or postpartum hemorrhage, and the woman made a perfect recovery.

Case XVII.—Mrs. C., patient of Dr. L. G. Bauer, had 2 children, the youngest 10 years old. She was at term; had the slight pains of early labor and lost a considerable clot, followed by bleeding sufficient to saturate a napkin. She was put to bed. I saw her 8 hours later. Two fingers could be easily passed into the uterus, they came on the placenta which covered the os; this manipulation caused a decided flow of dark red blood. The presentation of the fetus was transverse. Under chloroform combined version was done, and after some difficulty a leg was withdrawn. The dead full term baby was expelled in 45 minutes; as the cord presented it was absolutely pulseless and fetal heart action had ceased. The uterus contracted firmly, but owing to extensive adhesions the placenta could not be expelled by the pressure of both hands. After a delay of half an hour it was peeled off, one hand in the uterus, the other supporting it. While there was little bleeding prior to this, it was now observed that she was losing blood continuously in spite of firm contraction of the uterus. (Ergot was given and retained.) At the end of an hour her pulse was bad, small, compressible, and over 90. Her extremities were cold, she had thirst and her skin was very leaky. Compression of the fundus would cause a few ounces of blood to flow; and this continued in spite of hot douches, and finally an intrauterine gauze pack was introduced. She was left with a pulse as just noted; strychnin, atropin, and external warmth being applied. It was hoped she would speedily react, but instead she continued to sink and died 3 hours after the birth of the child. Air hunger and the marked symptoms of acute anemia were not noted. The surroundings were all very poor, room small and dark, husband drunk, nursing inefficient, anesthesia not complete.

Symptoms.—The one symptom of significance, usually in itself sufficient for a diagnosis, is hemorrhage of uterine origin. The developmental changes preparatory to labor in the last 12 or 14 weeks of gestation, sometimes earlier, constantly lead to free bleeding when the placenta is attached wholly or in part to the lower zone of the uterus. Every one of my patients but the tenth, sixteenth and seventeenth had a slight loss of blood several weeks before they actually came under treatment. In these also it may have been present but this is uncertain. While cases have doubtless occurred in which the first or initial bleeding has proved fatal, I believe they are rare indeed. Usually the first loss of blood is very slight—a mere dribble, a clot, an ounce or two—enough to saturate several napkins. If the examining finger is passed into the more or less patulous os there is more bleeding and often the presence of placenta is thus detected near the internal os or entirely over it. Its position with reference to this point determines the various forms of placenta prævia. But little importance should be attached to the exact location of the placenta; the all-important fact to be recognized is the presence of the placenta in the lower zone of the uterus—the area of danger. Careful palpation by the hand externally, or by the conjoined method, will frequently disclose its exact outline and situation.

The period of fetal viability having been reached, and a diagnosis through the occurrence of one or more warning hemorrhages having been made, what is the best treatment? In my opinion, combined version is peculiarly suited to these cases, and especially so in the absence of imminent labor, particularly from the twenty-eighth to the thirty-sixth week of gestation.

Should labor be induced? Unqualifiedly yes, after the period of fetal viability has been attained. If the patient is inaccessible the period of fetal viability should not be awaited; if she can be favorably placed, as in a maternity hospital near skilled assistance the pregnancy may be allowed to go on. Otherwise it should be terminated deliberately just as soon as additional medical and nursing assistance can be secured. Likewise, if the case be in the last month or at term, the placenta so filling the pelvic excavation that the fetal head cannot be made to engage, with labor in progress, or its advent uncertain, combined turning should be the method chosen. If the fetus lies transversely as in Case XVII, there can be no question of the propriety of turning.

Several considerations lead me to mention the special appropriateness of the method for the early cases. 1. The operation is exceedingly easy, much easier than at term, barring occasional difficulty in securing sufficient dilation of the os. 2. My results indicate that the little premature baby has a much better chance of survival than the larger one. Its body exerts sufficient pressure on the placental vessels to prevent bleeding and yet not enough to asphyxiate it. Thus of the 18 babies eight were born alive, six by the method of combined turning, one by forceps and early rupture of the membranes, and one by rupture of membranes and suprapubic pressure.

In 6 cases of combined turning the result was a dead baby, and in every one of the cases near term the baby was lost. While the figures are few, perhaps not conclusive, yet they are significant. If labor be in progress at or near term I should favor other plans of procedure—rupture of membranes, hydrostatic dilators, suprapubic pressure, and forceps. Yet in my ninth case the baby was lost after a head-first labor lasting but one hour. In every one of the cases of internal version the baby was lost. The method is mentioned only to be condemned. At the time I treated my patient I had but little practical experience, and knew nothing of the perils of speedy extraction following version.

Other considerations in favor of turning are the certainty that spontaneous labor will follow usually within a few hours, and rarely is it delayed over 6 hours. It controls hemorrhage with absolute certainty, no need of a tampon. Are there attendant disadvantages and dangers inherent in the method? I have always considered it free from any risks if the cardinal rule be ever remembered—to turn and await the birth of the child through the mother's own expulsive efforts, the operator making little or no traction. Hicks says: "Make no more traction than the weight of the arm exerts as it rests on the delivered extremity." Hurried extraction means danger of laceration of the uterus; many patients are thus lost. A recent report[1] mentions 4 extensive lacerations in 9 cases of turning in placenta prævia, and four of these proved fatal. It is not stated what plan was followed—whether internal version and immediate extraction, or combined version and waiting, presumably the former. Does it lessen the child's chances? I know this is a frequent assumption, but I do not believe it rests on good grounds. Fry had 14 cases (15 babies), and he saved five of eight possible; the remaining seven being either dead or nonviable. Lomer says: "It is my opinion that the danger the child runs by allowing it to be spontaneously born after turning is overrated by theory.

The plan in my cases was followed 11 times. Six babies were born alive, a result better than that of the

[1] Jour. Amer. Med. Assn., May 9, 1903.

entire number, or eight of the 18. Moreover, in two, delivery was hurried without advantage to the infant and with manifest peril to the woman. On the whole, I believe the child's chances are just as good if the pains be waited for after version, and the birth not unduly hastened by rapid extraction. If the fetus in placenta prævia were regarded as little as it is in ectopic gestation I believe our position would be more rational. The warning hemorrhage would be the signal for termination of the pregnancy. Thus many cases would be disposed of in safe manner by combined version in the later months. A few patients would reach term with no warning until labor set in; and these would be aggressively treated either by the same plan, or if feasible, by immediate evacuation of the amniotic fluid, gradual mechanical dilation, suprapubic pressure and forceps. The danger of death from hemorrhage would be lessened, but there would still remain the more remote dangers of septicemia, air embolism, rupture of the uterus, to all of which unfortunate complications the peculiar conditions predispose. There is, therefore, a legitimate mortality, though it is doubtless small.

A CONTRIBUTION TO THE PROPHYLAXIS OF VENEREAL DISEASES.[1]

BY

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It having been very fairly demonstrated in several European cities that segregating, licensing, medical inspection, etc., of prostitutes have all failed to lessen materially the prevalence of venereal diseases, it becomes our duty to consider some practical means by which these very grave diseases can in some considerable measure be controlled.

The principal reasons why municipal control of prostitution can have but little effect in preventing venereal diseases are these:

1. A comparatively large number of women will continue to ply their vocation unregistered, they being known in cities where registration is required as private prostitutes. These women are under no city control whatever, and are not examined by the medical inspectors.

2. The comparatively cursory examination of the female genitals, which is all that can be expected of the inspectors, while it will no doubt succeed in removing the possessor of some conspicuous venereal lesion from the active pursuit of her calling, passes over many of the gravely infected. Without the aid of the microscope the most expert gynecologist cannot state positively whether or not a given discharge from the cervix, or an erosion of the same, is due to gonorrhea. Recent hard chancres are easily overlooked.

3. The most important reason for the failure of municipal control is the fact that all the effort is directed to the women, the men receiving no consideration whatever. For very obvious reasons it is more difficult to handle the men than the women. It has been suggested that venereal diseases be reported to the health authorities as are other contagious diseases. If this were done the intention would be promptly subverted. It would very soon become known to the general public and they would avoid seeking medical aid, relying upon some obliging apothecary or friend who had a "sure cure" prescription, and the spread of these diseases would be increased instead of lessened.

I believe the important factor in lessening the spread of venereal diseases to be the education of all concerned. These may be divided into three classes:

1. The medical profession.

2. Public and institution officials whose work should make them actively interested in this subject.

3. The general public.

This education in each class meaning a proper understanding of their respective responsibilities to their fellow men in the matter of a series of diseases than which none more grave affects humanity.

The Medical Profession.—The main responsibility for the conduct of the three classes rests, of course, upon the profession. The physician should not only do his own duty when he meets these diseases, but he should do constant missionary work among the other two classes.

As to his own immediate responsibility, I have written of it somewhat briefly in a previous paper.[1] It consists in being able to make a correct diagnosis; in properly advising patients of the danger of infecting others, both sexually and by other contact, and by the infecting of articles of common use, such as drinking-cups, table and toilet articles; and in properly treating these diseases.

While it may not be proper to discuss treatment in this paper, I will mention two facts which are generally accepted by genitourinary men and which should be borne in mind by all physicians in treating venereal diseases. Gonorrhea is rarely completely cured when the discharge has ceased. The diagnosis of syphilis should not be attempted from primary symptoms, *i. e.*, the chancre, inguinal adenopathy, and period of incubation, but should only be made positively upon the appearance of some secondary lesion. If these two primary facts were constantly remembered by the general profession a considerable advance would be made in preventing the spread of these diseases.

That the average physician does not take the interest or give the attention in venereal cases which he does in other conditions will generally be admitted by our intimate medical friends. This is not as unjust as would at first appear. Venereal patients are notorious as drifters, and we cannot blame the general practitioner for not obtaining the necessary armamentarium, and giving but scant attention to a class of cases which must necessarily form but a small part of his work, and pay but little heed to his advice.

Again, many general men have a particular distaste for this class of work, as evidenced by their peculiar dislike for chairs, door-knobs, and even the hand-clasp of their friends working in venereal clinics. Their offices are not adapted to the necessary "sloppiness" incident to the proper treatment of gonorrhea, and the sufferers from this disease are rarely very welcome patients.

The scant consideration given these patients by institution officials, and even the profession, is due, I believe, to a very wrong general conception of the venereal question. At first thought one is prone to consider the venereal patient a sort of outcast who deserves only the most ordinary treatment. In considering the far-reaching possibilities of a carelessly treated case of gonorrhea I think we can best realize that the venereal patient, even if he deserves but little on his own account, should have most careful attention as a protective measure to the public at large. If we leave out the possibility of a particular patient's marriage, the subsequent removal of his wife's reproductive organs, or her giving birth to a child with gonorrheal ophthalmia, what of his possibilities as a distributor of the disease to public women and the class of men who patronize them!

It is not the man with acute gonorrhea and a free discharge who spreads the disease among prostitutes, but the individual whose discharge has ceased and who believes himself cured, but whose urethra, prostate gland, and seminal vesicles, one or all, contain gonococci. The

[1] Presented at the annual meeting of the American Urological Association at New Orleans, La., May 8 and 9, 1903.

woman infected by this man does not, perhaps, for many months, notice any unusual symptoms, and if accused of having given gonorrhea to any of her patrons will strenuously deny that she has the disease, and, so far as she knows, she is speaking the truth. Even the wise physician, from whom she may have obtained a certificate of "perfect health" having noticed merely a slight discharge from the cervix, and having failed to examine this microscopically, has no idea of her real condition, as so many women present symptoms of slight endocervicitis, not due to gonorrhea. The gynecologist will, I believe, bear me out in the statement that a large percentage of women contract gonorrhea of the cervix without involvement of the urethra or vaginal glands, and that the symptoms are very moderate, if any, for a considerable period.

This being true, is it not a very imperative duty for every physician properly to inform his venereal patients of their possibilities in spreading infection to others.

The advice given to these patients is of first importance, as without it, they never appreciate the gravity of their condition.

Public and Institution Officials.—In this class are included trustees and directors of hospitals, superintendents, and those having anything to do with hospital management, in a nonprofessional capacity.

The inadequate provision made for venereal patients in many of our largest hospitals, is due to the feeling held by most lay managers that these patients belong to a sort of criminal class and are unworthy of attention. The best that has been written in connection with this subject may be found in "The Report of the Committee of Seven of the Medical Society of the County of New York,"[2] from which I quote the following:

> It would seem a strange perversion of the proper purposes of charitable institutions that a patient is debarred entrance into our general hospitals when the disease is acute and a source of danger to others, but he is readily admitted when suffering from the remote effects of the disease which might have been prevented by prompt treatment.
>
> Practically the hospitals proclaim to this class of patients, "We cannot receive you when your disease is acute and curable, but when your gonorrhea has developed into stricture, salpingitis, peritonitis, or when your syphilis has affected important central organs, the brain, the spine, the organs of special sense, you may be received, but your disease shall be baptized under another name which does not offend the refined susceptibilities of our patrons."
>
> The committee must censure the attitude of the governing boards of our hospitals in excluding all mention of venereal diseases from their reports, as if it were a shame and a reproach. While it may be true that a respectable syphilis does not exist, they give the public the impression that it is almost as disgraceful to treat syphilis as to contract it.
>
> Although gonorrhea and syphilis are ostensibly not treated in the general hospitals of this city, we find records of cases in the few investigated—many thousands altogether—in which the sequelæ of gonorrhea and the late systemic manifestations of syphilis are received and treated, but entered under names which are not recognized by the laity as indicating a venereal origin.

If all the hospitals could be induced to establish separate departments for these cases under a separate visiting surgeon or surgeons this remarkable state of affairs would soon be corrected, as the venereal patients would then have representatives upon the staff to fight their battles and obtain some sort of consideration for them from the governing boards.

This fact cannot be presented to hospital directors with too much force by those interested in the subject, as such a movement, it is regretable to state, would find most aggressive opposition from the surgical side of the visiting staff. In establishing a venereal and genitourinary ward in a hospital a split would be made in the surgical service, as all operations upon the bladder, prostate, kidneys, etc., would fall to this division. It remains for the appointing powers to decide whether such a division is necessary, and if advisable, to open the hospitals to genitourinary men despite the objections of the general surgeons.

The General Public.—In considering the education of the general public we are at once confronted with the serious difficulty of presenting the subject to them in an ethical and inoffensive manner.

During the past winter I have made a regular practice of handing to every venereal patient a reprint of an article[3] I published last fall, which gives them in plain language a proper conception of venereal diseases, particularly the very serious nature of gonorrhea, which so many look upon as a trifling ailment, and the general precautions they should observe to hasten their recovery and protect others from the disease from which they are suffering.

If every physician adopted some such measure a great deal of good could be done in the direction of those already infected, but if this were attempted with all patients our motives might be doubted and we might be accused of advertising.

I therefore have to suggest the organization of a national association for the prophylaxis of venereal diseases, under whose direction aggressive missionary work could be actively carried on among all these classes. It should include representative men from every branch of the profession, and a clause might well be added to admit to membership laymen interested in what should become a great philanthropic undertaking.

The chief aim of this association would be the distribution of carefully prepared literature to the profession, to hospital and public officials, and to the laity.

The standing of the medical members of this association would place all concerned above the suspicion of any commercial motive. That great good would be accomplished can hardly be doubted.

The dues to the association should be made so low that members could be secured among the profession in all communities, and the literature thoroughly circulated.

I know that a committee has been appointed by the American Medical Association to consider this subject and the holding of a congress similar to the one held in Brussels. With all respect to the great association, I must say that I believe that the work in question is of too great importance and extent to be merely part of any association's work, to be delegated to a committee, however efficient the individual members of that committee, or however great their enthusiasm may be.

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[2] Report of the Committee of Seven on the Prophylaxis of Venereal Disease in New York City. By the Chairman: Medical News, December 21, 1901.

[3] Suggestions for Venereal Patients. Muren: American Physician, August, 1902.

The Pathology of Gout.—In speaking of the relation of gout to granular kidney and to lead-poisoning, S. West says that "gouty kidney" is a very unscientific and misleading term, the gouty nature of it being often a matter of personal opinion only. He states that gout and granular kidney are closely associated, many patients with either of these conditions showing the other as a complication. Yet the two are not necessarily associated. He arrives at the same conclusion in regard to both gout and lead in their relation to granular kidney—each may produce chronic changes in the kidney, but neither causes granular kidney. The presence of granular kidney greatly predisposes the patient to gout or to lead-poisoning. In discussing the causation of gout, Alexander Haig makes use of his customary plain utterances, and states that gout and rheumatism are but one disease—irritation of fibrous tissues in and about joints and elsewhere by uric acid. He also says that excess of uric acid is the cause of chlorosis, anemia, headache, epilepsy, hysteria, Bright's disease, melancholia, diabetes and obesity. Uric acid or urate selects the fibrous tissues of joints because they are less vascular and hence less alkaline. When this alkalinity is still further diminished by cold or dampness or by the taking of acid wines or beer, the urate of the blood is rendered less soluble in these parts, and is retained. Gout, then, is due to poisoning by flesh and tea and similar substances which introduce considerable quantities of uric acid into the body.—*The Practitioner.*

SPECIAL ARTICLES

ENGLISH SURGERY AS PRACTISED BY RICHARD WISEMAN, SARGEANT CHIRURGEON, IN 1676.*

BY

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A most interesting and rare old volume is that entitled "Severall Chirurgicall Treatises," by Richard Wiseman, Sargeant Chirurgeon. It is dedicated "To the Most Sacred Majesty of Charles II, King of Great Britain, France, and Ireland," etc., and was printed by "E. Flesher and J. Macock for R. Royston, Bookseller to his Most Sacred Majesty, and B. Took, at the Ship in St. Paul's Churchyard, London, Anno Dom. 1676."

Richard Wiseman was the most prominent and one of the earliest English surgeons (Park), having been born in 1595, five years after the death of Ambroise Paré. We are told that he was a bold, judicious operator (Park), as well as a progressive student of the art of surgery. Although he frequently referred to the writings of the ancients, such as Hippocrates, Galen, Celsus, and others, he did not hesitate to question their wisdom and to lay hold of and practise new ideas, whether original or otherwise. He acquired a great reputation, became ordinary surgeon to James I, and was not infrequently referred to as the "Pride of England," and as the "Paré of England."

And now as to the book itself: In the preface, or as he terms it "The Epistle to the Reader," after speaking of the nobility and dignity of chirurgery, he says, "he that shall duly consider . . . must needs acknowledge us to be what Antiquity hath long since called us, viz., 'The Hands of God.'" Further along he says of the papers which follow that "what was at first intended for my private satisfaction, may be usefull to others as well as to myself." He seems to have suffered from some chronic physical ailment during the last 30 years of his life (he was 81 at the time his works were published), for he says:

In doing this, Reader, I have made a vertue of necessity, and imployed those hours for the publick service, which a frequently repeated Sickness hath for the twenty years last past denyd me the use of in my private occasions. It hath pleased God by casting me into such a condition to give me oppurtunity of reading and thinking as well as practicing. Both which are necessary to the accomplishment not only of an Author, but indeed of a Chirurgeon. I cannot be so uncharitable to my Brethren, as to wish them the like Sickness to oblige them to the like Retirements for contemplation and study. But I do heartily wish, that what was necessity in me may be choice in them, viz. that they would set apart some time for reflection upon their Labours and for comparing the Empiricall part of the Profession with the Rationall.

He lays stress upon the fact that his writings are the result of his own judgment and experience, as follows: "Know, Reader, that as to these Treatises, though in preparation to them I have read all the eminent Chirurgicall Authors, yet in the writing of them, I was more conformed to my own judgement and experience than other men's authority."

He was not the last to discard old ideas, nor yet the first to take up new ones. Of his progressive yet conservative tendencies, we note the following:

Such ancient Practitioners as are unwilling to be now learning a new lesson will be angry that those Definitions and Descriptions and sometimes, methods of Cure, are receded from, which they learned when young. . . . I desire such men to content themselves with neglecting them; they being not written for their use, but for younger men who have their Principles and Maxims of Chirurgery yet to chuse. Others, wholly taken up with the Novelties wherewith this Age aboundeth will be angry that all the new Notions are not here presented to a nicety, and many little both Anatomicall and Chirurgicall Punctilios inserted and brought in on all occasions, instead of the old way of expressing the Accidents of Disease, with their Causes and Cure. I would have these men consider that I am a Practiser, not an Academick: that I delight in those things so far as they are useful to life, but thought it too great a digression from my present purpose to stuff up a practicall book with such Philosophicall Curiosities, which become it just as well as it would become a Divine to fill a practicall Discourse with School-distinctions.

He thought it no disgrace to let the world see wherein he failed, "there being more of instructiveness often in an unfortunate case than in a fortunate one." Finally, as to consultations, he has this to say:

Thou wilt also learn one necessary piece of Humility, viz. not to trust too much on thy own judgment, especially in difficult cases: but to think fit to seek the advice of other Physicians or Chirurgeons whose long experience hath enabled them to assist thee in preventing Accidents, and encourage to go on with the work, or forewarn thee of danger.

Throughout his writings, the old humoral pathology is accepted, as it was for many years after his time. His classification of surgical affections, for this reason appears strange and amusing to us over 200 years later, in this day of cellular pathology. The classification, however, lends an orderly arrangement to his work, while his very full accounts of cases (and there are many) evidence the carefulness and precision of the scholar. Notwithstanding many things quaint and curious set down by Wiseman, here and there are found described methods of surgical procedure that are adhered to at the present day. Not a few of these have been rediscovered from time to time, as is so often the case, and even bear the name of men who lived after Wiseman's time. Verily, there is but little new "under the sun."

In Treatise I he writes of tumors and accepts Galen's definition of a tumor as "a disease in which the parts of the body recede from their natural state by an undue increase of their bigness." Under this head is included Inflammation or Phlegmon, Erysipelas, Abscesses, and Corrosive ulcers arising from distempers of the Uterus in Childbed, Furuncle, Carbuncle, Aneurysm, Edema, Scabs and Itch, Hernia, and a host of other affections having no relation to tumors as we understand the term today. In all the list we are able to select only Scirrhus, Warts, and Corns, Cancer, and Noli me tangere (Rodent ulcer or Epithelioma) as examples of true tumors. In inflammatory affections, a large number of agents termed suppuratives were used to favor suppuration, such as aqua tepida, hydroleum, oleum maturum, lily root, roasted oinion, butter, and fats generally. From these as a basis, were concocted all sorts of mixtures containing dozens of ingredients. He has this to say of the dangers of pus and the desirability of evacuating it.

The Tumour being suppurated, be the matter what it will, the evacuation of it is necessary, lest it corrupt within and corrode the Veins, Arteries, Nerves, Tendons, or the Bone, if it lie near one, in which case it is lawfull to open it before the tumor is all suppurated. So also in the Joynts, and in the Head, if the abscess lie over the Sutures. . . . . In these cases we wait not for perfect Suppuration, but by deep Scarification discharge the serous blood and prevent an abscess.

It was also considered possible to prevent an abscess by the use of agents termed repellents, "driving it quite back into the blood again," in other words, to "scatter it." The quack and nostrum vender have, after all, some ancient authority for the marvelous power of their remedies.

The manner of opening an abscess was by the use of the knife or caustic, according to the place affected. "In the Face, where the Cicatrix may be unseemly, Incision of them is best; but in large Abscesses, where the quantity of matter is great, or where we would keep the Abscess long open, or in a place where Bandage cannot be made to retain the Tent in, there a Caustick is most proper." The opening made by the caustic was termed a fontanell. The tent was a pledget of cloth, usually saturated with some medicament, placed in an abscess cavity after it had been incised, to keep it open and facilitate discharge. After incising an empyema, he cautions the surgeon always to attach a string to the tent lest it get lost in the pleural cavity. The packing of an abscess cavity with gauze, as now practised, is practically the same procedure as the use of the tent. In speaking of incision of an abscess, he gave advice which cannot be improved upon at the present day. "Your instruments ought to be kept clean, for your credit, and sharp, that you may perform the work with less pain."

His clinical description of cancer (especially of the breast)

* Read before the Fort Pitt Medical Society, December 3, 1903.

is very accurate and the serious nature of the disease is fully recognized. He says: "Of all the diseases which affect mankind, the Cancer is the most grievous and rebellious, and is generally incurable." Although the nature of the glandular metastasis was not understood, it speaks well for the accuracy of his observations to note that he states, in discussing extirpation of cancer of the breast, that the axilla should be "free from painfull glands." Escharotics were strongly condemned, in a case in which another surgeon used them; "the Cancer was so enraged by the Escaroticks, as showed there was no good to be done by them." Early extirpation of, not only the tumor, but the breast was advocated. Several very extensive operations with the cautery for cancer in the region of the mouth are related, one patient surviving for seven years. How like the advice of the modern surgeon is it to hear him say in the closing sentence of the chapter on cancer, "how dangerous it is to neglect the consulting the experienced chirurgeon while the Disease is recent, and easie to be eradicated."

For the cure of hernia he relied upon the truss, although he states that some of the modern surgeons have proposed "the actuall and potentiall Cautery, also Puncture and Deligation of the process of the Peritoneum, also Incision with or without extraction of the Testicle." In describing the latter method he makes mention of the ligature for the first time, it being applied "above the Testicle upon the Vessels" after which the testicle was cut off. If hemorrhage was feared, the ends were further cauterized. Of these methods he says: "I never yet met one who would submit to any of these ways." In the reduction of hernia, after trial of taxis, fomentations, etc., the patient "may if occasion require be carried to and fro upon the back of a strong man, with his head downward, by which the prolapsed Bowels are often reduced. Mr. Smith, the truss maker, told me he had made an Engine by which he set them on their Heads, and thereby reduced many, which could not otherwise be relieved." (!) He favored operation for strangulated hernia and gives a description of it that would answer very well at the present day, including an attempt to close up the opening "and prohibit the relapse of the Intestines."

Throughout his book Wiseman displays good judgment (for his time) in the treatment of diseased conditions. We are, therefore, not a little surprised to find a chapter on "the Cure of the Evill" (King's Evil) by the "King's touch." It must be remembered, however, that he was a courtier, and surgeon to the King. Under such circumstances he found it politic at least to pretend a belief in what he would probably have discountenanced if he had been free to do so. In this chapter he says that God has given to the Kings of his Nation:

> At least from Edward the Confessor downwards . . . . an extraordinary power in the miraculous cure thereof.

Nor does he mince words in stating his belief after once taking it up:

> I myself have been a frequent Eye-witness of many hundreds of Cures performed by his Majesties Touch alone, without any assistance of Chirurgery; and those, many of them, such as had tyred out the endeavors of able Chirurgeons before they came thither.

And then, mark this, as an apology for writing over 50 pages in the consideration of the King's Evil (syn. struma, scrophula) and its medical and surgical treatment:

> But since the infidelity of many in this fanaticall Age, and the want of opportunity in others, doth deprive them of this easy aud short remedy; and since it is not necessary that a Disease which is cured by a Miracle, should be remediable by no rules of Art; I think it will not be amiss, if I do here give an account of what Nature and Art have supplied toward the relief of Mankind, in one of the most obstinate Diseases that I know . . . yet I must needs profess that what I write, will do little more than show the weakness of our ability, when compared with his Majesties', who cureth more in any one year, than all the Chirurgeons of London have done in an age. (!)

Truly, he knew how to be a King's surgeon, and a crafty statesman! Tuberculosis (or struma) of the lymphatic glands, including those of the mesentery, of the bones, and joints, are well described, and his account of the enucleation of such glands, which he says is the speediest method of cure, cannot be improved upon today. He cautions the operator to take them out whole, to incise warily lest "the Matter flow forth," and after having "separated them round to the basis, it may be sometimes necessary to make a Ligature upon the Vessels before you cut them off." The incision was closed up with two or three stitches and dressed.

"The Tonsills or Almonds of the Ears are also frequently swelled in the King's Evill; which tumour may be very well reckoned a species of it." He distinguished between acute and chronic enlargement of the tonsils and of the latter said: "The speediest way of cure is by Extirpation," which he did by first passing a ligature through the tonsils and cutting them off with a pair of probe-pointed scissors. Many cases in which cure was effected by operation or by other means are given at length, but no specific case of cure of any disease by the King's touch is found.

The chapter on wounds compels our admiration especially by reason of the sound surgical advice given. Time will not permit more than a few extracts. In the treatment of recent wounds he says: "The Bleeding staid, if there be hair growing about the Wound, shave it off: then wipe away the clotted blood with a sponge dipped in Red Wine, Oxycrate, (water and vinegar mixed) or Water." Again he says: "Be not too busie with your armed Probe." Since the advent of bacteriology surgeons have had to learn that lesson again. Of bandages, sutures and stitches he has much to say that we will pass by, but I cannot forbear calling attention to what he termed "the dry Stitch," inasmuch as this method of closing wounds has been exploited during the last few years:

> They are made with little bits of strong linen Cloath, triangular or quadrangular, or of such figure as may serve your purpose. They are most proper in the Face, to avoid the other way of Stitching: yet they are of use in other Parts, to preserve the Lips (of the wound) close. They are spread with a Mixture of fang. dracon. thuris, aloes, farin. tritic. gumm tragacanth an. part. æqual. cum albumin ovi. They must be applied at such distance as they may best perform their work. After they are dried on, you must bring the Lips of the Wound close together, and retain them so, taking care that they be not wet by the Matter.

He seems to have been a man of temperate habits, for, after pleading that spirits be permitted those accustomed to use them, when they happen to be wounded, he says, "You may laugh at my pleading for them: but I hope you will consider I am a Water drinker the while."

He recognized the importance of accurate suture in wounds of the abdominal wall in the prevention of hernia, "The Stitching of the Belly is a troublesome work: and yet, if they be not so stitched that the Peritonæum and Fleshy parts may unite together, a Hernia will follow, as I told you, for the Peritonæum bears a great stress."

Of wounds of the head he has much to say that is good. Here for the first time we come upon the phrase, "cure by the first Intention," almost 200 years before the time of antisepsis. In dressing a contused scalp wound he cautioned against shutting in "the Matter" lest it infiltrate among the layers of the scalp. The wound was drained "by a small Dossil pressed out of 'Spir. Vini.'" He strongly recommended laying open the scalp by incision, when there was any possibility of fracture. "If it be small, that you doubt whether it be one or not, then wet it with Ink, and wipe it off again, and the Ink will discover where the Fissure is." In proper cases he was prompt to use the trephine, and his description of the manner of using it is so complete in its details that I cannot forbear quoting it at length:

> In order to the Perforation of the Cranium, the Bone must be cleared of it's Pericranium, lest in setting on the Terebra, or Modiolus (which are two severall names for a Trepan) you tear the Membrane. The Lips of the Wound ought also to be covered the while. The Terebra ought to be set on that side which is most depending. And in case of a Depression, make your Perforation so near, that you may afterwards be able to raise up that by it. When you have set on your Trepan, press upon it with your left hand, and turn it round with your right. You must use a little ol. ros. or Milk to cause it to move the easier, and as it fouls, brush it; in doing of which, it will cool. Before you approach to the second table (which you may know by the blood that appears), it will be required that you take out the Pin, and proceed more warily, not listening to the prattling of the Standers-by, but often lifting up your hand, lest by compression or haste you unawares fall upon the Dura Mater, and wound it. Some chirurgeons do bring out the Bone in the bore; but it will be safer to raise it with your Levator,

when it is so cut, that it is but lightly retained in some part. Doing this work, it is fit the Patient's Ears were stopped with Lint, lest the noise disturb him.(!)

Further on he says:

But do not take out more Bones than needs must; like some of those Chirurgeons I have met carrying them about in their Pockets, boasting in that which was their shame.

He makes mention of another instrument for perforation of the skull—a trephane, the nature of which is not disclosed.

In fractures he made use of various sorts of splints, copper, tin, pasteboard softened with water and molded to the part, and finally, "Splenia of double Cloathes dipt in the Whites of Eggs and wrung out hard. These latter will fit close to the Part and after they dry will support the fractured Member well." This is a very close counterpart of our modern plaster-of-paris splint. In compound fractures he speaks of putting them up so that the wound may be dressed without disturbing the splints—our so called fenestrated splint.

He was by no means in haste to amputate, "it being more to your credit to save one Member, than to cut off many." He amputated through the sound parts and of the method, I beg the privilege to read:

Seat him so as it may be for your convenience. At Sea they sit or lie, I never took much notice which. . . . Then make your Ligature two fingers breadth or thereabout in the sound Part; so that if you amputate in case of Mortification you may be sure to quit yourself of it. This Ligature is omitted by many of our Chirurgeons here in the City, they only making a turn with a Tape, pinning it on as a mark to circumcide by: and instead of the Ligature I propose, they make a Gripe, which Gripe is commonly made by some Assistant who hath strength to do it. . . . But in amputation it seems to me to be very inconvenient: for I never yet saw any man so gripe, but that still the Artery bled with a greater force than was allowable; yea, when Mr. Woodall griped, who was so applauded, and in truth made for the work.

He does not say what material was used for this socalled ligature, but in any event, it constricted the vessels above the site of operation and prevented bleeding. This is practically the elastic constrictor of the present day, even though it bears the name of Esmarch who lived many years later. Nor was its use at that time regarded as modern for he says later:

"By this ancient way of Ligature the Vessells are secured from bleeding." He advised cautery or ligature of the vessels in the wound before taking off the constrictor, but adds, "Ambros. Par. proposes a more easie and sure way of Deligation, by passing a Needle with a strong twisted Thread through the Skin near the great Vessells; making your Stitch over the said vessells by piercing through the raw flesh and Skin; then make your Ligature upon a fold of a Rag."

The quack, bone-setter, or osteopath flourished in his day as in ours, and of whom he speaks as "those who pretend to the reducing luxated Joints by the peculiar name of Bone-setters; who do usually represent every bone dislocated they are called to look upon."

The method of reduction of dislocation of the hip he describes as follows:

If the Thigh bone be luxated inward . . . . it may be reduced by the Hand of the Chirurgeon: viz. he must lay one Hand upon the Thigh, and the other upon the Patient's Leg; and having somewhat extended it toward the sound Leg, he must suddenly force the knee up towards the Belly and press back the Head of the Femur into its Acetabulum, and it will knap in. For there is no need of so great Extension in this kind of Luxation, etc.

The first recorded operation of external urethrotomy (or rather perineal section) for the relief of stricture is described at length. The patient, he says, was "an old fornicator," who had a "Carnosity," by which is meant a stricture. Total suppression (retention) of urine coming on, he was operated upon by "that most excellent Chirurgeon, Mr. Ed. Mollins," with the assistance of Wiseman and a servant. The urethra was opened near the neck of the bladder by an incision in the perineum and the urine evacuated. They were unable to get anything through the urethra. The incision in the perineum was kept open "with a Dossill, an Emplaster and Compress, which the patient took off at times to ease Nature." The patient complained of his unhappy condition "insomuch that Mr. Ed. Mollins being wearied with the Patient's solicitation," again operated upon him.

He caused one of his Servants to hold the one Leg, and myself the other, while he took up the Testicles, and put the one into my hand and the other he placed in the hands of his Servant; then with his knife divided the Scrotum in the middle . . . . and cutting into the Urethra slit it the whole length to the incision *in perineo;* then with a needle and thread stitcht the skin over the Urethra, as also the Scrotum, leaving the Testicles covered, as before, and dressed them with agglutinatives, by which they were cured in a few days. But the Urine nevertheless continued to flow by the opening *in perineo.*

And this without an anesthetic!

In the treatment of stricture of the urethra, which he terms carnosity if old, caruncle if recent, he made use of candles of various sizes which he had manufactured for this purpose—some plain, some medicated. The plain ones were used for searching and locating caruncles—"a sort of loose flesh arising in the urethra frequently in the time of a Gonorrhea." The medicated candles were passed in and retained by flattening out the end over the glans. Here again we have an example of an ancient mode of treatment being recently exploited.

In every chapter cases of the various diseases upon which he writes are given by the score. In the account of these cases we note that the line was sharply drawn between the surgeon and physician at that time, each confining himself to his own line of work. They frequently attended the same patient together, the physician looking to "the health and Internalls," the surgeon to some operative procedure. Medicines, some quaint and curious, others even now familiar, were used "*ad nauseam,*" and in the consideration of every affliction many long and complicated formulas were given. Those used for local application were as complicated in many instances as those given internally.

In his choice of local remedies to be applied to wounds Wiseman, with commendable judgment, made use of turpentine (mixed with white of egg), or spirits of wine, both agents possessing antiseptic properties of some value. If we may judge from his accounts of his cases, he did a vast amount of work and secured very good results. He was well educated and a lucid and forceful writer. No detail seemed too unimportant to omit. Industrious and painstaking, ever anxious to instruct the young chirurgeon, yet it required no small amount of energy to write such a work as his at the age of 81. (The preface is dated May 24, 1676.)

This illustrious surgeon, scholar, courtier, and gentleman, after having spent such a life of good works as it has been my pleasure to point out to you, died in 1686, aged 91, honored and revered by his contemporaries.

Sewage and Oysters.—Typhoid fever outbreaks due to oysters subject to sewage discharges continue to be recorded. A recent British Parliamentary paper contains a report by Dr. Timothy Bulstrode, a local government inspector, on 2 such outbreaks. In each case oysters from the same source were served at mayoral banquets, on the same day, in towns some distance apart. After an interval some of the honorable mayors in each group went down with typhoid, but those who did not eat oysters escaped. The oysters were obtained from Emsworth from beds only a few yards away from the outlet of the main sewer.

Physical Unfitness.—News from London states that the government has appointed a commission to inquire into the alleged physical deterioration of the lower classes in the United Kingdom. The appointment of the commission was the outcome of a debate in the House of Lords, July 16, during which Lord Meath and the Bishop of Ripon drew attention to the terrible conditions prevailing among the poorer classes. The Duke of Devonshire, lord president of the council, then admitted that Great Britain's military and industrial outlook was seriously threatened, and promised an inquiry into the matter. The subject was also brought up in the House of Commons by Sir William R. Anson, parliamentary secretary to the Board of Education, who declared that 60,000 children now attending London schools were physically unfit for instruction. The Director-General of the Army Medical Service reports that 1 man in every 3 offered as recruits had to be rejected. The *Daily Chronicle* says: "If the people as a whole are deteriorating, we must change our ways or give up the national struggle as a mistake. The creation and preservation of a fine stock of mankind is the first, perhaps the only reason for national existence, and if the mass of the people is going down hill in physique we may be quite sure it is going down hill in character and intellect as well."

THE WORLD'S LATEST LITERATURE

Journal of the American Medical Association.

September 12, 1903. [Vol. XLI, No. 11.]

1. Eye Complications of Smallpox: Some Observations During the Recent Epidemic in Cleveland. ALBERT RUFUS BAKER.
2. Cramp of the Ciliary Muscle Due to Eyestrain. JOHN W. WRIGHT.
3. Occurrence of the Strongyloides Intestinalis in the United States. MARSHALL LANGTON PRICE.
4. Should the Tuberculous Patient Know the Truth Regarding His Condition? C. P. AMBLER.
5. The Influence of Consanguinity on the Organs of Special Sense. LEE WALLACE DEAN.
6. A Peritoneum Knife. JOHN R. COOK.

1.—See *American Medicine*, Vol. V, No. 23, p. 906.
2.—See *American Medicine*, Vol. V, No. 23, p. 905.
3.—See *American Medicine*, Vol. V, No. 20, p. 771.
4.—See *American Medicine*, Vol. V, No. 24, p. 943.
5.—See *American Medicine*, Vol. V, No. 20, p. 782.

Boston Medical and Surgical Journal.

September 10, 1903. [Vol. CXLIX, No. 11.]

1. Cancer of the Intestine, Etc.: Its Surgical Aspect, with Report of Cases. HOMER GAGE.
2. The Relations Existing Between Respiratory and Intrapelvic Diseases. DANIEL H. CRAIG.
3. Carcinoma of Choroid Metastatic from Prostate. ALLEN GREENWOOD.
4. A Case of Carcinosis with Secondary Nodule in the Eye. E. E. SOUTHARD
5. Mechanical Vibration: Its Theory and Application in the Treatment of Disease. MAURICE F. PILGRIM.

1.—Surgical Aspect of Cancer of the Intestine.—Homer Gage devotes a considerable part of his paper to a protest made in 1901 by Reginald Fitz against too indiscriminate operations for malignant disease of the intestines. The author agrees with Fitz that the establishment of an artificial anus as a palliative measure in case of intestinal cancer is unwise. He holds that when cancer of the intestine has gone sufficiently far to present a tumor, palpable externally, resection is practically useless. But there is probably always a time in the development of such cancer when, if it were removed, a cure could be effected. Thus earlier operation is demanded if we expect success, and we should watch carefully for any symptoms of incipient cancer, and especially should exploratory operation be performed when intestinal obstruction, partial or complete, arises. Taking the experience of several great surgeons whom he mentions the aggregate number of cases operated on for cancer of the intestines was 56, of which 13, or 23%, have survived the 3-year limit. This he considers encouraging. The author reports 4 of his own cases. One was cancer of the intestine, producing intestinal obstruction without previous symptoms in a man of 23. Resection was done on the tenth day; death from shock. Another was cancer of the cecum, with symptoms of chronic appendicitis in a woman of 30; resection: alive and well 2 years and 8 months afterward. Cancer of the hepatic flexure, chronic intestinal obstruction, resection with artificial anus, subsequent closure, with death from recurrence. The last was on a man of 80, who had acute intestinal obstruction from internal strangulation, no evidence of malignant disease, but 5 years before he had 6 inches of the bowel resected for cancer. He is alive and well at 82. [A.B.C.]

2.—Relation between Respiratory and Intrapelvic Diseases.—D. H. Craig says that patients with pelvic lesions and especially those with ovarian prolapse are invariably made worse, and progress under treatment arrested by the intercurrence of any cough-accompanied lesion. He found antecedent respiratory lesions in so many cases of ovarian prolapse, especially when no other cause of prolapse was manifest. Of the many histories apparently substantiating this statement he reports 3. Authors are unanimous in stating that the most frequent cause is arrest of involution postpartum, leaving the broad and ovarian ligaments in a relaxed and inelastic condition; and Goodell says that any condition which causes a persistent congestion of the ovary should be considered a cause of its prolapse. But in the cases cited none of these factors were present. Two of these 3 patients had never been pregnant nor infected and were virginal. In the third no sign of subinvolution existed. But the study of the mechanism of cough will show that it abundantly satisfies the causal requirements, first as to congestion and second as to the force necessary to push the ovary downward. Craig has devised an instrument by which to measure this downward pressure caused by respiration and by cough. This pressure may be noted in operating through the vagina when one cannot fail to perceive the marked rise and fall of the vaginal vault with each respiration. This impulse is also plainly evident if a patient coughs during a digital examination. Almost every author who has written at all comprehensively of displacements of the pelvic viscera has cited straining as a cause. Yet the effect of straining on the pelvic organs is entirely respiratory, being wholly due to the involuntary holding of the breath in inspiration which invariably accompanies the muscular strain. The principal difference between the influence of strain and cough is in the degree of force. Hence the writer concludes that of all the causes of ovarian prolapse respiratory lesions are among the most important, because they offer the greatest possible scope for the prevention of the disease. As corsets lessen decidedly the normal abdominal resiliency they had better be proscribed during any severe and long persisting cough-accompanied lesion, especially during the catamenia. If ovarian or pelvic involvement is suspected much good may result from the employment of the pelvic respiratory massage as suggested by Williams. Complications may also be avoided in those already the subject of pelvic disease, by insistently warning them of the necessity of avoiding a cough and the importance of prompt and efficient attention should such a condition arise. [W.K.]

3.—Carcinoma of the Choroid Metastatic from the Prostate.—Allen Greenwood reports that a man of 56 presented himself at the eye clinic. A year before he had been in a hospital under treatment for enlarged prostate which has caused him increasing annoyance for 10 years. Four weeks ago he noticed dimness of vision in the left eye, and now the eye showed all the signs of acute glaucoma, the media cleared enough under eserin to allow a view of the fundus. The ophthalmoscope showed a separation of the retina in the upper temporal quadrant extending into the lower quadrant, beyond which the retina could not be followed on account of vitreous haziness. The cause of the separation could not be made out by use of the ophthalmoscope, but the clinical history of localized retinal separation, followed by acute glaucoma and accompanied by beginning cachetic condition, led to a diagnosis of choroidal tumor, probably sarcoma, with involvement of other organs, especially the liver. The treatment of the glaucoma with eserin was instituted and the patient transferred to the medical wards for observation and treatment. Four days later he died. Further facts concerning the case are presented in the following paper. [A.B.C.]

4.—Carcinosis with Secondary Nodule in the Eye.—E. E. Southard performed necropsy on the body in the case reported by Greenwood and his pathologic summary in part is as follows: Anatomically the case shows carcinoma of prostate with extension into retroperitoneal pelvic tissues; carcinoma of intestine, liver, spleen, lung, mediastinum, thoracic cage, pia, eye; general arteriosclerosis; chronic interstitial and arteriosclerotic kidney. The growths in the pia and in the eye must be grouped together from their tendency to the papillary form. Notable also is the choroid pigment deep in the stroma of the nodule of the eye. From anatomic and histologic evidence alone, one would scarcely be warranted in assigning the prostate as the original focus of tumor formation. But the case as a whole, taken clinically and pathologically, seems to warrrant a diagnosis of carcinoma of prostate with multiple metastases. [A.B.C.]

5.—Mechanical Vibration.—M. F. Pilgrim criticises the instruments used abroad as "shakers" rather than vibrators, and as capable of producing as much harm as good. From a vibratory stroke we may get stimulation, sedation, or inhibition, depending upon its length, force and the duration of its application. Whether it should be long or short depends on the depth of the nerve to be stimulated, the intensity of the abnormality, and the remoteness of its location from the spinal center. Those parts alone concerned in the diseased process should be treated. Treatment should usually be applied immediately over the spinal nerves that control the nutrition of the diseased area. In stimulating the lymphatics or muscles, vibration

should be applied to them direct. The instrument should be so constructed that change of stroke can easily be made, that the treatment can be localized, and that the vibrations pass to the patient, not to the operator or base of the instrument. When applied to vasomotor areas in the spine the flow is greatly increased, nutrition, secretion, excretion, oxidation, and general metabolism enhanced. The sedative effects are marked in nervous irritability, fatigue, and insomnia. Inhibition is demonstrated in prompt relief of pain. The treatment has been successful in relaxation of muscular contractures, the removal, through stimulation of the lymphatics, of many tumors and exudates, and the relief of varicosities, cutaneous eruptions, and goiter. [H.M.]

Medical Record.

September 12, 1903. [Vol. 64, No. 11.]

1. Posttyphoid Sepsis. FRANCIS DELAFIELD.
2. The Joint Complications of Acute Pyogenic Osteomyelitis, with Especial Reference to the Treatment of the Purulent Forms of Arthritis. A. A. BERG.
3. Ancient Jibes at the Doctors. JONATHAN WRIGHT.
4. Some Experiences with Ichthyol in Puerperal Fever. J. D. MACPHERSON.
5. The Surgical Treatment of Colitis. C. L. GIBSON.

1.—See *American Medicine*, Vol. V, No. 22, p. 852.

2.—Joint Complications of Acute Pyogenic Osteomyelitis.—A. A. Berg says it may be stated as an axiom, though with some apparent exceptions that an acute arthritis is always a secondary manifestation. There are two distinct types of acute arthritides accompanying acute osteomyelitis, the one sympathetic or pseudoarthritis, which occurs in the very early stages of bone infection, due to congestion and exudation from the lymphatics and capillaries in the neighborhood of the inflammatory focus, and which varies in degree with the severity of the primary lesion; the other is a true inflammatory arthritis due to bacterial invasion directly from the neighboring bone, or by way of the circulation. The latter form adds materially to the patient's toxemia, requires prompt surgical interference, and is very apt to seriously impair the future usefulness of the joint. The sympathetic variety does not endanger the function of the joint. The writer calls special attention to the fact, that acute pyogenic diseases of bones in the neighborhood of joints frequently first manifest themselves by an exudate into such neighboring joint. No such inflammation should be looked upon as rheumatic or gouty until an acute inflammation of the bones entering into the joint is positively excluded. The treatment of these acute joint infections demands the surgeon's highest skill; whether to operate, and if the latter is decided upon, when to operate, are the perplexing questions. The author makes a blood culture in cases of osteomyelitis at the time of the primary operation. When the joint cavity is distended by an exudate, an exploratory puncture is made prior to operation on the bone itself. If the exudate is serous, serofibrinous, or even turbid, no operation on the joint itself is performed. But if the exudate is suppurative in type, he opens the joint freely and drains. [A.B.C.]

4.—Ichthyol in Puerperal Fever.—J. D. MacPherson says that practically the most careful physician does occasionally meet cases of puerperal sepsis, and he reports a case occurring in his own practice. The patient, a multipara, had normal labor except there was face presentation, but no instruments were used, there were no lacerations, and the placenta was as perfect as he had ever seen. Everything was normal until the tenth day, when, without any apparent cause, the temperature began to rise, and notwithstanding most active treatment, there was rapidly developed a very severe form of sepsis, making the outlook very gloomy. At this point he began the use of ichthyol. The uterus was irrigated with a gallon of 1-4,000 mercuric chlorid solution, and then packed with moist sterile gauze saturated with equal parts of ichthyol and glycerin, which was left there for 24 hours. (Ichthyol and lanolin had been previously applied externally to the abdomen, but without effect.) The next morning showed marked improvement. The treatment was repeated, and the patient did not have another chill and steadily improved. MacPherson reports 4 other cases, 1 complicated with typhoid fever, treated with ichthyol with like favorable results. He writes that the remarkable results which have followed the use of ichthyol in these 5 cases, 3 of which were desperate ones, has led him to believe that it is a valuable remedy in this dangerous disease. In the 2 milder cases no packing was used, but the drug was simply injected into the uterine cavity. In all these cases the patients were well stimulated with strychnia and ammonium carbonate. The ichthyol, instead of producing any unpleasant symptoms, acted like a specific. The pulse and temperature were reduced, rigors ceased, and discharge lessened. [W.K.]

5.—Surgical Treatment of Colitis.—C. L. Gibson describes a method which he devised in 1900, and has used with success. Described briefly his plan is as follows: A small intermuscular incision is made over the caput coli. Reproducing the technic of the Kader gastrostomy, a catheter is introduced into the bowel through an opening just large enough to admit it. By using 2 tiers of sutures, the tube is infolded into the cecal wall, absolutely preventing leakage, and the bowel is finally secured to the abdominal wall. After the tube has been in place a week, it is removed, when the essential feature, the artificial valve, becomes operative. So soon as the tube is removed the infolded cone of the intestinal wall prevents absolutely the exit of intestinal contents. After 10 days the patient can leave his bed, and all dressings are discarded. Further treatment consists of the reintroduction of the tube 2 to 4 times a day and flushing of the gut by appropriate solutions, chief reliance being placed on saline solution for cleansing; and of gradually increasing strengths of nitrate of silver. To obtain permanent closure of the fistula, it is only necessary to discontinue treatment. The advantages of the operation are: It is devoid of every disagreeable feature of an artificial anus; it calls for only a short confinement to bed; if a prolonged course of treatment is required, it may be carried out if necessary by the patient himself; a change of climate, so often beneficial, is made possible; its performance is simple and safe; the intermuscular incision greatly reduces the risk of subsequent hernia; and the prompt closure of the fistula is certain and spontaneous. [A.B.C.]

New York Medical Journal.

September 5, 1903. [Vol. LXXVIII, No. 10.]

1. The Adams-Stokes Syndrome, with Report of a Case. PETER BASSOE.
2. The Prognosis and Orthopedic Treatment of Acute Anterior Poliomyelitis. WALTER G. STERN.
3. Listerism: Its Past, Present, and Future. G. S. TOWNE.
4. The Operative Treatment of Tuberculous Glands of the Neck. J. G. SHELDON.
5. Regicides: Sane and Insane. (Concluded.) E. C. SPITZKA.
6. Hay-fever: A Cause and a Cure. FRANK E. STOWELL.
7. Celluloid as a Material for Flat-foot Plates. HAROLD W. JONES.
8. A Case of Atropin Poisoning: From the Service of Dr. H. A. Fairbairn. C. B. CORTRIGHT.

1.—The Adams-Stokes Syndrome.—Peter Bassoe gives a brief review of this condition and reports a case. The Adams-Stokes symptom-complex is not a clinical entity. It may supervene in various diseases involving the heart, vagus nerves, or medulla oblongata. It is particularly likely to set in when the upper part of the ventricular septum is diseased. Arteriosclerosis is not essential for its production. Its occurrence in a well-studied case of localized lesion of the intramedullary portion of the accessorius nerve supports the hypothesis that the inhibitory fibers of the heart are derived from this nerve. A lesion of the ventricular septum is capable of producing bilateral degeneration of the extramedullary cardiac fibers of the vagus nerve. The existence of bradycardia in a case with bilateral vagus degeneration proves the muscular origin of bradycardia in such a case as the inhibitory influence of the vagi then must be absent. The bradycardia is the fundamental feature of the Adams-Stokes syndrome. The nervous symptoms vary largely according to the susceptibility of the nervous centers to the circulatory disturbance induced by the bradycardia. [C.A.O.]

3.—Listerism, its past, present, and future, is discussed by G. S. Towne. He reviews the subject of antisepsis and asepsis from its earliest inception, and gives statistics to show that a mortality of 60% to 70% for major operations, with over 90% of all cases resulting in suppuration, was the common experience of the ablest surgeons of 30 and 40 years ago, while a

record of mortality of 4.5% covering a recent period of several years and a record of suppurating cases as low as 6% is given in comparison. He demonstrates that to asepticism, the outgrowth of Listerism, is due this wonderful reduction in the deathrate, and that by it, surgery has been raised from a plane approaching barbarism and placed at the head of all modern sciences. [C.A.O.]

4.—Tuberculous Glands of the Neck.—J. G. Sheldon advocates a thorough cleansing out of the diseased areas. The glands, fat, infected fascia and in fact, everything except important vessels and nerves are removed. If only a portion of one triangle is invaded by the disease, the entire space is thoroughly dissected; if the region anterior to the sternocleidomastoid is involved, a dissection is made from the styloid process to the sternum; if the posterior triangle is diseased, a dissection is made from the mastoid to the subclavian vein. The author gives in detail the technic observed by him in this line of work. [C.A.O.]

5.—Regicides: Sane and Insane.—E. C. Spitzka has carefully reviewed the literature of this subject. He believes that the ordinary type of political assassin is decreasing with higher culture, and that there will be comparatively few sane regicides among the Anglo Saxon, Germanic, or French population in the future. We will have to look to the Italian, Balkan, and Iberian peninsulas for the sane assassins of the future. His views as to the proportion of sane regicides are well known from his former publication, and he seems to believe that at the present, peril is in the organized anarchists in civilized countries. The economic conditions met with have little to do with it. The promotors and actors in the assassination of prominent people are not suffering from economic conditions themselves. They are more often anarchist enthusiasts with the common misguided ideas about tyranny and freedom and are not insane. [C.A.O.]

6.—Hay-fever.—F. E. Stowell believes that the sun is a factor in the cause of this condition. As there are more actinic rays at this season it is thought that they may be an exciting cause, and that the condition is a reflex set up through the eye. The theory has a good anatomic basis. The treatment is the wearing of smoked glasses. In the author's case especially it gave instant relief after he had suffered several days, and, moreover, the condition returned if he went out in the sun without the glasses, only to be relieved again by putting them on. He has only been able to try it on 2 others and obtained some relief. [C.A.O.]

7.—Celluloid as a material for flat-foot plates has been used in some cases by H. W. Jones. It is cheap, easily made and altered, light, and by its mechanical properties adapted to occasional and selected cases of flat-foot, but its limitations and unreliability render it far inferior to steel for general use. [C.A.O.]

8.—Atropin Poisoning.—The case reported by C. B. Cortright is that of a boy of 8 who swallowed 2 grains of atropin sulfate. In a short time he had a scarlet rash over the face, chest and abdomen; dilated pupils; very rapid pulse; rapid and deep respiration; dry skin; fibrillary twitching of skeletal muscles; he was profoundly unconscious, and there were slight spasms around the mouth and tongue. Morphin sulfate, ¼ gr. was given. The stomach was washed out with saline solution at 110° F., and repeated 5 times. High saline enemas were given. Strychnin sulfate, $\frac{1}{30}$ gr. was given every 3 hours, and he was surrounded with hot blankets and hot water cans. Iced compresses were applied to the head. Recovery followed. [C.A.O.]

Medical News.

September 12, 1903. [Vol. 83, No. 11.]

1. Infantile Scorbutus. THOMAS MORGAN ROTCH.
2. Notes on Experimental Surgery: A Modification of the McGraw Elastic Ligature. J. W. DRAPER MAURY.
3. A Proposed Apparatus for the Treatment of Empyema. FRANCIS M. C. USHER.
4. The Advisability of a More Definite Course of Instruction in Physics in the Medical Curriculum. ALLEN J. SMITH.
5. Mental Therapeutics in Medicine. J. M. AIKIN.
6. Uses and Limits of Nonphysical Therapy. SMITH BAKER.
7. The Significance of Albumin and Casts in Surgical Patients. JOHN C. MUNRO.
8. Later Impressions of the "Nonheredity of Acquired Characters." LEWIS S. BLACKWELL.
9. Therapeutics of Potassium Copaibate. LOUIS KOLIPINSKI.

1.—Infantile Scorbutus.—T. M. Rotch reports 2 cases, illustrating the necessity for great care in differentiating between an advanced bone lesion of this disease and those which arise in osteomyelitis and osteosarcoma, and also the value of the Röntgen rays in diagnosis. [H.M.]

2.—Modification of the McGraw Elastic Ligature.—Draper Maury calls attention to Weir's expressed fear of the McGraw elastic ligature that it does not "punch out" any tissue. Seeking to remedy this defect, he has experimented on a number of dogs, passing the ligature so as to describe various figures, the main idea being to include a block of tissue in the grasp of the ligature so that with supervening necrosis there would be a "punched out" opening established between the apposed viscera. His conclusion that the elastic ligature passed so as to form a square, the length of the sides depending on the size of the opening desired, is the best. The method of insertion is described thus: Decide on the size of the square desired, and after approximating the surface, place a Lembert stitch of silk to join the 2 viscera at each of the 2 points destined to be the diagonally opposite angles of the square. The needle with the ligature is introduced into one of the apposed viscera at a point selected for one of the remaining angles and brought out beside one of the guides. From here it is passed through the opposite organ, care being taken that the needle thoroughly pierces the mucous membrane, and out again at a point diagonally opposite the starting place. From this point to the point of beginning the steps are directly reversed. The stitch is then just half done; 2 sides of the square are completed. The remaining 2 sides of the square are completed in the same manner. He suggests these conclusions: (1) The McGraw elastic ligature can be so inserted as to "punch out" as large an area of the juxtaposing walls as may be desired, with at least as much certainty and with greater safety than the Murphy button; (2) that the margins of such openings are smooth and not unduly cicatrized; (3) that the elastic ligature may remain in situ after punching the openings, although this is less likely to happen if tied with iodized catgut; (4) that such retention in the mucosa of so soft a material is not apt to be harmful or permanent; (5) that the time required is not sufficiently increased to render the use of this technic impractical. [A.B.C.]

3.—Proposed Apparatus for Treating Empyema.—Francis Usher gives illustrations and describes a box-like apparatus which he has devised for application to the side of the chest and over the wound made to drain the pus from the pleural cavity. The lid or top screws tightly on and is perforated so that a tube may be connected and the air exhausted, producing a partial vacuum, preventing collapse of the lung and aiding in expulsion of the pus. With the resection made, the apparatus attached, the drainage-tube would lead into the cavity of the box, which is filled with gauze, the top screwed on and the air exhausted, the operation would be complete. By unscrewing the top the dressings may be removed so often as necessary. The amount of suction to which a diseased lung can safely be subjected is as yet undetermined. The amount which would overcome the elasticity of a normal lung would be very small, 10 mm. to 20 mm. Hg. The author has not yet employed the apparatus for its special purpose, but believes it useful and practical. [A.B.C.]

4.—Physics in the Medical Curriculum.—A. J. Smith calls attention to the fact that there is not a single branch of the medical course which does not involve the fixed principles of physics. That it should find no definite place in the curriculum may be due to the very complexity of its bearings. For the student who has had no training in the subject he would insist on a course of study with actual demonstration covering general principles, and for all students laboratory exercises designed, to familiarize them with the principles and actual manipulation of the various instruments used in experimental and practical medicine, and to illustrate by experiments and attempts to mechanically reproduce by simple models such phases of nature's operations as may be thus copied. The writer gives concrete examples. Physics is a required study for matriculation in Great Britain, and on the Continent. A

certain elementary knowledge is required by the American Medical College Association. In comparatively few colleges is the amount fixed at any really important grade. In but a small minority is there provided any additional work in the medical aspects of the subject. [H.M.]

5.—Mental Therapeutics.—J. M. Aikin believes that our failure to benefit unsatisfactory cases referred to the domain of neurology and psychiatry is more chargeable to the profession than the patients. The revelations of bacteriology and microscopy have so engrossed us that the action of mind on body and body on mind is almost a lost factor in our art. The success attending any physician's practice is due in greater measure to the mental impress he stamps upon his patients than to the drugs he gives. Why do medical men leave the exercise of force and boldness in therapeutics to the charlatan? We are daily observing facts showing that mind is the dynamic reality. We are not wanting in men capable of utilizing mental therapeutics, but our schools have failed to properly instruct students concerning physiology and pathology in the psychic realm. Specialists who study the whole man, though directly practising but one department are the men who see and utilize the force of mind in medicine. [H.M.]

6.—Use and Limits of Nonphysical Therapy.—S. Baker notes that nonphysical therapy as practised by the irregulars seems to include not only subjective forces, whatever these may be, but also the various media through which these forces are manifested. The prayer curist, for instance, not only prays but does something objectively to his patient, and requires an actively responsive subsidence of all opposition and doubt. The same is true of hypnotism. We must admit, therefore, a modicum of physical elements. Before its uses can be determined there must be more accurate investigation and more credible records of subject matter and results. There must be a clearer notion of the difference between initiative and cure. A difficulty to contend with is the professional apathy, fear and taboo with which the whole subject is so commonly regarded. Other difficulties are the impossibility of analyzing such concepts as "mind," "spirit," "faith," and the like. Yet we have only to think it is the same with light, heat, chemism, etc., to see how fallacious such objections are. If the socalled diseases and the remedy both seem trifling or frivolous we must remember that both to the sufferer and his healer they seem of an importance much too serious for ridicule or neglect. The study of nonphysical phenomena is but a study of complex reflexes. It is common belief that suggestion plays an important part in determining the ultimate uses of ordinary remedies. It would not be unwise to place this on a par with other branches of medical science and practice. Nor need we hesitate because a generous use of the imagination will have to be made in the prosecution of the inquiry as well as in the statement of the final conclusions. This element enters into our histology and pathology and in the basal conceptions of the purest physics everywhere. [H.M.]

7.—Significance of Albumin and Casts in Surgical Patients.—John C. Munro made a study of 500 surgical patients all showing albumin and casts in the urine, seen in the Boston City Hospital within the past 3 years. About 60% of these underwent operation, 12% being cases of fracture. The object of the study was to determine, if possible, what significance the presence of albumin and casts bears to prognosis, effect on convalescence, indications or contraindications for etherization, etc. He states that such a study, covering so short a period, must of necessity be very preliminary, but they would appear to warrant the following conclusion: We should expect evidence of renal irritation in over a third of the surgical patients found in a municipal hospital. The mere presence of a trace of albumin, with or without hyalin and granular casts, unattended by other evidence of renal damage, should not influence the prognosis in surgical disease or operation. The presence, however, of albumin and casts should place us on the watch for other and more significant signs of organic degeneration which may prove serious obstacles to operation or satisfactory convalescence. Furthermore, albumin and casts alone are apparently no contraindication to the administration of ether. The age at which we must expect albumin and casts in surgical patients is under 35 years in over half the cases. The proportion in young and otherwise healthy children is probably as great as in adults. [A.B.C.]

8.—Later Impressions of the "Nonheredity of Acquired Characters."—L. S. Blackwell corrects Irwell for misrepresenting him as saying that Darwin has written that acquired alcoholism is hereditary. The quotation was that alcoholism was transmissible through 3 generations unlimited by the contingency of acquired habit. Foster's Dictionary defines hereditary syphilis as "a syphilis transmitted at the time of conception, either through infected semen of the father or an infected ovum of the mother, or through both." Dr. Adami says "that alone is inherited . . . which is a property of the germ plasm," and yet he announces "there is no such thing as hereditary syphilis." While the claim of Irwell that the conviction expressed by some may be due to failure in differentiating between the results of heredity and a habit acquired by association or imitation, may be true, yet it is a question whether this propensity toward the establishment of the drink habit may not be largely the outcome of inheritance. Irwell quotes the neo-Lamarkians as claiming that the blind fish found in caves are progeny of fish that became blind by accident. After the climacteric less blood enters the uterus and less nutriment is supplied and the organ atrophies. This and analogous facts lead us to conclude that the fish are blind from absence of the stimulus of light rather than from accident. [H.M.]

9.—Therapeutics of Potassium Copaibate.—L. Kolipinski gives the medical history of copaiba with its physical and chemic characteristics, and the method of preparing potassium copaibate. The dose is from 3.3 gms. to 10 gms. (50 gr. to 150 gr.) daily in capsules. After-taste, eructations, and gastric oppression are seldom mentioned by those taking it. Lumbar pains do not appear. Over doses are laxative without corresponding diuresis. A dose apportioned to the individual increases urinary secretion, improves digestion, and is without purgative effect. Its chief use is in acute gonorrhea. In gleet it is unavailing. In some cases it sets up polyuria, which generally disappears a week after discontinuance, though diabetes insipidus or chronic cystitis may result. Uncomplicated gonorrhea is often cured in 2 months. In an early urethral infection, cure may result in a few days. It mitigates scalding, and chordee is hardly ever felt. Its chief merit is that it reduces complications to a minimum. [H.M.]

CLINICAL MEDICINE

DAVID RIESMAN A. O. J. KELLY

REVIEW OF LITERATURE

Latent Scarlatina.—P. Caziot[1] adduces evidence in favor of the existence of this type of scarlatina and emphasizes its epidemiologic importance. He gives the details of an epidemic of scarlatina in an orphanage where there had been no cases for some months. A new inmate had for a few days a slight headache and a slight rose discoloration of the trunk. Four days later 2 of the older inmates had slight angina and swelling of the tonsils. A week later 3 cases of typical scarlet fever developed, the epidemic finally including 18 cases. Caziot describes at length the first 3 cases, which he says were examples of scarlatina latent. This type of the disease is closely associated with the scarlatinette of Roger and scarlatina apyretic. Caziot makes the following gradations of scarlatina: (1) Typical, frank cases with marked angina, eruption, etc.; (2) a milder form with congestion of the tonsils instead of typical angina; (3) scarlatinette; (4) scarlatina apyretic; (5) scarlatina latent. As the patient feels practically well during the duration of the latter type the treatment is of but little consequence. The cases cited emphasize its importance in giving rise to epidemics of the disease. [A.G.E.]

Orthostatic Albuminuria and Movable Kidney.—G. A. Sutherland[2] contributes a very interesting paper on the association between orthostatic albuminuria and a movable condition of the kidney or kidneys during early adolescence. Of 40 adolescent patients exhibiting orthostatic albuminuria, 15 had movable kidney. Of these 2 were males and 13 females; in 5

[1] La Semaine Médicale, June 24, 1903.
[2] American Journal of the Medical Sciences, August, 1903.

both kidneys were movable, in 10 the right kidney alone. The average age of these patients was 10½ years. From this series of cases Sutherland infers that there is more than an accidental association between orthostatic albuminuria and movable kidney. Both conditions are better regarded as symptoms than as diseases. Sutherland states that the prevailing view is that orthostatic albuminuria is caused by venous stasis in the kidneys. This causes an increase in weight and may be an added factor in producing movability of the organ or organs. The writer does not think that the result obtained by Niviere, cure of a case by the wearing of an abdominal belt, will be often reproduced in other cases. At the same time a broad firm bandage of flannel is undoubtedly beneficial. [A.G.E.]

Juvenile Tabes and its Relation to Hereditary Syphilis.—P. Linser's[1] patient complained of headache and dizziness since her fifteenth year; at 20 distinct lancinating pains were noted; at 25 the Argyll Robertson pupil and paresthesia appeared; the knee-jerks disappeared; now at 34 she has decided ataxia and anisocoria. The diagnosis of tabes can therefore not be doubted, and as it began with the fifteenth year, it must be set down as a case of juvenile tabes. Twenty-one cases of this rare condition have been described; in 19 of them inherited syphilis was the cause, in 2 cases this was questionable; in the greater number of cases the first symptoms appear about the time of puberty. Linser advises antisyphilitic treatment. [E.L.]

Cold as a Causal Factor in the Blood Changes Due to High Altitude.—J. Weinzirl[2] reviews the various theories regarding the blood changes due to high altitudes, and tabulates the results of two series of experiments with rabbits. The animals were taken from a comparatively warm basement to the open air, and various points regarding the blood determined both before and after they were taken to an increased altitude of 2,000 feet. Two striking facts were revealed: (1) When the rabbits were removed from the warm basement to the open air the usual high altitude changes took place; (2) when the animals were sent to the mountains no further changes occurred. A table showing the summer and winter blood-counts of 13 persons is also given, 11 of them showing higher winter counts. Weinzirl believes the following conclusions warranted: (1) Cold is an important factor in accounting for the blood changes due to high altitude. That cold is the only factor, however, is not maintained; (2) in general the specific gravity, the hemoglobin and the volume of cells follow the increase or decrease of the red blood cells, although this is not invariably the case; (3) although the data are too few for a final conclusion, there is no evidence that a decrease in the size of the cells accompanies an increased cell count. The contrary, however, is indicated, and this factor probably varies directly with the others. [A.G.E.]

Mental Symptoms of Heart Disease.—T. Duncan Greenlees[3] considers it surprising that so little notice is taken in textbooks of the influence of circulatory diseases on the mind. Admitting that heart disease does produce irritability, moroseness or suspiciousness in sane persons, it is reasonable to argue that these may become exaggerated until the patient becomes gradually insane. Whether the psychic phenomena result from changes in the quantity or quality of the blood remains to be seen. On the other hand, abnormal mental manifestations induce functional disorders of the circulation which may end in organic disease. Pleasurable sensations coexist with vascular dilation and low tension, while disagreeable sensations are accompanied by vascular constriction and high tension. That continued mental excitement does produce hypertrophy, dilation, or even valvular incompetence is supported by the fact that heart disease occurs more frequently among the insane than the sane, often developing after admission to the asylum, and hypertrophy occurs oftener in mania than other forms of insanity. Mickle has classified the mental symptoms associated with various cardiac lesions, but Greenlees believes we are not yet justified in ascribing one symptom or set of symptoms to each lesion. These found with lesions of the right side of the heart cause restlessness and excitement; those with the left side suspiciousness followed by depression and dementia. We are justified in recognizing heart disease as one of the important and direct causes of insanity. [H.M.]

Mastoiditis in Diabetes.—H. Eulenstein[1] studied 70 cases of diabetes complicated by purulent middle-ear disease, and concludes as follows: (1) Clinically acute purulent catarrh and mastoiditis of diabetics do not differ from those affections of nondiabetics, and the surgical condition of the two varies but slightly; (2) the cause of the mastoiditis in diabetics rests not upon the diabetes, but as in nondiabetics, upon the anatomic construction of the mastoid, therefore upon an individual local predisposition; (3) diminished tissue resistance cannot be demonstrated in many cases, but is excluded in most. [E.L.]

Bacteriology of the Blood.—R. C. Rosenberger[2] states that the clinician can no longer afford to ignore the diagnostic aid rendered by bacteriologic examination of the blood. The technic employed by various writers for obtaining the blood is detailed, the puncture of an exposed vein after elaborate preparation of the site being preferred by the writer. An exhaustive review of the literature relating to the occurrence of bacteria in the blood is given, and ten original cases are reported. In four of these bacteria were found in the blood. Bacteriologic examination of the blood is believed to be of particular value in cases in which antitoxic and bacteriolytic serums are indicated. Postmortem examination of the blood should not be relied upon to determine the nature of an infection. [A.G.E.]

The Role of Gustatory Nerves in Digestion.—It has been shown by Pawlow that the mucous membrane of the stomach and duodenum reacts in a specific manner toward various stimuli, the result being the secretion of fluids adapted to the particular food ingested. P. T. Borissow[3] has undertaken to prove that a similar relationship between food and secretion holds good for the nerves of taste. He experimented on a dog, and showed to his satisfaction that the gastric secretion is distinctly influenced by the action of foods on the nerves of taste, and that the mucous membrane of the mouth and pharynx has the same specific irritability as that of the stomach and duodenum. The stimulus of a certain food and the resulting secretion must be viewed in the light of a reflex action, since psychic influences were eliminated in the experiments, and it became plain that even the gastric juice which flows during "false" feeding (the food never reaching the stomach) is the result of reflex irritation of the taste nerves. These facts throw light on the disorders of digestion due to faulty conditions in the mouth and pharynx. It is to be remembered that the nerves of taste, if they influence gastric secretion, must also indirectly affect the intestinal juices, it having been demonstrated by Pawlow that the gastric secretion is the leader of the others, provoking the flow of pancreatic juice, which in turn calls forth the flow of bile and intestinal juice. [L.J.]

Rare Course of Collateral Circulation in a Case of Congenital Obliteration of the Aorta.—In the case reported by H. Haberer[4] the aorta was obliterated in the region of the isthmus. The usual collateral circulation was found through the internal mammary and inferior epigastric arteries, and also through the anastomoses of branches of the subclavian with the intercostals. But beside this, the anterior spinal artery and its spinal branches were involved in the collateral circulation. The large size of this artery finally caused compression and softening of a segment of the spinal cord. A short time before death a thrombus formed in the artery, and caused multiple areas of softening in the cord. [B.K.]

Pathogenicity of B. Coli in Relation to the Bacteriologic Examination of Water.—W. G. Savage[5] sought to determine if the virulence of isolated *B. coli* should be made the criterion of the purity of drinking water. Bacilli from 22 different sources were inoculated into guineapigs. Of 3 taken from socalled pure water, one was virulent to the animals and two were nonvirulent. Of 3 taken from sewage or excreta, none were virulent. Of 9 from contaminated water, 3 were

[1] Münchener medicinische Wochenschrift, April 14, 1903.
[2] American Journal of the Medical Sciences, August, 1903.
[3] Caledonian Medical Journal, April, 1903.

[1] Zeitschrift für Ohrenheilkunde, 1903, Vol. xlii, p. 263.
[2] American Journal of the Medical Sciences, August, 1903.
[3] Russki Vratch, June 7, 1903.
[4] Zeit. für Heilkunde, 1903, Bd. xxiv, Heft 1; Abth. f. Path., Heft 1, p. 26.
[5] Journal of Hygiene, July, 1903.

virulent and 6 nonvirulent. Savage says it certainly was not true of these waters that a virulent *B. coli* indicated a bad water and a nonvirulent a good water. He concludes that these experiments lend no support to the view that the pathogenicity of isolated *B. coli* is of help in determining the potency for evil of the water examined. Virulence as a property of *B. coli* is a very variable character and one which can be readily lost and with greater difficulty acquired, and the view advanced by some writers, that toxicity is a specific distinguishing character seems to be without foundation. [A.G.E.]

Hemic Murmurs.—W. F. Orlowsky[1] concludes from a thorough study of the subject, especially in connection with progressive pernicious anemia, that there are no pathognomonic signs by means of which organic and functional cardiac murmurs can be differentiated. Such features as poor conductivity, systolic time of appearance, variations in intensity, and others may help in diagnosing hemic murmurs, but frequently a continuous and prolonged observation of the patient will be necessary. [L.J.]

Rhythmic Movements of the Head Due to Hypertension and Arteriosclerosis.—M. Bucco[2] publishes the notes of 4 cases in which Musset's sign was present; none of the patients suffered from aortic aneurysm, aortic insufficiency, or pleurisy. They all had generalized arteriosclerosis with increased blood-pressure (210 to 290 mm.), and corresponding hypertrophy of the left ventricle. [E.L.]

GENERAL SURGERY

MARTIN B. TINKER

A. B. CRAIG C. A. ORR

EDITORIAL COMMENT

Tuberculosis of the tendon sheaths is a condition which frequently is passed unrecognized, not only by general practitioners but by surgeons, and the treatment employed, like that of many other tuberculous conditions, is often quite inadequate to arrest the progress of the disease. In some modern textbooks the condition is not even mentioned, in others from a half page to a page is given to the discussion of chronic tenosynovitis, and not unfrequently the true cause of the inflammatory condition in the tendon sheath is not mentioned. One modern textbook, after suggesting injection or scraping as a means of treatment, states that relapses very often occur; under this form of treatment it does not seem at all strange. With many surgeons these forms of treatment, advocated by Volkmann over 25 years ago, have still been in general use. From considerable experience with more radical methods we believe that much better results may be obtained, and in confirmation of this opinion we refer those interested to an excellent article by Zöppritz,[3] of Von Bruns's Tübingen clinic. He reports the results of total excision of the diseased tissue in 35 cases. The disease is found a third more commonly in men than women, and those engaged in hard labor are much more frequently afflicted; hence he believes that traumatism has something to do with the origin of the affection. The flexor tendon sac of the hand is much more commonly affected than the individual sheaths, and the flexors much more commonly than the extensors. At the beginning a swelling in the region of the wrist is seen near the carpal ligament; crackling or creaking is felt when the fingers are moved, and a doughy mass very slowly increases in size. Zöppritz's cases were operated upon through a longitudinal incision over the most prominent part of the tumor, extending downward into the palm of the hand; the entire sheath was carefully dissected out, an Esmarch bandage being used to arrest hemorrhage. In most cases the wound was sutured, and healing was per primam. The results in 31 cases in which definite reports were obtained, showed that 4 patients died from other affections, 25 were completely cured, the duration of the healing being from 2 years to 14 years; and in the remaining cases recurrences resulted for which a subsequent operation was performed. The function of the hand was completely restored in 11 cases, and very little disturbed in most of the other cases. These results are very much more satisfactory than those following the imperfect methods of treatment very frequently employed. We doubt whether any true case of tuberculosis of the tendon sheaths was ever permanently cured by the injection treatment. Simply opening the sheath and scraping, not only does not thoroughly remove the disease, but necessitates packing, resulting adhesions of the tendons, and great interference with the function of the hand. The danger of spreading the infection by cureting should also be remembered. Complete excision of the diseased tissues offers, as these results of Zöppritz show, a means of permanently removing the trouble with a good prospect of prompt healing. Although the operation of complete excision is a much more extensive procedure than is in general use, it usually saves the patient weeks of time, for it makes immediate suture and healing per primam possible, and promises the best result as regards permanence of cure and restoration of function.

[1] Russki Vratch, June 7, 1903.
[2] Riforma Medica, 1903, p. 197.
[3] Beiträge zur klinischen Chirurgie, 1903, xxxix, p. 654.

REVIEW OF LITERATURE

Retinal Hemorrhages as a Diagnostic Feature in Fracture of the Base of the Skull and in Subarachnoid Hemorrhage.—R. A. Fleming[1] briefly describes the anatomy of the optic nerve, its sheaths, and the subarachnoid space. He found that retinal hemorrhages were common in persons who had died of fracture of the base of the skull, from which, directly or by *contrecoup*, there had been a great amount of subarachnoid hemorrhage. When the subarachnoid hemorrhage was unilateral the retinal hemorrhages were generally limited to the same side. When the subarachnoid hemorrhage came on gradually no retinal hemorrhages were produced. He presents a series of 12 cases. It is not easy to explain why the sinus basalis should not distribute the blood which passes into it equally into the sheaths of the two optic nerves, because there is no median raphe and the stalk of the pituitary is the only structure which divides the space in any way. The only reasonable explanation seems to be based on hydrostatic principles. There is no question that the blood enters the intersheath space from the sinus basalis, and that it is not effused from the vessels of the pial sheath. Presumably the sudden distention of the intersheath space behind the eyeball causes great increase of pressure in the retinal vessels and rupture. The sudden increase of pressure in the subarachnoid space may, if unilateral, tend to pass up the intersheath space of the same side, while the opposite intersheath space may be occluded by the distorting force which must be associated with the production of flattening. The recognition of retinal hemorrhages will be helpful in diagnosis of cases of fracture, and especially is this so when they are unilateral and not associated with any inflammation of the optic disc of a duration which would explain their appearance on other grounds. These hemorrhages may determine the best site for trephining. [H.M.]

Subcutaneous Paraffin Injection.—A. C. Heath[2] says that if paraffin is injected while in a very fluid condition it is almost impossible to confine it to the desired spot. This is especially true in cases where the bridge of the nose is lacking, the paraffin being apt to leak in the cellular tissues about the eyes. Hence the paraffin should be injected while as solid as possible. To accomplish this, Heath has devised a syringe with which he can inject practically any paraffin without it being above atmospheric temperature. The instrument has a solid steel frame and plunger which fit by means of threads. Turning the plunger rod forces it forward with a steady, strong pressure. Heath has filled the syringe with melted paraffin, having a melting point of 38°, placed it on ice for 2 hours, and then

[1] Edinburgh Medical Journal, April, 1903.
[2] St. Paul Medical Journal, July, 1903.

emptied the syringe through an ordinary aspirating needle with comparatively little effort. It is best to fill the syringe with very thin paraffin while the needle is on, and then allow it to cool until the paraffin becomes homogeneous. A uniform substance can then be delivered at a uniform rate. [A.G.E.]

Cholelithiasis with Glycosuria.—F. Ehler[1] reports an instance of this condition occurring in a woman of 32. There was a history of an attack of colic in the right hypochondrium, associated with chills and fever. The pain was localized to the region of the liver. The next day a small round tumor was found in the right substernal region. She vomited some green material 3 days later. These attacks occurred once a week and always after midnight. Some 3 months later she was seized with pain in the left hypochondrium, near the median line. The tumor was double the original size, and was very sensitive to pressure. The patient complained of great thirst, and urinated frequently. There was no icterus. The urine contained a trace of albumin and 2.8% sugar. The stools—1 to 2 daily—were light brown in color, of thin consistency, and contained undigested fat. The abdomen was opened and a large amount of bile and thick purulent fluid discharged from the gallbladder and a stone was removed from the cystic duct. The patient recovered rapidly from the operation. There was no sugar in the urine 2 days after the operation and on the third day the fat in the stools was perfectly digested. Later, sugar of milk was given by the mouth, but no sugar appeared in the urine. The case reported by Naunyn appears to be the only similar one on record. Ehler believes that the glycosuria was due to the pressure of the tumor on the pancreas. [J.H.W.R.]

Talma's Operation and Splenectomy.—B. K. Finkelstein[2] combined these operations in a case of ascites with enlargement of the spleen due to malaria. The result was very satisfactory. The pains disappeared, nutrition was improved, and the ascites reduced to a very small accumulation of fluid. [L.J.]

Our Attitude Toward Appendicitis.—F. W. Parham,[3] in a lengthy article, gives some very pertinent suggestions regarding this much-discussed affection. He quotes authorities who state that macroscopic examination of an exposed appendix will not always determine if it is diseased, the microscope being necessary. If then it be impossible with the appendix in view to say always if it be absolutely sound, what argument can there be for leaving an appendix which has undergone such decided change as to manifest itself by symptoms? Parham says the only good reason for waiting for a second attack of appendicitis is uncertainty of diagnosis of the first. The family physician, therefore, should take careful notes of any attack to be used as reference by any physician who may be called to the case subsequently. Parham refuses to operate in such cases without a clinical report of the physician attending in the previous attack. A patient seen early in the second attack should be operated upon as soon as a favorable place and a competent operator can be obtained. In cases seen later during the course of the disease operation may at times diminish instead of increase the chances of recovery. In bad cases that are apparently improving Ochsner's plan of making a leukocyte count every 4 hours to determine the progress of the disease, is recommended. [A.G.E.]

Carcinomatous Changes in an Area of Chronic Ulceration or Marjolin's Ulcer.—J. Chalmers DaCosta[4] reports that during the past year he has seen 2 such cases. The first was a woman of 68, who for years had suffered from what was regarded as a varicose ulcer of the leg. During the past 6 months the discharge became foul, the edges of the ulcer thick, everted, hard, and rose-colored. A section removed and examined microscopically showed it to be epithelioma. The second was a woman of 50, who while pregnant 15 years ago developed varicose veins of both legs. From the left leg at the seat of the present ulcer, there was considerable hemorrhage and a sore. The sore healed and broke down several times, but has now remained open for a number of years. One and a half years ago it was the size of a ten-cent piece, now it is 7 inches wide and 6 inches in length. She has pain which is worse at night. The ulcer at some points has undermined edges, and is elevated at certain places on the margin. The border is hard and dense, and removed sections show it to be epithelioma. The condition is properly named Marjolin's ulcer, because first studied by that individual in Paris 50 years ago. An important fact to remember is that whereas very chronic simple ulcers are rarely tender or painful, in malignant disease there is both induration and pain. This pain is hot, scalding, or darting in character. When the growth has attained considerable size, the margins are densely indurated, the floor is uneven, frequently of a warty or cauliflower appearance, and there is profuse foul discharge. Marjolin's ulcer may be greatly benefited by the Röntgen ray, and this should be tried before amputation is resorted to, unless the glands are enlarged. Care should be exercised in not mistaking a gummatous condition for one of malignant disease. [A.B.C.]

[1] Wien. klin. Woch, 1903, No. 21, p. 621.
[2] Russki Vratch, May 31, 1903.
[3] New Orleans Medical and Surgical Journal, July, 1903.
[4] Annals of Surgery, April, 1903.

GYNECOLOGY AND OBSTETRICS

WILMER KRUSEN FRANK C. HAMMOND

EDITORIAL COMMENT

New Methods in Treatment of Puerperal Sepsis.—The fact that puerperal sepsis occurs in spite of our knowledge of its etiology, is one of the opprobriums that rests upon our profession at the present day. Teachers of obstetrics grow earnest and oratorical in their efforts to disseminate knowledge of the approved methods of prophylaxis; and medical journals are replete with valuable information in regard to the treatment of this complication; yet every year a definite proportion of women die from sepsis a few days or weeks after their delivery. When such an infection occurs the rational method of treatment is still a subject for discussion. The fact that *Streptococcus pyogenes* is known to be the most frequent cause of the fatal and epidemic forms of puerperal sepsis, led us to hope that Marmorek's antistreptococcic serum would prove of value, but it has been weighed in the balance of clinical experience and found wanting. Indeed, many believe that its injection is capable of doing great harm. The fact that we as yet possess no satisfactory treatment for all cases of puerperal infection, is indicated by the vast number of methods which have been introduced from time to time. The routine employment of the curet is by no means to be recommended, as it often breaks down the leukocytic wall which serves to prevent the invasion of the deeper layers of the uterus by the offending bacteria; and the finger as a sentient instrument serves a better purpose in thoroughly removing secundines from the uterine cavity. The routine use of mercuric chlorid or carbolic intrauterine douches is contraindicated, inasmuch as the germicidal fluid cannot possibly penetrate the uterine walls sufficiently deep to reach the bacteria and may possibly produce toxic effects. The intravenous injection of mercuric chlorid, as employed by Kezmarsky, or of formalin solution, as suggested by Barrows, has not proved satisfactory in other hands. Among the other methods which have been suggested, and which the practitioner who is in despair in the treatment of desperate cases may try, are the following: 1. Intrauterine irrigation with alcohol, as suggested by Carossa and modified by Wetherell, whose method is as follows: After cleansing the vagina and uterine cavity a double current drainage-tube is passed to the uterine fundus and the cavity irrigated with 50% alcohol. The vagina is then lightly packed with gauze and the nurse instructed to inject into the tubes at short intervals from 2 oz. to 4 oz., which at once flushes and cleanses the uterine cavity and retards the septic diffusion through the lymphatic vessels. The tubes and gauze may be left in situ for from three days to two weeks, being kept from debris by the strong action of a good piston syringe. 2. Hofbauer has treated 19 cases of puerperal infection with nuclein

and injection of saline solution, and a recent report of 12 cases shows 11 recoveries. The nuclein was usually administered by mouth, the reaction being more prompt and durable than in the two cases in which it was at first given subcutaneously. Large quantities of saline solution were given by hypodermic injection or by rectum. The nuclein was continued until reaction of the bone marrow was shown by clinical blood examination or tenderness of the bones. 3. MacPherson reports a series of cases in which ichthyol produced remarkable results. After the uterus was thoroughly irrigated, the organ was either packed with moist sterile gauze saturated with equal parts of ichthyol and glycerin, or a dram of ichthyol diluted with an equal amount of sterile water was injected. 4. Pryor has recently studied the destructive action of iodin in cases of streptococcic infection. He has treated 37 cases with one death by the following method: First he curets the uterus and packs it tightly with 10% iodoform gauze, as in order to produce an effect it is necessary to have the iodin penetrate all parts of the uterus. To obtain a sterilization of the lymphatics through which the cocci have proceeded, the posterior culdesac is opened by a broad incision and the intestines induced to leave the pelvis by lowering the patient's head. The pelvis is then filled with 5% iodoform gauze to the level of the tops of the broad ligaments, thus completely isolating the infected uterus. It is advisable to employ the gauze in snugly folded strips so as to facilitate its removal. The intrauterine packing is removed and renewed in three days, to be finally removed in three days more. The culdesac dressings are renewed in a week and each five days thereafter until the culdesac closes. Normal saline solution is also employed at the time of the primary operation, either intravenously or by rectal enemas. We present these four methods for clinical experimentation, to be used in connection with stimulants, such as strychnia, caffein, alcohol, and saline solution, in the treatment of puerperal sepsis. The mortality of hysterectomy is so high and its indications so vaguely defined that it is anything but a satisfactory procedure in these cases, and the iodin treatment with uterine isolation, as advocated by Pryor, appeals to us as a rational procedure.

REVIEW OF LITERATURE

Pernicious Anemia Following Parturition.—W. Elder and E. Matthew[1] report 2 cases of progressive pernicious anemia following labor. Case 1 was admitted to the hospital 4 weeks after delivery. She had been married 4 years and had borne 3 children, the labors being easy and without postpartum hemorrhage. When admitted, the patient's general condition was bad. Blood analysis showed hemoglobin 20%; red blood corpuscles, 1,100,000 per cubic millimeter, and white 6,000. The red cells showed great difference in size and over 30% of them were megalocytes. The patient gradually grew paler, and on the second day the temperature rose and remained about 102° until her death 7 days after admission. For 2 or 3 days before death she had nausea and diarrhea. Case 2 was admitted 9 weeks after delivery. During the first week of the puerperium she suffered from ulceration of tongue and throat. She left her bed in 10 days, but continued weak, was troubled with vomiting and diarrhea, which yielded to treatment. Her appetite was good and there was no history of stomach trouble. The blood was thin and pale; hemoglobin, 20%; red corpuscles, 550,000 per cubic millimeter, and white 5,000, and a large number of megalocytes were present. The patient grew slowly weaker and died 11 days after admission. The secondary anemia following parturition, which frequently occurs, usually results from loss of blood and most cases are relieved in a few weeks. It is doubtful if the secondary anemia ever passes into the pernicious type. In the 2 cases reported there were present a typical anemia of the most pernicious form, and such causes as postpartum hemorrhage or unsanitary surroundings were absolutely excluded in both cases; but it is more than probable that in both, the condition which underlies such anemia did not begin to operate till after labor, and this sudden onset with the fatal termination indicates some relation between the parturition and the anemia. Hunter associates a chronic infective gastroenteritis following on decaying teeth, with the etiology of the disease, and it is curious to note that in both these cases a very bad condition of the teeth existed without any history of chronic, gastric or intestinal trouble. [W.K.]

[1] Lancet, August 8, 1903.

Radical Removal of Cancerous Uterus and Vagina by the Abdominal Route.—W. Heidemann[1] describes in detail what he considers the most practicable abdominal operation for advanced cervical carcinoma. In this the peritoneal incision is U-shaped, the 20 cm. to 25 cm. (8 in. to 10 in.) broad base of the U-shaped flap being about a hand's breadth below the navel, and its limits sidewise corresponding to the limits of the small pelvis. According to his experience, after this operation the patient must lie in bed 3 or 4 weeks, and the complete closure of the wound requires rather longer than the incision in the median line. The healing is longer and the danger of the operation somewhat greater than in incomplete vaginal operation, and these results must be justified by the indications for the operation. Heidemann holds with Mackenrodt that in all cases of carcinoma of the body of the uterus and in the early stages of carcinoma of the portio, the vaginal operation is the proper one; and in carcinoma of the portio he precedes this by a deep perineal incision, and uses the cautery when narrow pelvic conditions and very rigid uterine ligaments do not render it too difficult. In all carcinoma of the cervix so advanced that the infiltration has reached the parametrium, and in all advanced carcinoma of the portio and vagina, he employs the abdominal route by the method of the U-shaped flap, which permits the most complete removal of all the parts threatened with cancerous invasion. [W.K.]

The Causes of Lodgment of Ovums in the Fallopian Tubes.—E. Opitz[2] has studied carefully the theories and statements brought forward by different observers to explain tubal pregnancy and as there is still so much variance in their explanations, he has taken it upon himself to answer the question. He has examined closely the tubes of 23 recently operated patients, paying especial attention to the mucosa of that part of the tube lying between the ovum and the uterus, to discover, if possible, any causes checking the onward passage of the ovum. In nearly every case he found old and thin adhesions composed of connective tissue. They bound together neighboring folds of tissue and could always be traced to diseased processes before impregnation took place. In only 4 cases were no adhesions found. Here the causes were believed to have been a sharp bend in the tube, extremely narrow passages and subserous cysts. Salpingitis, therefore, must be considered the chief cause of extrauterine pregnancy; all other causes are probably accidental. [E.L.]

Three Cases of Skull Depression in the Newborn.—According to H. Weil[3] hard fetal bones of the skull predispose to fracture rather than depression, yet in the first case reported, that of the first born of twins, foot presentation, delivered without difficulty, the unusually hard bones of the head showed a typical spoon-shaped depression, without crepitation, on the right parietal bone, 4 cm. (1.7 in.) in length and 1 cm. (.3 in.) in depth. No disturbance of motility or other anomaly was observed in the child, and 15 days later when it left the hospital the depression seemed gradually flattening out. In the second case, in delivering the child after cervical dilation by the Bossi dilator, as the promontory was passed, a crack was heard and the head showed a spoon-shaped depression on the left side of the skull, 5 cm. (2 in.) long. Section after death proved that there was a fracture of the left parietal bone with a bloody suffusion of the soft lining membrane. It is remarkable that the fracture was not detected by palpation of the cranial vault. In the third case, in drawing the head through a narrow, flat pelvis with high forceps, a peculiar crack was heard, and the child's head had a deep depression on the posterior part of the right parietal bone, which had healed of itself when the otherwise healthy child left the hospital. [W.K.]

[1] Deutsche medicinische Wochenschrift, August 6, 1903.
[2] Zeitschrift für Gebürtshülfe und Gynecologie 1903. xlviii, 1.
[3] Deutsche medicinische Wochenschrift, July 2, 1903.

TREATMENT

SOLOMON SOLIS COHEN
H. C. WOOD, JR. L. F. APPLEMAN

REVIEW OF LITERATURE

Dietetic Treatment of Dyspepsia and Neuroarthritis.—Bardet and Raffray[1] report the history of their own diseases and the results of dietetic treatment. Raffray suffered from headache, sleepiness after meals, and restlessness at night, rheumatoid pains in the knees and wrists. His appetite was good, but he complained of abdominal distention after meals. There was an excess of uric acid in the urine. His weight was excessive. His meals were taken irregularly and eaten quickly. About 1 pint of wine was taken with each meal. After deciding to modify his mode of living, he adopted the following diet: One cup of chocolate upon awaking; at 8 o'clock, 1 pint of milk. Lunch at 4 o'clock consisted of one kind of meat, 2 vegetables, 1 dessert, and 6 ounces of bread. Dinner at 7 o'clock consisted of soup, 2 eggs, 1 vegetable, fruit, 5 ounces of bread. No tea, coffee, wine, or other alcoholic beverage was taken. At first the results were not pronounced, but later progressive amelioration of all his symptoms occurred. Raffray concludes that disturbances of this sort are only relieved by proper dietetic precautions, and that drugs are only temporarily useful in allaying the paroxysms. Bardet reached the same conclusions after suffering for a long time from dyspepsia. Careful regulation of his diet resulted in complete cure. [L.F.A.]

Treatment of the Morphin Habit.—In the treatment of the morphin habit the detailed method of diminution depends largely upon the individual case. As a rule, F. X. Dercum continues for a number of days the quantity of morphin that the patient is habitually taking; he then begins to diminish the doses given in the early part of the day; those given at night are continued in full quantity for a somewhat longer period. This is contrary to the practice of others, who begin by diminishing the evening doses. The author has observed, however, that cutting off the evening doses makes the patient restless and sleepless; while the reduction of the morning dose, though producing restlessness, is not attended by the great disadvantage resulting from insomnia and its attendant evils. No hard-and-fast rule can, however, be said to apply. The patient should be given the drug when he needs it most, and it should be first diminished or withdrawn at those periods when he needs it least. Inasmuch as morphin injected hypodermically is eliminated by the stomach and is subsequently reabsorbed by the intestines, Hitzig has suggested that in treating morphinism we should systematically wash out the stomach. This seems to Dercum an unnecessary precaution. The procedure adds greatly to the distress from which the patient is already suffering, and it is doubtful whether the quantity of morphin thus gotten rid of is really large. During withdrawal we should make free use of hypodermic injections of strychnin nitrate and atrophin sulfate. As in the management of alcoholism, the dose must be adapted to the case. In morphinism relatively larger doses of these drugs are tolerated. However, in many cases it is possible to bring about withdrawal without their use. Occasionally it is a good plan to use digitalis or strophanthus. As the treatment progresses, and during the convalescent period, bitter tonics, mineral acids, iron, arsenic, or malt and other nutrients may be added, as seems expedient. Dr. W. W. Winthrop, of Fort Worth, Texas, has recently called attention to the employment of "husa" as a remedy for the cure of the opium habit. Husa is an unclassified, or at least unidentified plant, found in the Everglades of Florida. According to Winthrop, it is a diffusible stimulant, causing gentle excitement, followed later on by sedation and sleep. From 3 to 4 months are necessary to effect a cure. It appears also that precaution must be taken to prevent the formation of a husa habit. The treatment of the opium habit by this means is therefore open to the same objection as any other method depending upon the substitution of one drug for another. Cocain, which has been recommended by Skene, Mattison, and more recently by Keugla, is merely a makeshift substitute, and should not be resorted to. Caffein, also recommended by some writers, may occasionally be used in cases in which withdrawal is followed by great depression, or in cases in which the early morning depression is very marked. It should not be given toward evening for fear of adding to the insomnia. Insomnia and restlessness not infrequently demand the use of the bromids. Ammonium bromid may be given in doses of 30 grs. to 40 grs. (2 gms. to 2.5 gms.) at intervals of 4 hours. Better still, hyoscin or scopolamin may be given in small doses twice or three times daily. At times trional may be given: if possible, sulfonal should be avoided, as should also chloral, both of these drugs favoring the confusion and delirium occasionally met in severe morphinism. The hot bath offers a harmless, and often a very efficient method of combating the insomnia. Suggestion, advocated by some writers, with or without hypnotism, is of little or no value in the treatment.—[Rest Treatment, and Therapeutics of Mental Diseases.]

Therapeutic Indications for Intravenous Injections of Mercury Cyanid.—Ch. Abadie[1] has employed intravenous injections of mercury cyanid almost systematically for more than 10 years in the treatment of ocular syphilis. This procedure is not imperative in all the ocular manifestations of syphilis. Plastic iritis and iridochoroiditis with inflammatory reaction appearing years after the beginning of the general infection can be cured by the administration of mercury by the usual means. However, in certain cases, the intravenous injections succeed after all other means have failed. This is true in the very late manifestations of slow progress without inflammatory reaction and attacking, not the iris and choroid, but the retina and optic nerve; also in chronic cerebral and medullary syphilis appearing long after the initial infection and in syphilis contracted in old age. Several cases are reported in support of this method of treatment. Mercury cyanid was given intravenously in doses of 1 cg. (⅛ gr.) daily for 20 days, gradually increasing the interval of administration as improvement was noticed. In the beginning; after 20 injections had been given they were discontinued for 10 days and then resumed. [L.F.A.]

Cream Paste for X-ray Burns.—M. F. Engman[2] finds the following paste very serviceable in x-ray burns of the second degree or milder:

Boracic acid		℥ xij (45 gms.)
Zinc oxid, Starch, Bismuth subnit.	of each	℥ j (30 gms.)
Olive oil		℥ j (30 gms.)
Lime-water		℥ iij (90 gms.)
Lanolin		℥ iij (90 gms.)
Rose-water		℥ xij (45 cc.)

The powder should be well rubbed in a mortar and the lanolin added. The olive oil and lime-water are mixed and added to the powder and lanolin slowly, and while stirring constantly. The rose-water is then added and the mass beaten into a light, creamy paste. When there is much pruritus 1% or 2% of carbolic acid may be added. The paste should be spread on several thicknesses of gauze, laid over the affected surface and covered with rubber tissue. [A.G.E.]

Digitoxin and Periplozin in Heart Disease.—S. W. Lewashoff[3] publishes his experiments with these remedies in various cardiac affections. He found that periplozin has the cardinal virtues of a cardiac tonic, regulating the heart-action and increasing diuresis. In the quick results obtained this drug resembles strophanthus, while in therapeutic value it is not inferior to digitalis, having moreover the advantages of being noncumulative and almost free from untoward by-effects. Periplozin is indicated in mild and moderate grades of heart-disease and is best administered beneath the skin in doses of ½ mg. twice daily. As to digitoxin, it is by far the most powerful cardiac drug and is indicated in severe grades of heart-disease, when all other remedies, digitalis included, have failed. The average internal dose is ¼ mg. 3 to 5 times daily. Caution should be exercised in view of occasional disagreeable by-effects. Lewashoff considers periplozin and digitoxin valuable acquisitions, as they allow a greater variety

[1] Journal des Praticiens, Vol. xvii, No. 26, 1903, p. 414.

[1] Journal des Praticiens, Vol. xvii, No. 27, 1903, p. 417.
[2] Interstate Medical Journal, July, 1903.
[3] Dissertation, Odessa, 1903.

of therapeutic combinations and thus drug habituation is avoided.

The Naftalan Treatment of Eczema.—Awerbach [1] combats acute eczema and certain forms of chronic and artificial dermatitis with naftalan, employing the following combination: Naftalan, 20 gms. (5 drs.); zinc oxid and amylum, of each, 10 gms. (2½ drs.); menthol, 0.5 to 1 gm. (8 grs. to 16 grs.). Very good results are obtained, even very large surfaces are affected. In cases in which the skin is very irritated and no other drug is tolerated, it has its field. It overcomes the irritation and diminishes the pain and itching. It is odorless and does not soil the clothing; its price is high. [E.L.]

Improvement and Recovery from Carcinoma by the Use of Cancroin.—A. Adamkiewicz [2] reports 10 additional cases of cancer treated with cancroin, and adds notes to cases previously reported. He asserts that he has obtained 3 cures in grave carcinoma, and that these 3 patients have remained well for from 1 to 3 years. A number of others have been improved so greatly that he feels safe in claiming that cancroin checks the growth of cancer and induces retrograde processes in it; cures are possible only in cases in which individual conditions permit of it. [E.L.]

THE PUBLIC SERVICE

Health Reports.—The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended September 12, 1903:

	SMALLPOX—UNITED STATES.		Cases	Deaths
California:	Los Angeles	Aug. 22-29	2	
Illinois:	Chicago	Aug. 30-Sept. 5	2	
Massachusetts:	Fall River	Aug. 30-Sept. 5	6	
Ohio:	Cincinnati	Aug. 29-Sept. 4	2	
	Dayton	Aug. 30-Sept 5	1	
	Toledo	Aug. 30-Sept 5	1	
Pennsylvania:	Pittsburg	Aug. 8-15	46	15
South Carolina:	Charleston	Aug. 30-Sept. 5	1	
	SMALLPOX—FOREIGN.			
Belgium:	Antwerp	Aug. 8-22		3
Brazil:	Rio de Janeiro	July 26-Aug. 9		22
British Guiana:	Demerara	July 4-18		3
Canada:	Vancouver	Aug. 1-31	1	
Colombia:	Barranquilla	Aug. 16-23		3
	Bocas del Toro	Aug. 18-25	1	
Great Britain:	Dundee	Aug. 15-22	1	
	Leeds	Aug. 8-29	24	
	Liverpool	Aug. 15-22	10	
	London	Aug. 15-22	13	
	New Castle-on-Tyne	Aug. 15-22	5	1
	South Shields	Aug. 15-22	2	
	West Hartlepool	Aug. 15-22	1	
India:	Bombay	Aug. 4-11		8
	Calcutta	Aug. 1-8		1
Italy:	Catania	Aug. 20-27		1
Mexico:	Vera Cruz	Aug. 22-29	2	
Russia:	Moscow	Aug. 8-15		1
	Odessa	Aug. 15-22	3	
	St. Petersburg	Aug. 8-15	3	
Straits Settlements:	Singapore	July 11-18		1
Turkey:	Constantinople	Aug. 16-23		1
	Smyrna	July 19-Aug. 9		60
Venezuela:	Maturin	Aug. 17	Present,	
	YELLOW FEVER,			
Brazil:	Rio de Janeiro	July 25-Aug. 9		5
Colombia:	Bocas del Toro	Aug. 24-31	2	1
Costa Rica:	Limon	Aug. 20-27	2	1
Mexico:	Citas	Aug. 23-29	45	7
	Coatzacoalcos	Aug. 22-29	1	1
	Merida	Aug. 16-29		21
	Progreso	Aug. 16-22	2	1
	Salina Cruz	Aug. 16-29	10	6
	Tampico	Aug. 16-29	30	26
	Tehuantepec	Aug. 16-29		8
	Vera Cruz	Aug. 22-29	61	15
	CHOLERA.			
China:	Amoy	July 18-Aug. 1		650
India:	Bombay	Aug. 4-11		3
	Calcutta	Aug. 1-8	9	
Straits Settlements:	Singapore	July 4-11		2
	PLAGUE—INSULAR.			
Philippine Islands:	Cebu	Sept. 3	Present.	
	PLAGUE—FOREIGN.			
Bolivia:	La Paz	Aug. 13	Present.	
Brazil:	Rio de Janeiro	July 25-Aug. 9		8
China:	Amoy	July 18-Aug. 1		100
	Hong Kong	July 18-25	13	11
India:	Bombay	Aug. 4-11		56
	Calcutta	Aug. 1-8		9
Peru:	Arequipa	Aug. 13	Present.	
	Molendo	Aug. 13	Present.	
	Pacasmayo	Aug. 13	Present,	
Straits Settlements:	Singapore	July 4-11		13

[1] Monatshefte für praktische Dermatologie, Vol. xxxv, p. 357.
[2] Therapeutische Monatshefte, 1903, Vol. xvii, pp. 70 and 142.

Changes in the Medical Corps of the U. S. Army for the week ended September 12, 1903:

GRUBBS, First Lieutenant ROBERT B., assistant surgeon, is granted leave for one month.

FOULKES, BRUCE, contract surgeon, will report at Alcatraz Island, Cal., for temporary duty, relieving Contract Surgeon G. I. Hogue, who will report at Fort McDowell for temporary duty.

WALES, Major PHILIP G., surgon, is granted leave on surgeon's certificate for one month.

NICODEMUS, FRANK O., sergeant first class, will be granted a furlough for three months by the commanding officer at Fort Sheridan, from about September 15.

PIPES, First Lieutenant H. F., assistant surgeon, upon arrival at New York from Cuba, will proceed to Fort Totten for temporary duty.

BISPHAM, First Lieutenant W. N., assistant surgeon, is granted leave for one month on surgeon's certificate.

TRUBY, Captain ALBERT E., assistant surgeon, is relieved from further duty at West Point, N. Y., and will proceed to Alcatraz Island for duty.

JONES, JOHN F., contract surgeon, leave granted July 25 is extended one month.

KRAUSE, HENRY C., Fort Brown, sergeant first class, is transferred to the general hospital, Fort Bayard, N. M., to relieve Sergeant First Class Francois O. Oltmans. Sergeant Oltmans will proceed to Fort Brown for duty.

KOYLE, FRED T., contract surgeon, is relieved from further duty in the division of the Philippines, and will upon the expiration of his present leave proceed to Fort Clark for duty.

SORBER, ORD M., contract dental surgeon, leave granted August 7 is extended one month.

GEER, First Lieutenant CHAS. C., assistant surgeon, sick leave granted August 11, is extended one month on account of sickness

REYNOLDS, Captain FREDERICK P., assistant surgeon, is granted leave for ten days from about September 10.

TURNER, SAMUEL S., contract surgeon, and MARTIN ROSE, sergeant first class will stand relieved from further duty at Fort Yates upon the withdrawal therefrom of Company I, 21st Infantry, and will accompany that company on its march to its new station, Fort Lincoln, reporting upon arrival for duty at the latter post.

WHITE, SAMUEL J., contract surgeon, now on temporary duty at Fort Lincoln, will, upon the arrival at that post of Contract Surgeon Samuel S. Turner return to his proper station, Fort Assinniboine.

FOSTER, DOUGLAS E., contract dental surgeon, will proceed to Fort Hancock for duty.

MOSES, HOMER C., contract surgeon, is relieved from duty at the discharge camp, Angel Island, Cal., and will proceed to his home.

PAGE, Colonel HENRY, assistant surgeon, is relieved from duty at Fort Mason and will report to the commanding general, department of California, for transportation to the Philippine Islands on the transport to sail from San Francisco, Cal., on October 1, and will report to the commanding general, division of the Philippines, for assignment to duty.

WILLIAMSON, First Lieutenant LLEWELLYN P., assistant surgeon, is relieved from further duty at the U. S. General Hospital, Presidio, and will proceed to Jefferson Barracks for duty.

FOSTER, First Lieutenant CHARLES L., assistant surgeon, will proceed to Fort Washington for temporary duty during the absence of First Lieutenant Charles R. Reynolds, assistant surgeon, and upon the return to duty of the latter officer will rejoin his proper station.

REYNOLDS, First Lieutenant CHARLES R., assistant surgeon, will upon the arrival at Fort Washington of First Lieutenant Charles L. Foster, assistant surgeon, proceed to Washington Barracks and report at the general hospital for duty with company of instruction No. 1, hospital corps, during the Army maneuvers to be held at West Point, Ky., and Fort Riley, Kan., and upon the return of the company of instruction to Washington Barracks will rejoin his proper station.

BROWN, First Lieutenant ORVILLE G., assistant surgeon, will proceed to Washington Barracks and report not later than September 12 for temporary duty thereat during the absence of Major Henry P. Birmingham, surgeon, and upon the return of Major Birmingham will rejoin his proper station.

PEED, First Lieutenant GEORGE P., assistant surgeon, is relieved from further duty at the U. S. General Hospital, Washington Barracks, and will proceed to Fort Bayard for duty.

TETAMORE, FRANK L. R., contract surgeon, having completed the duty for which he was ordered to Fort Grant, will upon the expiration of his present leave proceed to San Francisco, Cal., and report for duty with the Seventh Infantry, en route to the Philippine Islands, and upon arrival at Manila will report for assignment to duty.

STURTEVANT, C. A., contract surgeon, is granted leave for two months.

Changes in the Medical Corps of the U. S. Navy for the week ended September 12, 1903:

BACHMANN, R. A., assistant surgeon, detached from the naval station, Cavite, P. I., and ordered to naval station, Guam, L. I.—September 8.

GATES, M. F., surgeon, detached from the Atlanta and ordered to the naval hospital, Philadelphia, Pa., September 21—September 9.

GROVE, W. B., surgeon, detached from the naval hospital, Philadelphia, Pa., and ordered to the Atlanta—September 10.

MURPHY, J. A., assistant surgeon, detached from the Celtic and ordered home to wait orders—September 10.

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PUBLISHED WEEKLY AT 1321 WALNUT STREET PHILADELPHIA BY THE AMERICAN-MEDICINE PUBLISHING COMPANY

VOL. VI, No. 13. SEPTEMBER 26, 1903. $5.00 YEARLY.

Sex and the World's Work.—In the last census, 1891, of which the figures can be obtained, there were in England and Wales 1,064 females to every 1,000 males. The fact shows upon which sex falls the greater labor, danger, disease, and death. The work England is doing in other countries ("How England scatters her dead all over the world"), the life cost of war, administration, immigration, discovery, etc., is clearly set before us in these figures. In London alone there was a large city of women in excess of men, if all had been thus gathered and separated. In 1891 the figures were 252,371, and with her 5,000,000 population at present the number is, of course, still greater. Deducting the 234,000 female, and 15,400 male servants, the soldiers in barracks, the total 79,000 male and 55,500 female foreigners, the proportion of females to males in London was still (1891) 1,033 to 1,000. In one borough, Hampstead, at the ages between 19 to 30 there were twice as many women as men. If one may conclude from the equal number of males and females born that monogamy is the order and ideal of the evolution process, the fact of the actually greater number of females demonstrates the present failure to attain it, and the resultant morbid condition of a rich and energetic country like England. It is also noteworthy that there has not been a proportional fall in the death-rate of infants as compared with the general deathrate. In 30 years the latter fell from 24.4 to 17.6, whereas that of the infants under 1 fell from 162 to 149 per 1,000 births.

Coffee and Tea Drunkenness.—In the annual report of the Children's Aid Society of New York is published a tabulated list of the conditions of families whose children attend the industrial schools of the society. The number of families whose condition was investigated was 3,453, and the family income of 561 was less than $4 per week; of 1,263, from $4 to $7; of 1,629, from $7 to $10. In all the breakfast was bread and coffee only; the supper, bread and tea, with some cheese, macaroni, or fruit. Thus with all the terrible poverty the article of diet that does not fail twice a day is the coffee or tea. Probably also in the dinner list of many these drinks were included. Surely from the workman's dinner bucket the pint or more of coffee is never omitted. But the point needing emphasis is that in the report referred to it is children who from earliest years are drinking tea and coffee. What proportion of the income of these poor families thus goes to the purchase of these drinks is a highly important concern but is not directly medical. Whatever one may think as to the physiologic action of caffein it is agreed that it is not "a food," and that the amount of money thus wasted by the poor could and should be spent in buying real health-bringing and strength-giving foods. This economic aspect of the question also becomes doubly important both as a medical and financial matter when one finds these articles on the dietaries of all our public institutions. Should so much of the public money be spent on articles of drink, nonfoods? And the custom has many bearings on health. The more coffee and tea drank the more tobacco is used. The national consumption of coffee and tea, moreover, rises almost accurately *pari passu* with the amount of alcohol used. Is it not true, as a rule, that intemperance in the one coexists with intemperance in the other? Is not the temperance problem closely bound up with this of the use of coffee, tea, and alcohol? If so, and even if not so, coffee and tea are unnecessary and peculiarly harmful to children.

American Research and German Reviewers.—Under this title the *Journal of the American Medical Association*, in one of its recent issues, had an editorial to the effect that American investigations did not receive full justice at the hands of German reviewers. To a certain extent there is undoubtedly some foundation for the assertion, but on the other hand it is only fair to admit that during the last few years special publications in Germany have honestly endeavored to cover their respective special fields as exhaustively as possible, which would naturally include the American contingent. Although these German reviews give the greatest prominence to such investigations which have originally been published in the German language, the American investigator, on the whole, does not fare any worse than his colleagues in any other non-German country. This is in-so-far a satisfactory feature as it clearly proves that American research has successfully asserted its claim to international recognition, and that the spirit of healthy, vigorous aspirations will not allow itself to be suppressed.

Nonrecognition at Home.—If, after all, the German reviewer has neglected to extol the plaudits of his American confrere to such an extent as the latter

would like, there is a certain justification for the position taken up, if we look at the matter from the German point of view. The German school considers itself as teacher and looks upon Americans as pupils—pupils who have not yet come of age, who have not yet developed the necessary strength of wing to soar to lofty heights. But if American medical authors receive but scant courtesy and recognition at the hands of American colleagues who happen to work in the identical field of research, we are confronted with a fact that gives rise to serious reflection. The fact must have impressed itself upon every attentive observer that a medical specialist hardly ever refers to the work of another living in the same town and making a specialty of the same branch of science. If the average American author gives credit to another American author at all—a case of lamentably rare occurrence—he takes good care to exclude those whose domiciles are near his own and to favor only those who live at the safe distance of a thousand miles or so. But it affords the keenest relish to refer to European authorities since this may demonstrate to the astonished natives his phenomenal knowledge of foreign languages, his command of contemporary foreign literature, his up-to-date researches. He delights in repeating the same quotation over and over again with copious references to the authors' names. He knows that the foreigner is out of harm's reach and cannot interfere with his "business." He is therefore tolerably safe in indulging his vanity and ambition.

The Way to Ensure Recognition.—If American investigators desire to be fully and seriously recognized by European scientists they will have to furnish unmistakable evidence that their work is solely the outcome of a desire to further the true interests of science. There should exist among American medical authors a feeling of solidarity with an ever-ready willingness to give credit where credit is due. It will not do to laud to the skies for selfish motives, European productions which cannot hold a candle to home researches. In other words, we must ourselves be convinced and be in a position to convince others of our scientific maturity and zeal, before we can reasonably expect to command the recognition of foreign nations. It is all very well to talk about "international science"—the weaker is perfectly willing to profit from internationality by taking from the stronger whatever good he can find, but where is there any adequate compensation for the stronger?

Vicious Horses Cured by Surgical Operation.—Would one have thought that the question of kicking, troublesome and vicious horses may often be one simply of congenital anatomic abnormalism or of disease? And yet an English veterinary surgeon has demonstrated the fact. The old-fashioned "breaker" who half killed the poor animals with atrocious physical cruelties may now, at least some time, be replaced by the intelligent and educated veterinary physician. Mr. Hobday, in a little volume,[1] reports a considerable number of cases described by the title, and with remarkable success. In many of the cases of cryptorchidism spermatozoa were demonstrated even when the testis was in the abdominal cavity. In mares there may be a condition of almost constant "heat," which makes them restless and even dangerous. Except in the case of old mares and habitual kickers the results of ovariotomy are usually good. The operation is performed under anesthesia with antiseptic care, and through the vagina. We have several times rallied our antivivisectionist friends as to their entire lack of interest in the morality of the castration of animals and especially of the methods and results as the operation is usually performed. They continue wholly silent about the matter, although denouncing the laboratories more shrilly than ever. As this new blessing of science appears we must press for answer as to its heinousness. Performed by a medical man, for the benefit of the animal, and for that of his human owners, and painlessly, it must, we suppose, be shrieked at. In that case the law should compel all the antivivisectionists to use none but cryptorchid horses and kicking mares.

[1] Issued by W. & A. K. Johnston, entitled, "The Castration of Cryptorchid Horses and the Ovariotomy of Troublesome Mares."

Dr. Hesse's Tour.—During the year 1899, Dr. W. Hesse, of the Health Department of Dresden, visited the United States and England, as well as parts of Germany, for the purpose of studying the methods employed in various places to dispose of the sewage from dwelling-houses and factories. His observations have just been published[1] and are of considerable interest, the more that he has given attention to the subject of water-filtration. He was most favorably impressed with the Bremen method, which consists in a facultative double sand filtration, the water being filtered twice, especially when the River Weser is high. It has been found that even the best-constructed filters are liable to work imperfectly during certain periods, particularly after they have been cleansed and when the supplying rivers are swollen. For this reason it is often advisable to filter the water a second time. Dr. Hesse was much impressed by New York City. He was especially pleased with the laboratory of the New York Board of Health, the courtesy of whose staff he returned by teaching them a quick method of cultivating the tubercle bacillus from sputum. Dr. Hesse believes in the use of a protecting shield after vaccination, and was much gratified to find it so extensively employed in New York City. There is no doubt, however, that at present the trend is toward the nonuse of an occlusive dressing. On his visit to Philadelphia, Dr. Hesse found the hygienic laboratory of Dr. Abbott closed. The best sanitary organization was found in Massachusetts; although Dr. Hesse was surprised to see how many towns, not only in that State, but also in other parts of the East, use surface water, which is naturally exposed to contamination through fish, birds, foliage, and human offal. The best filtration plant he found at Lawrence, Massachusetts. Much praise is bestowed upon the sanatoriums for tuberculous patients established by the Massachusetts authorities, largely through the self-sacrificing efforts of Dr. Alfred Worcester, of Waltham. Dr. Hesse praises the construction of American school-buildings, the fire-

[1] Hygienische Rundschau, August 15, 1903.

escapes and toilet-rooms of which impressed him most favorably. Indeed, the only thing in this country that he criticises is that huge boards bearing unsightly advertisements are permitted to disfigure the lines of our railways. He thinks his American medical colleagues are so far advanced that it is scarcely necessary for them to go to Europe for additional study.

Alcohol Both a Food and a Poison.—"Moderate" drinking, according to the late Dr. Anstie, means the consumption of the equivalent of "one and one-half ounces of absolute alcohol per day, or about three ounces of whisky, or half a bottle of claret or Rhine wine, or four glasses of beer; it being understood that this is to be taken only at lunch and dinner, and that the whisky is to be well diluted." According to Dr. Abel,[1] of Johns Hopkins, a "moderate" quantity is represented "by one or at most two glasses of wine (10% alcohol) or one pint of beer, or their equivalent in terms of alcohol, in the 24 hours." This amount is below the daily average of most men who take wine or beer regularly. Professor Atwater maintains that alcohol can be substituted in small quantity for the fats and carbohydrates. But this is not the custom of ordinary life, as everybody knows. Alcoholic beverages are almost invariably taken in addition to a sufficiency of all other foods, except water. Assuming, however, that alcohol was utilized for a number of weeks in place of fat (or the starches) there is reason for supposing that the drug action of the alcohol would produce a pathologic condition which would be disclosed by blood-examinations or urinary analyses, provided the latter were as complete as possible. Professor Atwater's conclusions seem open to serious criticism from the absence of any investigation along this line. Dr. Cabot,[2] of Boston, as the result of some recent experiments, has asserted that alcohol "is beyond doubt both a food and a poison," which is explained to mean that the possibility of substituting it for the nonnitrogenous aliments is not inconsistent with its toxic properties. This doctrine is not likely to please the "alcohol-is-always-a-poison" party, and it is sure to arouse the anger of Professor Atwater's "alcohol-is-a-food" friends. It best represents, however, the opinion of the scientific world. In "Physiologic Aspects," Drs. Bowditch and Hodge, under the heading of "Standard Textbook," have introduced a quotation from Fothergill's "Practitioner's Handbook," which describes ethyl alcohol as a "readily oxidizable form of hydrocarbon" (*sic*) and as "a food as well as a stimulant." The quotation is said to have been taken from the eleventh (English) edition, published in 1897, but the latest edition is the fourth. Dr. Fothergill died in 1888. A book is not above criticism if it describes alcohol as a food without qualification, or if it refers to it as a hydrocarbon—or a carbohydrate. The latter point cannot be considered a matter of opinion.

Rabelais as a Medical Man.—His broad wit and frequently indecent pleasantries have secured for Rabelais universal attention and appreciation. The coarse jocularity which distinguishes his work has conferred upon it the distinction of being translated into all the languages of modern civilization. The average reader is seldom cognizant of the fact that the author was one of the most learned men of his generation; that, like the great philosophic reformer, Lord Chancellor Bacon, he had "taken all knowledge for his province;" that he had turned from theology and law to the study of medicine as offering the broadest and the most fertile field for the cultivation of knowledge which could be found in this world; and that his buffoonery and indelicacy are probably but the reflex of his contempt and scorn of the cant and corruption which he saw everywhere around him. His inspiration was identical with that of the "English Rabelais," Jonathan Swift. The heroic deeds of Gargantua and Pantagruel grew from the same intellectual germs as did the veracious travels of Lemuel Gulliver. The inquiring reader who has studied the growth and development of modern thought and opinion is reminded of the restless and curious—as well as iconoclastic—spirit of the age of this very remarkable man—when the recent introduction of printing and the exodus of Greek scholars and Greek manuscripts from Constantinople, which followed its capture by the conquering Turk, had sown all Western Europe with "dragon's teeth." The series of earthquake waves of thought—literary, scientific, social, political, philosophic, and theologic—which rapidly followed this epoch-making event soon caused the development of so great a degree of mental friction in all directions as to raise the temperature of the whole intellectual medium far above the boiling-point. And, as necessarily occurs during every process of violent ebullition, a large quantity of the vilest (intellectual and moral) dregs was brought to the surface, which mixed with the frivolous froth, formed the topmost layer. At the same time the general intellectual activity was necessarily increased; some wonderfully inspired bubbles were thrown up to a great height, while the really valuable portion of the effervescing liquid was that which was secluded from the general gaze. Francois Rabelais was born in 1483, the year in which Martin Luther first saw the light; and he died in 1553, the year in which Michael Servetus was burned alive for "heresy" on the prosecution of the socalled "Protestant Pope," John Calvin. And another melancholy item of knowledge of the history of scientific progress is furnished in this connection by the deplorable fact that the volume which furnished the evidence on which Servetus was convicted, and which was tied to his thigh and burned with him at the stake, also contained the *first description of the (pulmonary) circulation of the blood!*

The Physiology of Rabelais.—We incline to the belief that even most medical readers, who occasionally while away an evening hour over the fantastic creations of Rabelais, seldom notice, or rarely remember that his pages include the best compendium of the physiologic knowledge of his time which has descended to us. We quote from the Dublin reprint of Ozell's version (1738):

> The intention of the Founder of this Microcosm is to have a Soul therein to be entertained which is lodged there as a Guest with it's Host, it may live there for a while. Life consisteth in

[1] Physiologic Aspects of the Drink Problem.
[2] Medical News, July 25.

Blood, Blood is the Seat of the Soul; therefore the chiefest Work of the Microcosm, is to be making Blood continually. At this forge are exercised all the Members of the Body; none is exempted from labour, each operates a-part, and doth its proper Office. And such is their Hierarchy, that perpetually the one *borrows* from the other, the one *lends* the other, and the one is the other's *Debtor*. The Stuff and Matter convenient which Nature giveth to be turned into Blood is *Bread* and *Wine*. All kind of nourishing Victuals is understood to be comprehended in these two, and from hence in the *Langue Goth* is called Campanage. To find out this Meat and Drink, to prepare and boil it, the Hands are put to work, the Feet do walk and bear up the whole Bulk of the corporal mass; the Eyes guide and conduct all; the Appetite in the Orifice of the Stomach, by means of little sourish black Humour (called Melancholy) which is transmitted thereto from the Milt, giveth warning to shut in the Food. The tongue doth make the first Essay and tastes it; the Teeth do chaw it, and the Stomach doth receive, digest, and chilify it; the Mesaraick Veins suck out of it what is good and fit, leaving behind the Excrements, which are, through special conduits for that purpose, voided by an expulsive Faculty; thereafter it is carried to the Liver, where it being changed again, it, by the Virtue of that new Transmutation, becomes Blood. What Joy, conjecture you, will then be founded amongst those Officers, when they see this *Rivulet of Gold*, which is their sole *Restorative?* No greater is the joy of Alchimists, when after long Travel, Toil, and Expense, they see in their Furnaces the Transmutation, then it is that every Member doth prepare itself, and strive a-new to purify and to refine this Treasure; the Kidneys through the emulgent Veins draw that Aquosity from thence which you call urine; and there send it away through the Ureters to be slipt downwards; where in a lower Receptacle, and proper for it (to wit, the Bladder), it is kept, and stayeth there until an Opportunity to void it out in due time. The Spleen draweth from the *Blood* its terrestrial Part, *viz*, the Grounds, Lees, or thick Substance settled in the bottom thereof, which you term *Melancholy*. The Bottle of the Gall subtracts from thence all the superfluous *Choler;* whence it is brought to another Shop or Workhouse to be yet better purified and refined, that is the Heart, which by its agitation of *Diastolick* and *Systolick* Motions so neatly subtiliseth and inflames it, that in the *right side* Ventricle it is brought to Perfection, and through the Veins is sent to all the Members; each Parcel of the Body draws it then unto it's self, and after its own Fashion is cherished and alimented by it; Feet, Hands, Thighs, Arms, Eyes, Ears, Back, Breast, yea, all; and then it is that who before were *Lenders*, now become *Debtors*. The heart doth in its *Left-side* Ventricle so thinnify the blood that it thereby obtains the name of *Spiritual:* which being sent through the Arteries to all the Members of the Body, serveth to warm and winnow or fan the other Blood which runneth through the Veins. The Lights never cease with it's Lappets and Bellows to cool and refresh it; in Acknowledgement of which good the Heart through the arterial Vein imparts unto it the choicest of its Blood. At last it is made so fine and subtle within the *Rete Mirabile*, that thereafter those *Animal Spirits* are framed and composed of it; by means whereof the Imagination, Discourse, Judgment, Resolution, Deliberation, Ratiocination, and Memory, have their Rise, Actings, and Operations.

All this clearly shows that Rabelais had very definite ideas of the processes of waste and repair, of absorption, assimilation, and elimination, as they go on in the human body. Also that he had perfectly clear notions of the continuous movement of the blood, which was the sole vehicle of the requisite pabulum. So that, although he cannot be said to have made the motion of the blood precisely "circular," it cannot be denied that he has placed on record sufficient testimony to show that his physiologic ideas were not so much behind those of William Harvey as most medical men of the present generation have probably been accustomed to think.

AMERICAN NEWS AND NOTES.

GENERAL.

No Epidemic at Daiquiri.—Dr. Guiteras, who was sent to Daiquiri to investigate the reports in regard to an epidemic of a serious disease there, reports that there is no yellow fever in Santiago province, nor is there any sickness to speak of at Daiquiri, except some bad forms of malaria.

Bubonic Plague at Manila.—Information from Manila, under date of September 16, states that 100 cases of bubonic plague are reported in Tondo, the most northern and populous suburban district of the city. Of these, 80 have had a fatal termination. Twelve cases with 9 deaths are also reported from Cebu, in the Province of Visayas.

Funeral Trolley Car.—Liverymen are watching an innovation in Chester, Pa., with interest and trepidation. A funeral car has been prepared by the Chester Traction Company, whose lines pass the leading cemeteries of the city, and the car was used on Wednesday by a family in the eastern section of the city for the first time. As the reduction of the funeral expenses will be considerable, it is believed that the new method will get into general use.—[*Philadelphia Record.*]

Total Population in the Philippines.—A preliminary report received by the War Department from Brigadier-General Joseph P. Sanger, superintendent of the Philippines census, shows that the total population of the islands is approximately 6,976,574 persons, including about 650,000 members of "wild tribes." The most populous province is Cebu, with 651,621 civilized inhabitants. Manila province has 319,941, and Cavite, adjoining, 134,438 civilized inhabitants.

New Saccharin Plant.—The Agricultural Department is inquiring into the statement of Consul General Guenther that a new plant has been discovered in South America which promises to supplant the sugar cane and the sugar beet. The plant contains a large amount of saccharin matter and a high percentage of natural sugar properties which are easy to extract. It is said to be easily cultivated in climates like those of the southern portion of the United States. According to experiments made by the discoverer, the director of the Agricultural Institute at Asuncion, this plant is said to yield a sugar which is from 20 to 30 times as sweet as ordinary cane or beet sugar.

Further Experiments with Food Preservatives.—It is stated that Dr. Wiley, the head chemist of the Department of Agriculture, who has returned from an official trip to Europe, will at once set about resuming his experiments concerning the effect of preserved and adulterated foods on the human system. The class of young men who are being experimented on have had a vacation from their peculiar diet for 2 or 3 months, and have recuperated, if they experienced any deleterious effects from the foods that were supplied to them during the experiments. The general character of the experiments will be the same as last year. The first series of tests will be to determine the effect of salicylic acid on the health. Among the articles that will be given to the young men will be several of the blended French wines, which contain the acid as a preservative. So far as known, none of the persons experimented on last year suffered any harm from the food they ate.

Charitable Bequests.—NEW YORK: Under the will of the late Joseph Schnetter, provision is made for the investment of $50,000 by trustees, the proceeds of which is to go to a domestic in the family and after her death $35,000 of the $50,000 is left to the German Hospital of New York to endow a free bed for sick females, and the remaining $15,000 is left to the Mt. Sinai Hospital for the same purpose. The remainder of the estate, which is valued at $140,000, is left to the widow with the request that she bequeath the same to the German Hospital. WALTHAM, MASS.: By the will of the late Francis J. Lawrence, $5,000 is given to the Waltham Hospital; $1,000 to the Leland Home for Aged Women; $1,000 to the Unitarian Church in Waverly; $1,000 to the Unitarian Church in Waltham. WASHINGTON, D. C.: By the will of Anna D. Mansfield, $5,000 is given to the Episcopal Eye, Ear, and Throat Hospital. NEWARK, N. J.: A benefactor, who refuses to permit his name to be made public, has given $50,000 for the new Newark Charitable Eye and Ear Infirmary. BALTIMORE, MD.: By the will of Bertha Koch, $1,000 is given to the Hebrew Friendly Inn and Koch Home; $200 to the Hebrew Hospital and Asylum Association; $200 to the Hebrew Free School; $100 to the Hebrew Protecting and Sheltering Association.

EASTERN STATES.

Physical Education at Amherst.—The department of physical education at Amherst College has received an endowment of a fellowship of $500 a year from the daughter of the late Charles Pratt, of Brooklyn, whose sons had previously given the gymnasium, athletic field, and hospital. Under its provisions, a graduate of the college, by a year or more of work in theory and practice, may fit himself to become a teacher of physical education, meantime rendering service in the department.

NEW YORK.

Health Board Bars 100 School Children.—As a result of the medical inspection, 100 school children have been excluded from the schools by order of the Board of Health. Of these 35 were suffering from trachoma, 16 from conjunctivitis, 15 from parasitic diseases, 3 from skin diseases, and 1 from tonsillitis. They are under the care of nurses provided by the city.

Pasteurized Milk.—It is asserted that the pasteurized milk depots maintained by Nathan Straus, which recently closed for the season, dispensed more milk during the past summer season than during any other season since their establishment in 1892. It is believed that much of the good accomplished by these depots resulted from the fact that they worked in cooperation with the Health Department. The health officers assert that the reduction in infant mortality during the past season was largely due to the distribution of this pasteurized milk.

Hospital for Trachoma. — In its fight to stamp out trachoma in the public schools the Board of Health has decided to establish a hospital for the exclusive treatment of sufferers from this eye disease. A large house has been remodeled for this purpose and will be opened so soon as an appropriation to cover the cost of equipment and the salaries of the staff can be secured. It is estimated that there are more than 100,000 sufferers from trachoma in the city, and that the great majority of them are public school students. In the schools inspected last week, 19% of the children were affected. At present all trachoma patients are being treated at the old Gouverneur Hospital by a staff of physicians and nurses provided by the Board of Health. In the last week the number of patients has been between 400 and 500 a day.

PHILADELPHIA, PENNSYLVANIA, ETC.

Storm's Damage to Hospital.—The storm of September 16 is reported to have done considerable damage to the City Hospital in Jersey City.

Cause of Typhoid in Philadelphia.—The members of the Board of Health have made painstaking investigation of the various cases of typhoid fever, which have recently been reported. It is now announced that the source of infection is in a contaminated milk-supply and unsanitary drainage conditions.

Philanthropy.—Samuel Cummings, who recently died, left an estate valued at $40,000, which by his will goes to his widow, and upon her death is to be divided equally between the Methodist Hospital, Methodist Home for the Aged, Philadelphia City Mission, and the Church Extension Society of the Methodist Episcopal Church.

State Board of Medical Examiners of New Jersey.—The regular examination of the State Board of Medical Examiners of New Jersey will be held at Trenton, N. J., on Tuesday, Tuesday evening, and Wednesday, October 20–21. Application for admission to this examination should be made before October 10. Applicants must possess a high school diploma issued after 4 years of study, or its equivalent as determined by the State Superintendent of Public Instruction, and must have had four courses of medical lectures of 7 months each in different years.

Vaccination for Cattle.—At the meeting of the Pennsylvania State Veterinary Medical Association which began its sessions in Pittsburg, Dr. Leonard Pearson, secretary of the State Live Stock Sanitary Board, delivered an address, in which he said that under the appropriation made by the last session of the State Legislature, a herd of 200 cattle are now being vaccinated by the State Live Stock Sanitary Board, and he confidently believes that as a result these cattle will become immune from tuberculosis, thus proving that we can protect cattle from the ravages of the disease and prevent its spreading.

The Henry Phipps Institute for the Study, Treatment, and Prevention of Tuberculosis has arranged for the coming fall and winter a series of lectures by wellknown physicians on the various phases of tuberculosis. Some of these lectures will be more or less popular in character, and all will be free to the public. The auditorium of the Witherspoon Hall, at Juniper and Walnut streets, Philadelphia, has been selected for the purpose, having a seating capacity of nearly 1,200 people. The first of these lectures will be given by Dr. E. L. Trudeau, of Saranac Lake, New York, during the last week in October, his subject being "The History of the Development of the Tuberculosis Work at Saranac Lake." The following gentlemen have been invited to give the subsequent lectures: Dr. Pannwitz, of Germany, in November; Dr. William Osler, of Baltimore, in December; Dr. Calmette, Director of the Pasteur Institute, at Lille, France, in January; Dr. Herman M. Biggs, of New York, in February; and Dr. Maragliano, of Italy, in March. All of them have accepted with the exception of Dr. Calmette, who has accepted provisionally. Subjects and exact dates will be announced as soon as possible. The director and members of the staff of the Henry Phipps Institute extend a most cordial invitation to the profession in general to attend these lectures. It is greatly desired that this inaugural series of lectures given by these gentlemen will prove a success and be largely attended. The following additions to the staff of the Henry Phipps Institute have been made: Dr. M. P. Ravenel has been appointed assistant medical director and chief of the laboratory; Dr. E. A. Shumway has been appointed ophthalmologist, and Dr. J. F. Wallis has been appointed dermatologist.

Cumberland Valley Medical Association.—The physicians of Cumberland Valley, including Cumberland and Franklin counties in Pennsylvania, and Washington county in Maryland, met at Mont Alto, Pennsylvania, on September 8, and organized the Cumberland Valley Medical Association. The membership is limited to members of the County Medical Societies of the territory involved, which includes the Cumberland Valley lying between the Susquehanna and Potomac rivers. The following officers were elected: President, Dr. Robert W. Ramsay; first vice-president, Dr. James Evelyn Pilcher; second vice-president, Dr. T. H. Weagley; third vice-president, Dr. J. W. Humrichouse; secretary, Dr. J. J. Coffman; assistant secretaries, Dr. A. R. Allen, Dr. P. B. Montgomery, and Dr. C. R. Miller; treasurer, Dr. J. H. Montgomery.

SOUTHERN STATES.

Army Medical School.—Arrangements are being made for the opening of the Army Medical School November 1, by which time a number of changes will be made in the personnel on the faculty. Among the changes will be the succession of General DeWitt, recently retired, by Col. C. L. Heizman as president of the faculty. Another change will be the appointment on the faculty of Major William H. Arthur, on duty at the United States Soldiers' Home, in place of Major Louis A. LaGarde.

Washington to Prevent Smallpox.—The health department has determined to undertake a campaign of vaccination in the camps of the thousands of Italian and other foreign laborers who have been imported to the city in connection with the extensive railroad work projects now under way in the elimination of grade crossings and the construction of a union depot. There is no evidence yet of smallpox among the laborers, but the department feels that at any time a new recruit to the ranks might bring the disease from another community.

WESTERN STATES.

Dr. Arthur R. Reynolds to be Reappointed Health Commissioner of Chicago.—If Mayor Harrison, of Chicago, has been correctly reported, Dr. Reynolds, the present incumbent, will be reappointed health commissioner in that city at the next council meeting. Dr. Reynolds has proved an able, efficient, and energetic health officer, and his reappointment will be a complete vindication of the course pursued in administering the duties of his office.

May Invalidate a Doctor's Will.—It is stated that the estate of Dr. Charles Kendall Adams, ex-president of the University of Wisconsin, was bequeathed to the university for the establishment of 15 scholarships of $10,000 each. The laws of California, where Dr. Adams died, prohibit the leaving of money by will to institutions outside of that State. The executors of the will, will seek to prevent the reversion of the property to the State under the statutes of California, and if necessary will contest the constitutionality of the act, carrying the case to the court of last resort.

Chicago Jury Scores Druggist.—Censure for retail druggists who sell poisons in any form without a physician's certificate was contained in the verdict of the coroner's jury recently at an inquest in Chicago. The person committed suicide by swallowing carbolic acid, and that was the finding of the jury. That part of the verdict referring to druggists was:

> This jury recommends that no retail druggist shall sell to any one any poison, in any form, except with an order or letter from some licensed and practising physician, and explaining why and for what purpose the poison was desired. We also find that the sale of various poisons is carried on in a reckless manner, and we recommend that the proper authorities look into this practice and take radical measures to stop it.

Mortality of Michigan During August, 1903.—The total number of deaths in Michigan during August was 2,800, an increase of 147 over the preceding month. The deathrate was 13.3 per 1,000 population. By ages there were 688 deaths of infants under 1 year, 211 deaths of children aged 1 to 4 years, and 697 deaths of persons over 65 years. Important causes of death were as follows: Tuberculosis of the lungs, 157; other forms of tuberculosis, 30; typhoid fever, 44; diphtheria and croup, 37; scarlet fever, 16; measles, 2; whoopingcough, 37; pneumonia, 100; diarrhea and enteritis, under 2 years, 386; cancer, 157; accidents and violence, 240, including 32 deaths from drowning and 7 deaths from lightning. There were 2 deaths from smallpox, one in Detroit and one in Wells township, Marquette county. Typhoid fever begins to show the regular seasonal increase, and also deaths from infantile diarrhea.

FOREIGN NEWS AND NOTES

GENERAL.

Plague Came to Marseilles in Rags.—Five deaths from the bubonic plague have been reported in Marseilles, and 27 cases have been isolated at the hospital, where they are under observation. The disease was brought in through a cargo of rags from Constantinople. No case has been reported in the city proper.

Röntgen Rays and Shoes.—It is said that one of the oddest sights at the Dresden Municipal Exposition is a row of pictures illustrating the use of Röntgen rays to shoemakers, or rather to their customers. These pictures were made by some students of Kottbus and they show, first, the normal position of all the bones in a foot and then the displacements to which they are subjected by various forms of shoes.

New Serum for Cattle.—Professor Loeffler, of Greifewald, has sent in a report to the government on the results of his investigation of the foot-and-mouth disease among cattle. He says that a means has been found to preserve the animals, while in stables, from contamination, by small doses of a serum. He advises the inoculation of all cattle bought in the market, and he says that when they are treated with the serum they are safe from infection.

Troops Drinking Less Beer.—Dr. Leitenstorfer, in *The Militaerwochenblatt*, reports on efforts made to suppress the consumption of liquor in the Bavarian army. For this purpase lemonade factories were established, and in a year 68,000 bottles were manufactured. The use of beer has been reduced by one-half. Experiments have also been made with a view to changing the diet of the Prussian soldier. The results so far have been most successful.

Alleged New Discovery by Koch.—Information from Berlin states that Dr. Neufeld, of Koch's Institute, writing to a medical weekly, reports that successful experiments have been made to produce immunity in animals against tuberculosis by injecting into the bloodvessels of mules, goats, and cattle living bacilli from human beings. He has been unable, however, to produce the same effect with dead cultures. The experiments are regarded as of great importance.

OBITUARIES.

William Taliaferro, of Tappahannock, Va., at the Maryland University Hospital, Baltimore, September 17, after an operation for carbuncle. He was 58 years of age, and for many years he had been a prominent practitioner in King, Queen, and Essex counties.

Nelson V. Prewitt, at Lexington, Ky., September 1, after an operation for appendicitis, aged 32. He was graduated from the University of Virginia in 1893, was a member of a number of local medical organizations, and of the American Medical Association.

William C. Barrett, of Buffalo, N. Y., at Bad-Nauheim, Germany, August 26, from heart disease, aged 69. He was a graduate of the University of Buffalo in 1880, dean of the dental department of the University of Buffalo, and a teacher of oral surgery.

Egbert Guernsey, at Fishkill's Landing, N. Y., September 19, aged 80 years. He was a noted homeopathic physician, had devoted much of his attention to literary work, and was for 6 years professor in the New York Homeopathic Medical College.

S. H. Stout, in Clarenden, Texas, September 18, aged 82 years. He served through the Civil war as director of the medical department of the Confederate army. He was graduated from the University of Pennsylvania in 1848, and was a noted latinist.

William T. Dalby, at his home in Salt Lake City, September 7, of cancer of the stomach, aged 44. He was graduated from the Omaha Medical College in 1885, and was local surgeon for the Union Pacific Railway.

Henry S. Cunningham, at his home in Alva, Okla., September 5, aged 64 years. He was a graduate of Starling Medical College, Columbus, in 1865, and resided in Indianapolis a number of years.

James A. Mawris, at his home in Lafayette, N. Y., September 2, aged 78. He was a graduate of Albany (New York) Medical College in 1853, and was an army surgeon during the war.

John W. Waughop, at sea, August 31, en route from Honolulu to Seattle. He had lived in the Hawaiian Islands for the past 7 years. Was born in 1839 in Tazewell county, Ill.

J. T. W. Kerns, at his home in Bellaire, Ohio, September 8, of Bright's disease, aged 62. He was graduated from the Marion-Sims Medical College of St. Louis, in 1892.

Charles Williamson committed suicide at Winifred, W. Va., September 15, aged 26 years. He was a graduate of the Medical College of Virginia.

John S. Wallace, at his home in Christiana, Pa., in August, aged 60. He was graduated from Jefferson Medical College, in 1865.

J. P. Tatum, of Great Bridge, Va., after a lingering illness, September 17.

SOCIETY REPORTS

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

Fifty-third Annual Meeting Held at York, September 22-24, 1903.

[Specially reported for *American Medicine.*]

FIRST SESSION.

The society was called to order by President WILLIAM M. WELCH (Philadelphia). Prayer, offered by Rev. E. T. JEFFERS, was followed by addresses of welcome from Hon. M. B. GIBSON, Mayor of York, and N. C. WALLACE, President of the York County Medical Society. The presentation of the program by I. C. GABLE (York) showed that the sessions of Wednesday and Thursday forenoons were to be held in two sections, this arrangement necessitating the grouping of all the addresses on Tuesday afternoon.

Medical Organization.—J. N. MCCORMICK (Kentucky) representative of the American Medical Association, was accorded the privilege of the floor, and gave a brief but exceedingly pertinent talk on the need for medical organization and the advantages to be derived therefrom. He specially emphasized the point that the American Medical Association does not wish to encroach upon the authority of the State societies, but simply wishes everywhere to further the organization of the profession. It is his opinion that no State in the Union would be more benefited by the principles of the national association than would Pennsylvania. The physician should be the best supported man in his community, and he ought to be the cleanest, both physically and morally. None of these ideals is so apt to be attained by unorganized individuals. Organization enables the older men in the profession to look after the recent graduates. From Kentucky alone more than 250 young men have been sent to the large medical centers to do post-graduate work.

SECOND SESSION.

Address in Surgery.—W. L. ESTES (South Bethlehem) selected as his subject the **individual equation of the patient in surgical operations,** referring particularly to those patients who die after an apparently ideal operation, while others that appear less favorable recover. This fact suggests that there is an average vitality of patients, some having less, others more, than this average. Among the conditions that influence the reaction of individuals to traumatism are: 1. Heredity. Probably no disease except syphilis is actually transmitted, but a certain condition of the tissues, a chemic individuality, is imparted to the offspring. Thus a certain resistance to bacteria may be inherited. A lowered resistance of cells to cytolysins and diminished power of producing antitoxins may thus cause a patient to succumb to an infection that to another would be only a low-grade sepsis. 2. Environment and habit. Under this head the speaker particularly emphasized the disadvantages of country-reared people as compared with those in cities and towns. The open-air life and plentiful food of the former are too often outweighed by overcrowding in sleeping apartments and poor cooking of the food. City and town-reared people stand operations better than the ordinary farmer. 3. Physical condition of the patient. A careful physical examination of the patient is of more value than laboratory methods of diagnosis. Not one of the medical schools properly teaches its students to use their eyes in the examination of a patient.

Address in Obstetrics.—JOHN G. CLARK (Philadelphia) limited his remarks to 2 subjects, **treatment of uterine cancer by the x-ray** and the **etiology of eclampsia.** The general hopelessness of uterine cancer is admitted; the burden of all papers being a plea for earlier diagnosis. Any agent that adds to the results attained by operation is worthy of the most careful trial. Operable cases should be operated upon in every instance. Inoperable cases, and 50% of cases as now seen in clinics belong to this class, and recurrences demand other attempts at curative or palliative treatment. Clark's conclusions, based upon a limited personal experience and a careful study of reported cases, are: 1. No operative case should ever be temporized by the use of the x-ray. 2. No local therapeutic agent is of the least value. 3. To inoperable cases may be extended a remote hope of cure by the x-ray, relief of pain, at least, may be quite definitely expected. 4. It is the duty of gynecologists to thoroughly investigate this method of treatment as no one person is yet an authority on the subject. Regarding the etiology of eclampsia the point emphasized was that recent investigations are throwing a considerable doubt on the commonly accepted theory that the kidney is the sole underlying cause. Extensive alterations in the vessels of all the organs indicate the presence of a general poison of some sort.

Address in Hygiene and State Medicine.—SENECA EGBERT (Philadelphia) gave a statistical review to show what investigations along these lines are really doing in the way of saving life and what we may expect of them in the future. In general, the mortality-rate is being lowered. In Pennsylvania

the conditions are not so satisfactory as they should be. Phila delphia and Pittsburg show practically no reduction during the last decade. There has been special negligence in securing vaccination and in the prevention of typhoid fever. The infectiousness of pneumonia and its high deathrate is not sufficiently realized. In the way of advance the most is to be gained by educating all the people in sanitary affairs. Agencies promoting advance, in addition to those in general use, are: 1. Cooperation in furnishing vital statistics as recently asked by the government. 2. The proper education of school children. Not nearly enough is furnished the latter. All we know regarding modern sanitation should be known to school children before they finish their course. If this were begun properly in 10 years but little more than 30% of the population would be uneducated in sanitary affairs.

Address in Neurology.—C. B. MAYBERRY (Retreat) dwelt upon the importance of insanity as a part of neurology. The family physician has a great responsibility, because he sees the development of children and also sees adults during the period preceding actual outbreak of the condition. Much can be done to prevent insanity by guiding over critical periods those individuals having a hereditary history of insanity. The danger signals in such cases must be recognized. Present institutions are not adapted to the care of the insane. Good results from contact of insane patients have never been seen, yet all varieties of cases are placed together. The care of convalescents is also a serious question. The pathology of insanity is but little understood and certain questions will probably always be beyond solution, but the knowledge is becoming more general that the pathology of insanity is practically the pathology of the entire body. To improve existing conditions in caring for the insane Mayberry suggests (1) more extensive instruction in didactic and clinical psychiatry; (2) small psychopathic hospitals for the care of acute curable cases; (3) outpatient departments in order to keep under observation for 1 year all discharged patients; (4) establishment of a central pathologic laboratory for the entire State.

Address in Ophthalmology.—E. B. HECKEL (Pittsburg) gave a very brief address on this topic, in which he stated that American ophthalmology was equal, and in some respects superior, to that of Europe. Mercury, silver nitrate, and atropin are still employed as of old, it is true, but the methods of using them have improved. Ophthalmology is secure among the profession, but its standing with the laity depends on the actions of the family physician in referring cases to good men or to fakirs.

Address in Medicine.—H. M. NEALE (Upper Lehigh) chose for his topic the **treatment of pulmonary tuberculosis as practised at White Haven.** The forced feeding employed by the Germans has been modified by the careful selection of food for the individual and the avoidance of overburdening the digestive powers. Patients are encouraged to take at least 6 raw eggs and 3 quarts of milk daily, many taking double those quantities, in addition to one full meal. This is given in the middle of the day, and is insisted upon. The lighter breakfast and supper are not required. They have yet to see a patient who cannot adapt himself to the diet. Outdoor life is prescribed, but if the evening temperature of the patient be above 99.2° he exercises very cautiously. The general tendency in treating tuberculosis is to order too much exercise. In winter, flannel underclothing next the skin or over linen mesh is ordered; in summer the latter only. Creosote and the iodin-bearing compounds are the best medicines. Europhen is used as an inunction. Nitroglycerin is used as a preventive of hemorrhage when there is evidence of increased tension in the pulmonary circulation. A large measure of the success attained at White Haven is ascribed to the individual care bestowed on patients.

Is There a Medical Profession?—THOMAS D. DAVIS (Pittsburg) adduced evidence to show that this apparently trivial question is well warranted. There are multitudes of societies, great and small, but an authoritative profession seems to be lacking. The speaker reviewed the progress of medical standards in this country, the present reign being that of organization.

Necessity of Industrial Hospitals.—By this term W. B. LOWMAN (Johnstown) means those hospitals connected with manufactories or industrial establishments where employes are specially liable to injury. Only accident cases are to be treated in them. Two points are in their favor—they are just and humane and they pay, as a business investment, the patient, surgeon, and employer. Lowman speaks from an experience of 16 years in such a hospital, erected by the Cambria Iron Company. During the first year the hospital had 12 beds, and in it were treated 32 house patients and 363 ambulance cases. It now contains 40 beds, and last year there were treated 604 inpatients and 3,708 ambulance cases. The average cost has been 85 cents per day for each patient.

The Medical Expert Witness.—G. W. WAGONER (Johnstown) enumerated some of the reasons why the physician feels that he is in an enemy's territory when he enters court. The principal cause is that attorneys often seek to obscure the truth instead of making it clear. The expert physician is not accepted as the adviser and interpreter of the court, but paid experts are brought in to furnish contradictory evidence. The testimony of these conflicting witnesses confuses the jury, who finally throw out all of it, good as well as bad, and discredit all expert testimony.

Further Reflections on State Medical Board Examinations.—A. O. J. KELLY (Philadelphia) reiterated the facts and opinions advanced in a similar article read before the society at its previous meeting. This he stated to be necessary because his statements of that date had been distorted and misrepresented, probably because they were misunderstood. He quoted several questions that had been asked in State Board examinations, in order to condemn them as being unfair or ambiguous. He insists on the value of the practical aspect of fundamental branches of medicine, and would confine examinations in those branches entirely to such questions.

Annual Address.—By President WILLIAM M. WELCH (Philadelphia). This address will appear in a future number of *American Medicine*.

[*To be continued.*]

Want Canteen Restored.—Brigadier-General Frank B. Baldwin, commanding the Department of Colorado, in his annual report, urges the reestablishment of the army canteen under proper restrictions. He says: "I have been deeply impressed by the very marked difference in discipline and general contentment among the enlisted men since the abolition of the canteen feature of the post exchange. If men are unable to get a glass of beer in a decent and orderly manner in the garrison they will resort to the vile brothels which cluster around the borders of the reservation, where they drink all manner of alcoholic beverages and often sink into debauchery and ruin."

Many Jewish Bequests.—It is reported that between $1,900,000 and $2,000,000 is the total amount of bequests and gifts made by Jews or to Jewish institutions in the United States from August 27, 1902, to August 25, 1903, inclusive, of gifts below $500. These are the figures given by the American Jewish Year-book for the year 5664. American Jews have long been noted for the care and generosity they bestow on their charitable and educational institutions, and the striking feature in the list as given by the Year-book is that the gifts, with one exception, are not remarkably large, not from a small number of sources, or to a small number of institutions.

Elderly Doctor Honored.—The medical fraternity of Mercer county on the evening of September 15 paid honor to Dr. R. R. Rogers, one of the oldest practitioners of New Jersey, and the oldest in that county, who held a reception at his residence in Trenton in celebration of his eightieth birthday. The reception was attended by about 300 of the physician's friends, and the members of the city Board of Health, of which he is an active and earnest member, presented him with a fine reclining chair. Dr. Rogers was born on a farm in Mercer county in 1823, and spent his youth at hard farm work. He was surrogate of the county for 2 terms, and while conducting the affairs of that office attended the University of Pennsylvania, traveling between Philadelphia and Trenton each day. He graduated in 1862, and was immediately appointed examining surgeon for the Government in the Second Congressional district.

The Sleeping Sickness. — The British authorities in Uganda are making efforts to discover the source of the terrible "sleeping sickness" which periodically decimates the natives of that territory and other parts of Africa, and if possible, to find a means of preventing its spread. In May last year the Royal Society dispatched a commission to Entebbe, Uganda, for the purpose of investigating the disease, and early this year a second commission was sent from England for the same purpose. The conclusions of the joint commission are now available through the publication of a progress report. This shows that the disease is caused by a minute parasite in the blood, which could not be conveyed from man to man. Consequently, suspicion fell upon the tsetse fly, a species of which, similar to the one prevalent in Zululand, was found abundant in Uganda, and experiments are now in progress to settle whether the Uganda tsetse carries in its blood the identical parasite which is peculiar to the disease, and whether it can pass it to an animal.

Brutality to be Prevented in the German Army.—The following from Berlin explains itself: The courtmartial of the Fifteenth Division has sentenced Sergeant Schott to a year in prison and degradation for bogging privates and horsewhipping and kicking men. Twelve artillerymen were sentenced to short terms for assisting him. There have been 80 convictions of sergeants for abuse of privates during the last 3 months, and about 200 courtsmartial are pending. The administration of the army is making the most determined efforts to stop these brutalities which Herr Bebel, the Socialist leader, detailed in a vehement 3 hours' speech in the Reichstag in the spring. The weak reply of General von Gossler on the following day probably cost him his place as Minister of War. It has long been the theory of military men that a little rough treatment was good for privates and cultivated manhood in them. The Emperor never shared these views nor countenanced the cruelties practised in nearly every regiment. He issued an order most absolutely forbidding the ill-treatment of privates and ordering the prosecution and severe punishment of those guilty of such ill-treatment.

CLINICAL NOTES AND CORRESPONDENCE

[Communications are invited for this Department. The Editor is not responsible for the views advanced by any contributor.]

THE ACETANILID HABIT.—REPORT OF TWO CASES.

BY

T. W. LUCE, M.D.,

of Portsmouth, N. H.

The purpose of this paper is to report briefly the cases of 2 patients addicted to the use of acetanilid, who came under my observation a few years ago. These cases interested me a great deal at the time, and enough since to influence me to keep myself informed in regard to their whereabouts and condition, so that I am able to give not only the details of their illnesses, but their progress since recovery as well.

CASE I.—R. L., female, married, aged 26. I saw this patient in consultation with Dr. E. L. Burnham, of Sanford, Me., in August, 1897. The salient points in the history were that 4 years before, both ovaries had been removed. After this she became extremely nervous, the usual symptoms accompanying the artificial menopause were accentuated and she had marked hysteric manifestations. The reason for the operation was persistent dysmenorrhea. A year before I saw her she had allied herself with a traveling religious organization known as "The Crusaders." Frequently at their meetings she had convulsive seizures which were attributed by the company to some spiritual source, as the patient claimed to have visions, etc., during the attack. While this organization was in Sanford she had such an extremely serious seizure that she was carried to her room and Dr. Burnham was called by one of the members of the household. I saw her with him the next day. The patient was considerably emaciated, legs and feet very edematous, heart-action weak and irregular, mucous membrane of mouth and vagina blue, skin and conjunctivas very white. Chemic examination of the urine showed a low specific gravity and a large quantity of albumin—even under treatment she was having convulsions, and had one while I was there. I could only agree with Dr. Burnham in his diagnosis of uremia with an unfavorable prognosis. In a few days after this the nurse went to the patient's trunk for something and there found package after package of a white crystalline substance. Calling Dr. Burnham's attention to them he at once saw they contained acetanilid. The large amount in the trunk aroused his suspicions, which were soon verified on the part of the patient, for she soon began to exhibit all the traits peculiar to the confirmed morphinomaniac, moral depravity and all. She used every possible means to obtain the drug—tried to bribe the nurse and members of the family, all to no avail.

With watching, rest, and tonics she soon began to improve, and in 6 months was perfectly well. I have seen her several times since then, and she is certainly the picture of health. She began by taking an acetanilid proprietary remedy for ovarian pain, and soon drifted to acetanilid because it was cheap. Since recovery there has been no inclination to return to the habit. The clinical picture in this case was almost typical of the advanced stages of parenchymatous nephritis.

CASE II.—I. M. K., female, married, aged 32. This patient was a teacher of elocution and a public reader. In July, 1897, I was called to Farmington, N. H., by Dr. J. C. Parker to do a hysterectomy on this patient. This operation had been advised by Dr. Conant, of Boston, for what he diagnosed as a subserous fibroid of the left side of the uterus. I had never seen or examined the patient previous to this time. There had been a good deal of pelvic pain for 2 years, more especially while standing —a marked menorrhagia and metrorrhagia. Cureting had been twice done in this time with no relief. She was a frail, delicate-looking woman, very nervous and poorly nourished. She had been in bed for several weeks at this time. Her pulse was a hundred in the recumbent position. There was some swelling of the legs and feet, and also under the eyes. Varicose veins showed on both legs. The mucous membranes appeared bluish, especially that of the vagina and there was considerable leukorrheal discharge. On the left of the uterine body was a small mass which seemed to move with the uterus and which could be palpated only by considerable effort. Dr. Parker said there was a small percentage of albumin in the urine. On opening the abdomen the supposed fibroid was found to be a varicose condition of the veins of the left broad ligament. They were simply enormous and it became easy to see why her pain had been so much increased by standing. This mass with the body of the uterus was removed. The patient reacted well and so far as the operation was concerned made an uneventful recovery. Her general condition, however, failed to improve and to all appearances she seemed doomed to chronic invalidism.

I saw her at intervals of 2 or 3 weeks all that fall and having Case I in mind (which I saw about a month after I operated on this patient) I mentioned the possibility of a drug habit to the doctor, who felt disinclined to take such a theory seriously. In November she was sitting up about half the time, was emaciated, had some edema, the mucous membranes were blue and albumin was present in the urine. At this time the doctor asked me to take her down with me and try what I could do.

She was brought to East Rochester in November and occupied a double room at the hotel with a school teacher. After she had been there a few days the teacher came to my office with some acetanilid, which she said she had taken from the patient's powder-box. She knew it was not powder and thought I should know about the matter. The outcome of it was that I had a repetition of the first case. The acetanilid was supplied by her husband and she had taken it for a long time. All the symptoms of the drug habitue were in evidence, but a good nurse's constant watchfulness, with rest and tonics, brought about complete recovery. She was carried up stairs in November, and in February she could run up. The next summer she conducted three elocution classes, and a year ago she was taking a part in Keith's Theater, so her general condition since may be judged of.

These, of course, are extreme cases in which there was a strong hysteric tendency. That they are unique is certain, as I have never seen any similar cases reported, I report them because it seems to me there is a growing tendency among the laity to make use of acetanilid and preparations of its group in headache and other varieties of pain. Their efficacy in combating symptoms is common knowledge. I think it well to bear in mind that there may be a hidden cause due to such a habit in any erratic case which fails to respond to treatment. Unlike the opium, cocain, and chloral habitues, these were soon over the craving and, of course, no depression followed the sudden withdrawal of the drug; also there seems to have been no strong inclination to return to the habit after recovery.

PROGRESSIVE FUNNEL CHEST.

BY

J. L. TRACY, M.D.,

of Toledo, O.

Recently I saw a man who had a deformity which seemed unusual to me. The ensiform cartilage has retracted toward the spinal column at least 3 inches, making a cup-like depression that deep, and about 4 inches in diameter. The heart is a little displaced to the left, the stomach crowded downward, and the liver seemingly is forced up under the false ribs. The trouble is progressive. In the patient's child, now 2 years old, the depression shows only as a dimple. In his brother, older than himself, the condition is worse, and in his father, aged 79, still worse, the depression reaching nearly to the vertebras. The grandfather, who died at the age of 75, had the same deformity. This man and his brother are physicians, and Senn, of Chicago, and many other physicians have seen them, but none has ventured an opinion as to the cause or manner by which the cartilage can be thus retracted.

ENTEROPTOSIS.

BY

A. ROSE, M.D.,

of New York City.

To the Editor of American Medicine:—In his paper on enteroptosis, published in the issue of August 15 of your esteemed journal, Dr. Thomas R. Brown gives an etymology which I may be allowed to supplement. More correct than the word "enteroptosis" would be "enteroptosia." In my paper on "Atonia Gastrica" in the *New York Medical Journal*, May 11, 1901, I gave the following explanation: A feminine noun which ends in sis, xis, and psis as the second component remains unchanged when the first component is a preposition, as, for instance, proptosis, periptosis, diagnosis; but if the first component is not a preposition, then in composition the ending is changed into sia, as eupraxia, apraxia, palingenesia, hierognosia, and also enteroptosia, or gastroptosia. The word *τὸ ἔντερον* is the bowel, *τά ἔντερα* means the viscera, and is synonymous with *τὸ σπλάγχνον* or *τὰ σπλάγχνα*. *ἡ γαστήρ* is the word for abdomen, belly; *ὁ στόμαχος* is the distinct word for stomach proper. Thus the words enteroptosia, gastroptosia, and splanchnoptosia are synonyms, and can be used, and are used, as such.

ORIGINAL ARTICLES

TYPHOID FEVER: AN ANALYSIS OF 717 CASES.

BY

JOHN McCRAE, B.A., M.D.,

of Toronto, Can.

(From the Pathologic Laboratory of the Montreal General Hospital.)

This series comprises all cases in which the diagnosis is reasonably sure, admitted to the wards of the Montreal General Hospital from January 1, 1897, to December 31, 1902; several cases admitted after perforation had occurred are included, as these reasonably must be included in a hospital deathrate.

Time of Incidence.—The minimum admissions occur in February, the number gradually increasing to the end of August, the latter month showing the maximum number. Despite the severity of the winter the number existing up to the beginning of February is noteworthy.

Month.	Percentage of admissions.	Month.	Percentage of admissions.
January	4.9	July	10.8
February	2 5	August	15.8
March	2.6	September	12.2
April	5.	October	12.7
May	7.3	November	9.4
June	9.3	December	7.3

The *mortality* was 66, or 9.2%. Male, 65.3%; female, 34.7%. Of the deaths, 71.2% were males and 28.8% were females.

Age—Years.	Number.	Percentage.	Deaths.	Percentage of deaths (approx.)	One patient died in (approx) every
1-5	7	.98	1	1.5	7
6-10	31	4.3	1	1.5	31
11-15	67	9.3	2	3.	33
16-20	160	22.4	12	18.	13
21-25	174	24.4	14	21.	12
26-30	117	16.3	10	15.	11
31-35	70	9.8	7	10.5	10
36-40	47	6.5	6	9.	8
41-45	20	2.8	5	7.5	4
46-50	15	2.1	5	7.5	3
51	6	.8	3	4.5	2

Etiology.—A previous attack of typhoid was described in 21 cases (2.96%). In one case this occurred 1 year before; three, 2 years; three, 3 years; two, 4 years; two, 7 years; two, 8 years; one, 9 years; two, 10 years; one, 11 years; one, 14 years; and one, 21 years; in two cases the time is unstated. Four cases developed in the hospital; one patient developed the disease after 30 days in the hospital; two nurses and one hospital orderly contracted it while in attendance on typhoid patients.

Duration.—Excluding fatal cases, and a small number in which the beginning of the disease could not be accurately determined, the average duration of the febrile period for 640 cases was 27.2 days. The length of illness and convalescence, measured from the day of onset to the day on which the patient was discharged, averaged for 619 cases 52.2 days.

Degree of Fever.—For purposes of classification arbitrary divisions were made between high and moderate fever; fever which was below 104° was classed "moderate;" 104° or over during four days (or less) was classed "moderate with occasional high range," and "high" was used to describe fever which reached 104° on more than four days.

Of 713 cases
419 (59%) were moderate.
110 (15%) were moderate with occasional high range.
184 (26%) were high.

As a rule, fatal cases showed high temperature, although in 66 fatal cases the temperature was moderate in 21 (32%).

The Cardinal Points of Diagnosis.—The socalled Widal test was tried in 678 cases; it was positive in 629, *i. e.*, in 92.77% of cases tried. Ehrlich test (diazo reaction) was tried in 512 cases; it was positive in 344, *i. e.*, in 67.2% of cases tried. Rose spots were observed in 467 cases, equivalent to 65% of all cases. The spleen was palpated in 341 cases, equivalent to 47.5% of all cases.

Symptoms of Onset.—No note was made of a complaint of anorexia; the following common signs of onset were noted:

Weakness, definite complaint, 55% of 317 cases.
Headache, 66.4% of 717 cases.
Pain in back, limbs, etc., 37.4% of 717 cases.
Pain in abdomen, 22.7% of 717 cases.
Tenderness in abdomen upon pressure, 12.5% of 400 cases.
Constipation, 21.2% of 717 cases.
Diarrhea,[1] 25.4% of 717 cases.
Vomiting, 20.6% of 717 cases.
Epistaxis, 18% of 717 cases.
Chill, definite rigor, 8.6% of 717 cases.
Sore throat, 3.5% of 717 cases.

Symptoms of the Course.—The condition of the bowels was as follows: Constipation marked the course of the disease in 345 cases (48%), diarrhea in 118 (16.5%); the bowels were normal during the disease in 95 cases (13%). The symptoms so much complained of at onset rarely persisted, headache during the course being noted in but 38 cases, body-ache in 13; delirium was noted in 102 (14.2%); epistaxis was present during the course in 24 cases (3.3%), vomiting in 72 (10%), chill in 36 cases (5%). The last was frequently explicable by some complication which had supervened. Pain in the abdomen is an extremely frequent symptom of the course of typhoid fever; in this series it has been noted in only 22.7% of the cases, although it actually occurs in a much greater percentage of all cases; tenderness upon pressure is noted in 50 (12½%) of 400 cases. Abdominal pain occurs at any period of the disease and complaint of it will depend largely upon the character of the patient. Dicrotism of the pulse was mentioned in 106 cases (14.8%).

Frequent complications occurred as follows:

Bronchitis, 192 cases (26.8%).
Neuritis, 26 cases (3.5%).
Abscess, 47 cases (6.5%).
Phlebitis, 25 cases (3.4%).
Otitis media, 16 cases (2.2%).

Neuritis (including tender toes) followed bath treatment in 19, sponging in 1, and antipyretics in 4 cases. Abscesses were most frequent in the axillas, affecting the rest of the body, limbs, and head in the order named. Staphylococcus was found in 7 cases, Eberth's bacillus never. In 18 cases phlebitis affected the left side in 12, the right in 3, both in 3; it never occurred before the middle of the third week, and often not until the sixth.

Relapse, etc.—A true relapse was present in 64 cases (8.9%); 6 patients had 2 and one 3 relapses. In 51 cases the febrile period averaged 25 days, the interval of normal temperature 6.3 days, and the relapse 15.5 days; four second relapses averaged 12 days normal temperature, followed by 16 days relapse; a third relapse was preceded by 14 days normal temperature and lasted 10 days. Intercurrent relapse occurred in 48 cases (66.8%), in 46 of which the main febrile period averaged 25.9 days, the relapse 18.8 days; many cases of long continued fever without remission are similar to intercurrent relapse, but none have been included save those which show a distinct relapse rising gradually from a well defined minimum point of the fever.

Recrudescence occurred in 61 cases (8.5%), "steeples" (successive days of normal temperature, *i. e.*, church steeple like rises on 1 or 2) in 49 (6.9%, thrice immediately after semisolid food). It will be seen that roughly 31% of all patients suffered from a rise of temperature to a noticeable degree after the regular course was finished.

Infrequent Complications.—The following are stated in numbers of cases (717 cases):

Integument, etc.:
Carbuncle 1
Cellulitis 2
Conjunctivitis 2
Erysipelas 1
Erythema 7
Furuncle 6
Herpes 3
Tachecérébrales 6
Ulcers 1
Urticaria 1

[1] In 2.2% only of these is the diarrhea stated to be the result of purgative medicine; this figure is probably far too small.

Alimentary system:			
Cholecystitis	3	Parotitis	1
Glossitis (1 syphilitic)	3	Stomatitis	4
Icterus	2		
Respiratory system:			
Empyema	2	Pleuritis	13
Pharyngitis, etc.	8	Pneumonia	8
Osseous, muscular systems, etc.:			
Arthritis	1	Osteomyelitis	5
Mastoiditis	1	Periostitis	4
Myositis	2		
General system:			
Abortion	2	Mastitis	2
Urinary system:			
Cystitis	9	Pyelitis	3
Nervous system:			
Paralyses[1]	2	Tetany	2
Posttyphoid insanity	5		
Circulatory system:			
Dilation of heart	14	Pericarditis	1

The number of cases noted to have had cardiac dilation is doubtless far from the true number, but slight differences of size of the heart and transitory murmurs indicating temporary dilations are uncertain signs and in the hands of house physicians of comparatively short experience are apt to be overlooked. So also many passing myocarditides of slight degree must escape notice.

Associated conditions:

Alcoholism	1	Neuritis, alcoholic	1
Arteriosclerosis	1	Orchitis	1
Cardiac valve lesions	16	Parasites { Ascaris	5
Chlorosis	3	Parasites { Tænia	1
Diphtheria	1	Pregnancy[2]	5
Epilepsy	2	Pulmonary tuberculosis	6
Gonorrhea	4	Rheumatism, acute	2
Hysteria	4	Syphilis	3

Hemorrhage occurred in 72 cases (10%); of these 26 proved fatal; in 11 cases hemorrhage and perforation were associated. In 31 of these 72 cases there are notes of the time at which food other than purely liquid was given; of these 31, 12 patients had such food before hemorrhage occurred. Although the notes are not absolutely explicit it may be presumed that such diet was continued up to the time at which hemorrhage occurred, and the space of time between the administration of such food and the occurrence of hemorrhage varied from a few hours up to 29 days; the exact figures are as follows: Immediately, 3, 5, 6, 7, 9, 10, 11, 12, 12, 13, 26, 29 days.

Hemorrhage occurred oftenest at the end of the second week and at the middle of the third. By weeks it occurred as follows:

First week	1 case.
Second week	22 cases.
Third week	20 cases.
Fourth week	15 cases.
Fifth week	4 cases.
Sixth week	7 cases.
Seventh week	1 case.

By days it occurred as follows:

Fourth to seventh day	1
Eighth to twelfth day	10
Eleventh to fourteenth day	12
Fifteenth to seventeenth day	8
Eighteenth to twenty-first day	12
Twenty-second to twenty-fourth day	5
Twenty-fifth to twenty-eighth day	10
Twenty-ninth to thirty-first day	2
Thirty-second to thirty-fifth day	2
Thirty-sixth to thirty-eighth day	2
Thirty-ninth to forty-second day	5
Forty-third to forty-fifth day	1

The earliest initial hemorrhage was upon the fifth day, the latest on the forty-fourth day. This complication occurred oftenest proportionately in patients treated by baths, and least often proportionately in those treated by antipyretics.

Perforation.—As stated above, perforation occurred 43 times; 23 patients were operated upon, of these 6 recovered. These 6 were operated upon at various times (from 1½ to 15 hours) after perforation had occurred. Perforation was accompanied by sudden pain in 21 cases, rigidity was present almost immediately in 7 cases, but it was noted that it was absent or occurred after a lapse of 10 hours in 7 cases; decided drop in temperature was noted in only 4 cases, a rise of temperature was the earliest sign in 5 cases, rise in pulse is noted as being marked in 5 cases. These figures do not represent the frequency of the various signs at all properly, but they do indicate the relative importance of sudden pain, and the fact that rigidity cannot be depended upon as a diagnostic sign.

There is no symptom or group of symptoms that may be depended upon to indicate that perforation has occurred, the sudden abdominal pain is the most frequently present, it may often be masked by the apathetic condition of the patient, and may pass off rapidly, due weight must be given to any reports of the nurse that the patient has cried out with pain, and it must be remembered that such sudden pain often occurs without perforation.

The large number of perforations in this series, and the fortunate outcome of six of the operated cases excuses a short digression upon the question of operation. Here the exploratory laparotomy occupies its most honorable place, the hope in the far-off future of saving any large percentage of perforation cases rests in the earliest possible recognition and operation. The early certain recognition is not possible, and the surgeon must operate not when he knows there is perforation, but often when he only suspects it. He must set behind his back his "record" and remember that it requires more courage to operate upon an uncertain than upon a certain case. We must teach on all hands that to open the abdomen when perforation has been suspected and has not occurred, is not to be counted a mistake in judgment, but an indication of honorable zeal—a clear subordination of the surgeon's interests to those of the patient. Let it not be said that it is impracticable in "private practice"; naturally it is, but it need not be so in the twenty-first century if the seeds be sown today; nor let it be said that if one waits one often finds that the sudden pain and the other symptoms were misleading, and the "masterly inactivity" was justified. Such an argument is plausible and misleading. Perhaps there are none today who are ready to advise operation in all such cases, but it is our duty to teach the triviality of the abdominal section compared with the chances incurred without it.

The Widal Test.—The requirements demanded for a positive result have always been strict; a positive reaction requires cessation of movement and clamping, the time limit being from 20 to 30 minutes, the dilution approximately 1 in 20 to 1 in 40.

As stated before the test was present in 92.77% of all cases tried. In the cases in which it was found negative at first and repeated until positive, the reaction was found in 213 cases to appear upon the seventh day of the disease. The earliest day on which it was found present was the fourth day; it did not appear earlier in children than in adults. It appeared in 28 cases (out of 678) on the seventh day, and in 29 cases earlier.

The Urine.—Records of the urinary examination are to hand in 575 cases, of which 264 (46%) showed albumin at some time during the course of the disease. Casts were present in 162 (28.2%), and both together were found in 136 cases (23.6%) of those examined. The coexistence of these two indicate the presence of a parenchymatous nephritis, but its slightness of degree often does not warrant the use of the term acute nephritis in the sense in which that term is generally understood.

The Ehrlich (diazo reaction) was tried in 512 cases, and was present in 344 (67.2%). Unfortunately it was not tried day by day as a routine, but the average of 340 cases shows that it was present on the 11.8th day. It was noticed to have disappeared in 132, on an average of 9.7 days after it was first observed. It reappeared in 7 cases and was present yet a third time in one case.

The Disease in Children.—Up to the age of 15 years 105 cases occurred. Under the age of 2 years there was

[1] One case had the muscles of the face partially paralyzed; the other the muscles of deglutition.

[2] In two cases abortion at first and second month occurred; pregnancies of 5, 6½, and 7 months were uninterrupted.

only one case, a child of 13 months, in which the diagnosis was confirmed by autopsy.

Duration.—Excluding fatal and complicated cases, as well as those in which intercurrent relapse was present, the duration of the disease was as follows:

26 cases, from 1 to 9 years, averaged 20 days.
56 cases, from 10 to 14 years, averaged 21 days.

Stated more particularly, the figures are:

Average of 7 cases, from 1–5 years ..... 20.3 days.
Average of 19 cases, from 6–10 years..... 20 days.
Average of 6 cases, aged 10 years..... 21 days.
Average of 9 cases, aged 11 years..... 19 days.
Average of 10 cases, aged 12 years ..... 22 days.
Average of 17 cases, aged 13 years ..... 23.4 days.
Average of 14 cases, aged 14 years ..... 18.8 days.

Degree.—Of 31 cases in children up to 10 years, 27 ran a fever of moderate course (87%); of 64 cases from 10 to 14 years, the fever was moderate in 54 (84%).

Symptoms, etc.—Of 30 cases in which the patients were under 10 the following were observed:

Rose spots	14	Recrudescence	3
Diarrhea, onset 5, course	7	Hemorrhage	1
Delirium	3	Perforation	1
Bronchitis	8	Albumin in urine	6
Epistaxis	3	Casts in urine	4
Relapse	5		

Of 66 patients, from 10 to 14 years (inclusive), the following were noted:

Rose spots	36	Recrudescence	9
Diarrhea, onset 17, course	6	Hemorrhage	2
Bronchitis	11	Perforation	1
Delirium	12	Albumin in urine	8
Epistaxis	14	Casts in urine	4
Relapse	6		

Compared with the whole series, the following occurred less often in children: Rose spots, hemorrhage, perforation, bronchitis, and albumin and casts in the urine. The following were found oftener in children: Delirium, relapse, and recrudescence; it is to be noted that diarrhea and epistaxis were found in children in about the same percentage as throughout the series. A moderate degree of fever is the rule and the duration is shorter in children.

Treatment.—Three courses of treatment have been followed during the period covered by this series. Thirty-six patients received no treatment, 439 cold baths, 94 cold water or alcohol spongings, and 148 antipyretics.

The routine procedure of the baths has been the administration of the first bath at 90° or 85°, second bath 10° lower, third and all succeeding baths at 70° or 75°, always with ice; duration, 10 minutes; cold kept upon the head; bath administered by two persons rubbing or sponging; whisky given after the bath if indicated. The bath is given every four hours if temperature is over 102°.

Spongings last 20 minutes, and are given between blankets, alcohol or blocks of ice being used.

The antipyretic treatment consists of phenacetin .32 gram (5 grains), alternating with salol .32 gram (5 grains); one or the other is given every four hours unless counterindicated; to this a tepid sponging once or twice daily is added.

It must be understood that these courses of treatment have necessarily varied according to the individual practice of physicians in whose services the cases have been; and that each one may vary his practice from time to time; but a general and concise statement has been attempted.

A brief comparison is made, stated in numbers of cases:

1.

	Cases.	Deaths.	Hemorrhages.	Perforation.	Delirium.	Bronchitis.
Baths	439	48	54	24	67	103
Antipyretics	148	14	9	10	21	56
Spongings	94	4	8	4	11	22

2.—PERCENTAGES.

	Percent of cases.	Percent of deaths.	Percent of hemorrhages.	Percent of perforation.	Percent of delirium	Percent of bronchitis.
Baths	64.4	72.6	76.	63.1	67.6	56 9
Antipyretics	21.7	21.	12.7	26.3	21.2	30.9
Spongings	13.8	6.4	11.3	10 5	11.1	12.1

The deduction that the "sponging" treatment is the best of the foregoing is nullified by the fact that the least severe cases are treated by this method. On the other hand the high percentage of hemorrhages and perforations credited to the "bath treatment" is to be considered along with the fact that this method was used in nearly two-thirds of all cases, and that the number of very severe cases falling to it would consequently be proportionately great. The small number of hemorrhages referable to the antipyretic treatment and the large number referable to the baths are indications of the relative height of circulatory strength in a depressant and stimulant treatment respectively. The relatively high number of cases of delirium in the bath treatment is due doubtless to the severity of some cases included, and it is to be remembered that the delirium of today is generally little more than mental wandering. The series makes, therefore, no marked distinction in favor of any form of treatment, save that in the bath treatment there are more cases of hemorrhage and neuritis and fewer of bronchitis, whereas in the antipyretic treatment hemorrhage is comparatively infrequent and bronchitis moderately frequent. It is difficult to understand why any course of treatment should predispose to bronchitis, and it is likely that the differences are due to season and climate.

Diet.—In most cases strictly liquid diet is given, though in a considerable number of cases custard, poached egg, and other semisolids are given even from the first week of the disease. The day on which this kind of food was earliest given is noted in 381 cases. In 73 this was after five weeks, and in 92 it was after defervescence, leaving 216 in which semisolids were given during the disease before normal temperature was reached. In these 216 cases there occurred at different times the following:

Hemorrhage (once immediately after ingestion)..... 12 times.
Perforation ..... 7 times.
Relapse ..... 9 times.
Intercurrent relapse ..... 11 times.
Recrudescence ..... 20 times.

These figures are all less than the proportionate numbers in the whole series, but it is to be remembered that the patients with slighter cases only are allowed semisolids. The following facts, too, must be regarded before a decision is made. Of 72 cases in which hemorrhage occurred the time of giving semisolids was noted in 31; in 12 of these semisolid food was given previous to the occurrence of hemorrhage. In 43 perforations the day of giving semisolids is noted in 7; in all 7 it was given before perforation.

Effect upon the Duration of Disease.—The average duration of 185 moderately uncomplicated cases was 23.6 days; semisolid food was given in the first 14 days in 125 cases, of which 40 ran a course of 21 days or less, 47 ran from 21 to 28 days, and 38 over 28 days. Sixty-three cases in which semisolids were given in the first 9 days averaged 27 days. When observing the results of semisolid food it must not be forgotten that milk, if it becomes curdled in the stomach, is practically a semisolid.

The question of food is a vexed one, and no rule will apply to all cases; it may be said that any food which reaches the seat of disease in any other than perfectly fluid form is bad.

SPOTTED FEVER (TICK FEVER) OF THE ROCKY MOUNTAINS: A NEW DISEASE.

BY

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In the latter part of April, Dr. A. F. Longeway, Secretary of the Montana State Board of Health, requested the Surgeon-General of the United States Public Health and Marine-Hospital Service, to detail an officer to investigate the socalled "spotted fever," which had prevailed in the Bitter Root valley for a number of years.

Under official orders I departed from Washington and arrived in Missoula, at the head of the valley, about May 1.

ETIOLOGY.—The disease has been known in the valley of the Bitter Root for about 20 years. It is sharply localized on the west bank of the Bitter Root river, no cases having occurred on the east side of the river in persons who had not a short time previously visited the west side. Certain places in the valley seemed to be more heavily infected than others. Nine cases have occurred in the canyon of Rock Creek, about 20 miles east of the Bitter Root.

The disease has been known in Idaho for a number of years, the first published description of the disease having been made by Dr. E. E. Maxey, in the Portland *Sentinel* October 9, 1899. In Idaho the disease prevails throughout almost the entire valley of the Snake river, its tributaries, and the foot-hills of the neighboring mountains. The disease has been reported in the valley of the Quinn river, Nevada; at Cody and Meeteetse, Wyoming, and in eastern Oregon. The disease has not been reported south of 40° or north of 47°. It prevails at an average elevation of from 3,000 feet to 4,000 feet above sea-level.

Cases occur exclusively in the spring and early summer. The earliest case in the Bitter Root valley was March 17, and the latest July 20. All occupations that cause a person to be exposed to the bite of ticks, such as stockmen, sheep-herders, miners, etc., and those whose occupation takes them into the brush, are especially liable to the disease.

Persons from 15 years to 50 years of age more often contract the disease on account of being more actively engaged in outdoor work. The youngest patient was 18 months, and the oldest 74 years of age. In 121 cases, 76 were males and 45 females.

THE PARASITE.—Drs. L. B. Wilson and W. M. Chowning, of the University of Minnesota, studied spotted fever in the Bitter Root valley in the spring of 1902. They noticed ovoid intracorpuscular bodies in stained preparations of blood from their earlier cases, but did not determine the character of these bodies until examining the fresh blood of Case 94, when they found the same ovoid intracorpuscular bodies showing ameboid movements, and this observation they confirmed in all the later cases they examined.

The parasite found in the red blood-corpuscles of persons suffering from tick fever resembles, in a way, both the parasite of malaria and Texas cattle fever, but unlike most malarial parasites, it is not pigmented, but like them, it is ameboid, thus differing from *Pirosoma bigeminum*, which is nonpigmented and without motion. One form of the parasite found in tick fever is arranged in pairs in the red blood cells, resembling the double form of *Pirosoma bigeminum*.

In my studies of tick fever I had the opportunity of examining the blood of a number of cases. Three forms of the parasite were noted. The most common form was a single ovoid body, refractile, situated within the cell, usually near the side. When the stage was warmed this body possessed the power of projecting quite rapidly pseudopodia, with a slight change of position. This form, which is apparently an earlier or young form, is about 1.5 microns to 2 microns in length and 0.5 micron to 1 micron in width at its widest part. Another form, not so common, was larger, being about 2 microns to 2.5 microns by 1 micron to 1.5 microns, larger at one end and showing in the larger end a dark granular spot; this was also ameboid. The third form noted was arranged in pairs, distinctly pyriform, with the smaller end approaching. Motion was not observed in this form, but the granular spot mentioned in the second form was present.

Great difficulty was experienced in staining the organism. A number of stains was used, but the most satisfactory results were obtained with Wright's stain, followed by Loeffler's blue. Carbolized Unna's polychrome methylene-blue also gave fair results, heat fixation at 120° C. for 20 minutes being used. The parasite takes the stain more deeply at one end and is only faintly outlined in its periphery. Some times it has only a central stained spot surrounded by a clear unstained area.

The parasites are never found in very large numbers, it being usually necessary to search several fields of the slide to find one. In both fresh and stained preparations extracorpuscular bodies closely resembling the small intracorpuscular form of the parasite were seen. I was unable to definitely decide the character of these bodies, but am inclined to think that they are the young form of the parasite which has not yet invaded the red cells.

I had the opportunity of examining the fresh and stained blood from cases in the Bitter Root valley of smallpox, typhoid fever, malaria, scarlet fever and other medical and surgical cases, and from healthy persons; but did not see in any of them any bodies, either intracorpuscular or extracorpuscular, resembling in any way the bodies above described as being found in the fresh and stained blood of persons suffering from tick fever.

In the cases of tick fever which I had the opportunity of examining I had no difficulty in finding, both in fresh and stained blood, the bodies above described. Their constancy in the blood of persons suffering with tick fever, their persistence for some time in the blood of these persons after recovery, their absence from the blood of persons suffering from other diseases and of healthy persons, makes it very probable that they are the cause of the disease, and that one more has been added to the diseases of man due to animal parasites.

Cultures were made by Drs. Wilson and Chowning and by myself from the blood of persons during life and from the organs and tissues at autopsy, and the only bacterial growth obtained was *Staphylococcus epidermidis albus*, *Staphylococcus pyogenes aureus* and *albus*, and *Bacillus coli*. No one organism was constant, and from some cases no growth at all was obtained.

I am informed in a personal letter by Dr. Wilson that they have selected as a name for the parasite *Pyroplasma hominis*.

METHOD OF INFECTION.—The life history of the organism of malaria and Texas fever naturally suggested that some insect was concerned in the transmission of the disease. On investigation it was found that ticks appeared in the valley about the last of February, but were inactive until the middle of March or April 1, the first cases of fever appearing about the last of March. The ticks begin to diminish greatly in number about June 1, and after the middle of July very few are seen. The cases of fever also begin to diminish about June 4. Mosquitos do not appear in the valley until after the first cases of fever develop and remain some time after the last cases appear. Bedbugs and other house insects, I think, may well be excluded by the fact that there has never been known an instance in which 2 cases occurred the same year in the same house.

On closer study of the cases of tick fever it is found that there is always a history of tick bites a few days

before the onset of the disease. In 4 cases there was a history of but a single bite, 2, 3, 5, and 7 days, respectively, before the initial symptoms. The usual time between the bite and the onset of the fever is about 7 days. If the tick transmits the disease it may be asked: Why do not more persons become infected, and why is the infection confined to the west bank of the Bitter Root river? I think this may be answered by the very obvious fact that the tick is unable to travel any great distance unless carried on some person or object. Again, it is very unusual for a tick to bite a person and not be discovered in a short time, and the result is the destruction of the tick. If, as in Texas fever, the development of the parasite takes place in the female tick and the young ticks transmit the infection, the very small number of ticks which escape destruction on persons explains the small number of infected ticks. Where do the female ticks get their infection? I examined a recovered patient 24 days after discharge by the physician and had no trouble in finding the parasite in the blood. This child had been out of doors for over 2 weeks, and if a female tick (ticks were very numerous near the house) had bitten her and escaped destruction, the parasites in the blood taken in by the tick would have undergone development and the young ticks, hatched out, would be ready to infect prospective victims.

While the above facts and conclusions tend strongly to the belief that the ticks are necessary for the transmission of the disease, the actual fact cannot be proved scientifically until carefully controlled experiments are made on nonimmune persons.

A number of ticks were collected in the Bitter Root valley and forwarded to the Hygienic Laboratory of the Service, in Washington, for determination. They were referred by the director to Dr. Ch. Wardell Stiles, the zoologist of the laboratory, for determination, and he reported the provisional diagnosis of *Dermacentor reticulatus*.

SYMPTOMS.—Incubation from 3 to 10 days.

For a few days the patient may have chilly sensations, malaise, and nausea; finally, there is a distinct chill, and the person takes to bed. There is some pain in the back and head; soreness of the muscles and bones; bowels constipated; tongue with heavy white coat, red edge and tip; conjunctivas congested, becoming yellowish; urine usually small in amount, with albumin and a few casts; slight bronchitis after a few days; nosebleed, sometimes quite severe, is always present.

Before the distinct chill there is little or no fever in the morning, with a slight rise in the afternoon. After the chill there is an abrupt rise, and from then on the fever gradually rises in the evening, with a slight morning remission. The maximum is usually reached on the eighth to the twelfth day; then, in a favorable case, gradually falls, becoming normal about the fourteenth to the eighteenth day, usually going to subnormal for a few days. In fatal cases the fever remains high, 104° to 106°, and the morning remissions are very slight or not present.

The pulse appears out of all proportion to the temperature, usually running from 110 to 140. Red blood counts show a progressive decrease in red cells. The white blood corpuscles are increased in number, varying from 8,000 to 12,000. A differential count in 2 cases gave an average of

	Percent.
Polymorphonuclear leukocytes	77.7
Large mononuclear leukocytes	11.4
Small lymphocytes	10.0
Eosinophiles	.9
Total	100.0

This shows as its most interesting feature an increase in the large mononuclears. There was a steady but never very rapid decrease in the percentage of hemoglobin, 1 case being as low as 50%. The blood failed at all times to agglutinate *Bacillus typhosus*. Fresh and stained blood showed the 3 forms of parasites described under etiology.

The eruption appears usually on the third day, first on the wrists, then on arms, legs, forehead, back, chest, and last and least on the abdomen. It is never very abundant on the abdomen, but the other portions of the body in some cases are literally covered by the eruption. At first the spots are of a bright red color, macular at all times, from a pin-point to a split pea in size. At first they disappear readily on pressure and return quickly, but if the case is a severe one they soon become darker, and in some cases are almost purple. From about the sixth to the tenth day of the disease they fail to disappear on pressure, and are distinctly petechial in character. In some cases the eruption consists of small, brownish spots, giving a turkey-egg appearance.

As the fever declines the eruption begins to fade, but a slight return of fever or a free perspiration will cause it to show distinctly. In very severe cases there may be gangrene of the fingers or toes, and still more frequently of the skin of the scrotum and penis. The skin is always jaundiced to a greater or less degree.

At first there may be a little nausea, but the appetite is often good throughout the first week. In fatal cases nausea becomes more persistent during the second week and lasts until the end. Constipation is present throughout the course of the attack. Tympanites is never excessive. The liver is usually moderately enlarged. The spleen is enlarged early, and may extend 1 or 2 inches below the costal margin. The urine is decreased to about half its normal amount for the 24 hours; small amount of albumin in all cases examined; granular, hyalin, and epithelial casts.

The respiratory rate is always increased, usually varying from 26 to 40 per minute, in some cases reaching 50 to 60; regular, but often shallow. In the second week there is always a slight bronchitis. Epistaxis is usually seen about the end of the first week. Pain in head and back is usually severe during the first week. The muscular soreness is often very severe, even in mild cases, and lasts until recovery. The mind is usually clear, even in severe cases, until within a few hours of the end. Pupils react normally to light and distance; no opisthotonus or other irritative symptoms.

MORBID ANATOMY.—On the nondependent parts of the body, spots, petechial in character, from bright red to dark purple in color, and from 1 cm. to 3 cm. in diameter; most abundant on wrists, ankles, arms, and back. The capillaries are congested; minute extravasation in the rete extending into the stratum mucosum. Lungs show hypostatic congestion; occasionally pneumonia. A few small petechial hemorrhages under the epicardium over left ventricle were constantly found. The heart muscle is flabby, softened, and pale. Right heart full of blood; left, contracted and empty. The nuclei are faintly stained; fibers granular and fragmented.

Small and large intestines are normal in appearance throughout; Peyer's patches rather pale in color.

Mesenteric and retroperitoneal glands not enlarged. Spleen usually dark purple in color, soft, diffluent, and from 3 to 4 times its normal weight; vessels engorged with blood; many mononuclear leukocytes containing from 1 to 4 red corpuscles. Liver enlarged, fatty, and in portions, areas outlined by bile pigment; sections usually show an advanced degree of fatty infiltration; bile capillaries full. Pancreas about twice its normal weight.

Kidneys enlarged; capsule usually not adherent. Small subcapsular hemorrhages on ventral surface. On section, congested and swollen cortex; pyramids well outlined and deep red color. Small hemorrhages in pelvis. Microscopically there are minute extravasations of blood in cortex and under the capsule; veins filled with blood. Nuclei of the convoluted tubules stain poorly; cells granular and in some places detached;

newly formed casts in tubules. Bladder normal and usually with small amount of dark urine.

PROGNOSIS.—Of 121 cases which have occurred in or near the Bitter Root valley, 84 were fatal, giving a case mortality of about 70%. The mortality varies from year to year, some years as many as 90% of those attacked dying. Death usually occurs between the sixth and twelfth day. The disease in Nevada, Idaho, Oregon and Wyoming is not nearly so fatal as it is in Montana, only about 2% dying.

DIAGNOSIS.—Cases occurring in the infected localities and presenting a history of tick-bites, chill, pain in the head and back, muscular soreness, constipation, macular eruption, first on the wrists and ankles, appearing on the third day of illness, becoming petechial in character, do not present much difficulty in diagnosing tick fever. A blood-examination should be made in all suspicious cases.

Cerebrospinal Meningitis.—The stiffness of the muscles of the neck, photophobia, sensitiveness to sudden noises, headache, and rigidity of the muscles of the back and neck, with the not altogether constant irregularly situated rash, should not cause much trouble.

Peliosis Rheumatica.—In this disease the sore throat, multiple arthritis with purpura and urticaria, and comparative rarity of the disease, offer a sufficiently distinct clinical picture.

Typhoid Fever.—Clinically this disease closely resembles tick fever, but the rose spots appearing first on the abdomen—papular in character—diarrhea, Widal reaction, and presence of the typhoid bacilli in cultures from the blood of typhoid fever, and the presence of parasites in the red blood cells of spotted fever, suffice to separate distinctly the 2 diseases.

Typhus Fever.—Tick fever, I think, more closely resembles typhus fever than any other disease, and cases of typhus fever occurring in a locality in which tick fever prevails would, without a blood examination and close bedside observation, cause much trouble in diagnosis. In typhus we have the longer period of incubation, absence of a history of tick-bites, the eruption which first appears on the abdomen and chest, its intensely contagious character, especially prevalent in the winter months, not limited to a short time in the spring, and marked nervous symptoms. As before mentioned, 2 cases of tick fever have never been known to occur in the same family the same season, thus conclusively showing the noncontagious character of the disease.

TREATMENT.—Until the past season the treatment of the disease has been purely symptomatic, but after the discovery of the parasite, Dr. Wilson and myself suggested the use of quinin in large doses, preferably hypodermically. In 5 cases in which it was used systematically and in large doses all terminated in recovery. Five cases which did not have the treatment were fatal. Of course 10 cases is too small a number on which to base very positive conclusions, but I hope that the use of quinin will be followed in the future treatment of the disease. Quinin bimuriate, 1 gram, should be given hypodermically every 6 hours. The use of quinin should be begun as soon as the diagnosis is made and persisted with in decreasing doses as convalescence begins. I strongly advise the early and continuous use of large doses of quinin. Some physicians speak well of calcium sulfid and others of creosote. The heart should be supported with strychnin, whisky, or other appropriate cardiac stimulants.

For the severe pain in the head and back during the first week Dover's powders or morphin sulfate may be used. The patient should be encouraged to drink large quantities of water to flush out the kidneys. For the fever, warm sponge baths or packs are useful and refreshing to the patient. The room should be kept dark and as free from noise as possible.

Milk, buttermilk, broths, soft eggs, and soft toast may all be allowed. The whisky may be administered in an eggnogg.

As soon as a person is bitten by a tick the insect should be removed and the place cauterized with 95% carbolic acid. There is sometimes difficulty in removing the tick; but by applying ammonia, turpentine, kerosene, or carbolized vaseline it can usually be detached without trouble.

CONCLUDING REMARKS.—I have suggested as a name for the disease "Tick fever," on account of the relation of the tick to the spread of the disease and the fact that there are already 2 diseases of man sometimes known as "spotted fever."

A full report of my investigations, with photographs and colored drawings of the parasites is published in Bulletin No. 15 of the Hygienic Laboratory.

To Surgeon-General Wyman I am much indebted for the detail to study this most interesting disease. To the physicians of the Bitter Root valley my thanks are due and are hereby extended for many courtesies during my stay with them.

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SOME BIOLOGIC DIFFERENCES BETWEEN THE NATURAL AND THE ARTIFICIAL FEEDING OF INFANTS.[1]

BY

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The part that has been assigned me on this evening's program is to review briefly the most important of certain recent investigations, which give at least partial explanations of some very important facts in infant feeding that have never previously been well understood. We know, for example, that by properly adapting milk-mixtures to individual cases, we can, as a rule, accomplish satisfactory results; but we know equally well that in a certain proportion of the more difficult cases, milk-mixtures, no matter how carefully prepared, are poorly digested. At times, also, in spite of taking sufficient quantities of food—and, even, perhaps, in spite of apparently satisfactory digestion of the food—the infant either makes little or no gain, or persistently loses weight and strength. And in addition to these evident differences in nutrition, bottle-fed babies are more subject than nursing infants to both local and general infections other than direct milk-infections.

The nature of the differences between the nutritive and protective qualities of mothers' milk and those of cows' milk has in some ways been extremely obscure, particularly in cases with apparently good digestion; for chemic methods of investigation show no differences that constitute an entirely satisfactory explanation. There are, to be sure, certain important differences between human milk and cows' milk, other than the gross difference in the amounts of proteid, fat and sugar and the difference in the character of the curd. Among these may be especially mentioned the difference in the relative proportions of casein and lactalbumin; in the character of the fats; in the amounts of other organic substances, such as lecithin; in the quantities of inorganic salts; and also in the combinations, both organic and inorganic, in which the inorganic material is present. All these are undoubtedly of importance; but they are not really satisfactory explanations of the differ-

[1] A part of a symposium on infant feeding held at the Philadelphia County Medical Society, April 20, 1903.

ences in the nutritive qualities of the two forms of milk, and they do not offer any reason for the superior resistance to infection shown by the healthy breast-fed baby, as compared with the healthy bottle-fed infant.

During the last 3 or 4 years there has been collected a considerable mass of evidence, obtained by biologic methods of study, which demonstrates certain definite and previously unknown differences between human milk and that of animals. While those now known certainly do not constitute the sole biologic differences between human and animal milk, and others will undoubtedly be discovered, those already recognized are sufficient to make clear some of the most important general biologic differences between maternal and artificial feeding.

I shall first mention briefly an investigation that did not deal with the nature of milk, but with the effects of different milks. It has been clearly demonstrated by Huebner that a child fed upon artificial food needs to do more actual work in order to render that food a suitable nutriment for its tissues than does the nursing baby. Huebner made exact determinations, in healthy bottle-fed and nursing infants, of the value of the food-intake in energy units, and of the value of the out-go; and also determined the changes in weight. He likewise made equal and proper allowance for the energy used in ordinary muscular action, and the like. He found that there is in the bottle-fed, as compared with the nursing infant, an evident and very marked loss of energy somewhere. This can be attributed only to the fact that the bottle-fed child is obliged to use this energy in changing the cows' milk so that it may become a suitable food for its tissues, while the nursing child is not obliged to do this. Hence, the bottle-fed, as compared with the nursing infant, wastes a large amount of the energy obtained from its food, and at the same time the food demands excessive functional activity on the part of the child, the strain certainly being largely borne by the gastrointestinal tract during the process of digestion. This loss of energy shows clearly why a bottle-fed infant receiving apparently the same amount of energy-equivalent in its food, and perhaps even digesting it well, often does not thrive as does a nursing baby, and may even atrophy; and the fact that the food demands extra work of the child is at least a partial explanation of the tendency to digestive disturbances in bottle-fed infants.

This, however, while important work, is only an interesting and exact scientific demonstration of facts already practically known. It does not show wherein the difference between the two forms of nourishment lies. A very different line of research, undertaken for another purpose altogether, has thrown some light upon this point, in that it has shown that there are very marked biologic differences among the various kinds of milk—differences that cannot now be defined, but that are so striking and important that they make it easier to understand that there must inevitably be variations in the digestibility and in the nutritive qualities of these milks.

In 1899, in the course of his studies on immunity, Bordet demonstrated that if an animal be injected with the milk of an animal of a different species, the injected animal will develop some substance or substances in its blood-serum that, if added to milk taken from the same species of animal as was the milk injected, will cause a precipitation of the casein of this milk. For instance, if cows' milk be injected into guineapigs the blood-serum of the latter, after a certain number of injections, will precipitate the casein of cows' milk. It has, however, no action upon the casein of the milks of species widely different from the original. Similar facts, as is well known, have been shown to be true of many other proteids besides casein. It is unnecessary to discuss the complex theories as to the nature of the reactions that produce the precipitating substances, or to refer to the importance of this work in its relation to the question of immunity. Its importance in connection with the subject under discussion, consists in the immediate demonstration offered by it that there are certain striking biologic differences in milks, which are specific of these various forms of milk.

Bordet's results with milk have been confirmed by a number of observers (Wassermann and Schütze, Fisch, Nuttall and Dinkelspiel, Müller, Hamburger, Mullie, Fuld). Moro, indeed, even claims that he has demonstrated that distinct differences between individuals of the same species (in his experiments, women) may be shown by this method. He states that after injecting human milk into animals he found that the serum of the injected animals reacted decidedly more markedly with the milk obtained from the same person as the injected milk than it did with the milk of other women. This remarkable statement was confirmed in discussion by Schlossmann, who reported the same results. This, however, needs further and more definite confirmation, and it should particularly be seen whether the difference in the reaction was not due to a difference in the amount of casein present in the milk. The results referred to are, however, sufficient to demonstrate that there are marked differences in the nature of the casein of the milks of different species. These differences cannot be overcome by any methods of modification at our disposal.

It is of interest to note that this reaction apparently occurs only with the casein of milk, and not with other milk-proteids, which is apparently additional evidence of the fact that the chief difficulty in assimilating the milk of another species lies in the differences in the casein. Fuld has apparently shown that the reaction is synthetic, and not catalytic; and that it is not the same as that produced by the ordinary milk-curdling ferment. Michaelis, however, makes the interesting suggestion that the reaction may be considered to demonstrate the somewhat obscure *raison d'être* of the milk-curdling ferment. He believes that milk is coagulated when it reaches the stomach in order to prevent it from being absorbed in unassimilable form, *i. e.*, before digestion. His suggestion is hardly pertinent, however, for homologous, as well as heterologous milk may be curdled by the same milk-curdling ferments.

In connection with this work may be mentioned the recent experiments of Wassermann, who makes the interesting claim that he has demonstrated in a similar way that more effort is demanded of the organs of a child fed upon heterologous milk than of those of one fed upon maternal milk. This author has shown that when guineapigs are injected intraperitoneally with heterologous proteids (the blood-serum of goats, for instance) and then injected, also intraperitoneally, with large amounts of bacteria, the animals possess an unusual power of killing off and dissolving these bacteria thus locally injected. This power is not shared by animals that have not received an injection of heterologous proteid (blood-serum from their own species); they do not exhibit this striking local bactericidal power. This, Wassermann considers to demonstrate that the injection of a heterologous proteid excites a demand for certain biologic ferments, which are concentrated at the point at which the heterologous proteid has been introduced; and these ferments assist in destroying the bacteria. The injection of a homologous proteid does not cause an excessive demand for ferments, hence the local immunity is not raised above the normal. This shows clearly, he believes, that the use of proteid from a species other than that of the child must cause its organism to exercise an excessive amount of ferment-activity in assimilating that proteid; in other words, more is demanded of the child in assimilating heterologous proteid than in making use of its natural food.

It is questionable, however, whether Wassermann's work actually demonstrated what he thought it did; for there is a very important difference between the subcu-

taneous injection of a proteid of another species, and the ingestion of that proteid into the digestive tract. We have, for instance, known for years that when foreign proteids are injected into the circulation, they are—in large part, at least—excreted at once by the kidneys, and practically act only as foreign substances, while when taken as food, they are, of course, made use of in the economy; and in more direct relation to Wassermann's work, it is an important fact that according to the observations that are apparently most reliable (Michaelis and others), the digestion-products of the proteids of another species, when injected into animals, do not cause the production of a specific substance that will precipitate the substance originally injected. The child, of course, does not take cows' casein beneath the skin, but into the alimentary tract, and it is digested before it reaches the circulation. Wassermann's work does not take account of this fact, and it does not, therefore, prove his point. While it is more than probable that the proteids of cows' milk do demand more work of the child's metabolism than do the proteids of mothers' milk, it has been positively demonstrated only that there is an excessive demand upon the digestive tract.

As to the question of the greater resistance to infection exhibited by the nursing infant: The fact mentioned, that the bottle-fed baby uses and wastes more energy than the nursing baby in obtaining an equal amount of nutriment, is a partial explanation of its greater liability to infection; for this means that the child's functions are constantly being taxed beyond the normal. This is not, however, an entirely satisfactory explanation; for even robust, well-nourished, bottle-fed infants are more subject to local and general infections than are nursing babies. This important question has recently been especially well studied by Moro, whose work indicates that the lesser resistance of the bottle-fed infant to infection depends upon the fact that the nursing baby is provided in its mother's milk with certain protective substances, which are lacking in the food of the bottle-fed infant. It has for some time been known that antitoxins, agglutinins, etc., may be furnished to infants in the mothers' milk; and Moro, in comparing natural and artificial feeding, found that when the bactericidal power of the blood-serum of bottle-fed babies was contrasted with that of the blood-serum of nursing infants, there was a very evident difference in favor of the nursing child. This difference disappeared rapidly when the nursing baby was put on cows' milk. Evidently, then, the protection had come through the mother's milk. It is a very remarkable fact that Moro's work, as well as that of others (Fokker, Hesse, Basenau, Schottelius, Heim, Friedrich, Kitasato, Uffelmann, Cozzolino) shows that probably neither cows' milk, human milk, nor milk from other species possesses in itself any noteworthy bactericidal properties. Klemm and Ellenberger have claimed that ass's milk has marked bactericidal properties, but recently Klimmer has apparently shown that they were wrong. The bactericidal substances are, therefore, not furnished as such to the infant in the mother's milk; but it is probable that they are present in some combination, and are set free only in the process of digestion or of assimilation.

Moro has also demonstrated a further difference between the resisting power of bottle-fed and that of nursing infants by investigating the hemolytic power of the blood-serum of the two classes of infants. He found that the serum of the nursing infant has a much more marked hemolytic action than that of the artificially nourished child.

Unfortunately, Moro compared nursing infants with those fed upon sterilized cows' milk. His work would have been more definite and convincing had the artificially nourished infants been fed upon unheated cows' milk; for the differences in the bactericidal properties of the blood-serum depended upon the presence of a larger supply of socalled alexin or complement in the serum of the nursing child. Sterilizing the cows' milk would probably destroy any protective property that it might be able to furnish the child, for complements are extremely susceptible to high temperatures. The work, in order to be complete, needs to be performed with babies fed upon unheated cows' milk that is known to be free from pathogenic bacteria, and of low general bacterial content.

The work that has been mentioned is the most important of the biologic investigations directly relating to the nutritive and protective qualities of mothers' milk, as compared with cows' milk. There are, however, certain other interesting biologic differences between different milks that are already known, and that may be shown to have an importance that we cannot yet recognize.

It has, for instance, been demonstrated that human milk contains a diastatic ferment that is not found in cows' milk; and this ferment is apparently not derived directly from the blood-serum, but is produced in the mammary gland. It has also been claimed that human milk contains a ferment that has the power of decomposing salol, benzol, etc., while cows' milk does not; and Luzzatti and Biolchini state that human milk contains a more energetic fat-splitting ferment than does cows' milk; while, on the contrary, that much-abused and as yet somewhat hypothetic substance, a glycolytic ferment, is said to be much more active in cows' milk than in that of women. Ferments with the characteristics of trypsin and pepsin are apparently found in all milks, though their amounts vary in different species. Spolverini even makes the somewhat questionable claim that he has been able to modify the amounts of certain ferments in the milk of various animals by modifying their diet, and he insists that results of importance in infant feeding may be obtained in this way.

A much more important fact than those just mentioned is that many milks contain a peculiar oxidizing ferment, which is of importance in determining commercially whether milk has been heated before being sold. The milk of the cow, for instance, and that of a number of other animals, contain this ferment; while human milk and a number of kinds of animal milk are known not to contain any considerable amount of it. This oxidizing ferment is not now known to be of much physiologic importance for the young of these animals, though it may have such importance; but it has importance in connection with the active effort that has for years been made to provide some satisfactory method of showing that milk has been heated, so that the public may be protected against the fraud of being furnished with heated milk. The heating is, of course, done in order to prevent bacterial action from spoiling the milk, while what should be done is to provide in the beginning a clean, fresh milk that has been kept properly cooled and has but a small bacterial content. The difference between heated and unheated milk is, as is well known, of great dietetic importance, particularly in feeding infants; for milk, in being heated to a high temperature, loses some of its digestibility and nutritive qualities.

Many chemic methods of determining this—methods both simple and elaborate—have been suggested and found unsatisfactory. There has now come to be a very fair general agreement that a simple and satisfactory method of telling whether milk has been heated to a high temperature is to make use of this oxidizing ferment. The ferment has the property of causing color changes in guaiac, guaiacol, creasote, paraphenylendiamin, and other substances; and a simple and apparently accurate method of telling whether milk is raw is, therefore, merely to see whether it will cause these color changes; whether it will, for instance, cause tincture of guaiac with some added turpentine or hydrogen peroxid to turn blue. A strongly positive result indicates the presence of raw milk; a negative result shows that the milk has been heated. The test must be carried out with certain precautions, but is apparently reliable. Unfortunately, neither this nor any other test seems to be abso-

lutely reliable in demonstrating that the milk has not been heated to a moderately high temperature; and this is of importance, because some milk dealers are now "pasteurizing" at about 140° F.

As I have said, the ferments last mentioned are not now known to have any great physiologic importance. It is scarcely possible, however, that they exist without some purpose; and there is one way, as yet unmentioned, in which all the work that has been referred to seems to be of decided practical importance. It is certain that ferments, the ferment-like complements, and any similar substances present in raw milk, would be entirely destroyed by heating to the temperature maintained in sterilizing milk, and many of them would be destroyed at the pasteurizing temperature. We now thoroughly recognize the well-established fact that sterilizing an infant's milk entails the danger of seriously disturbing nutrition; and many pediatrists—justly, I think—believe that pasteurization is not wholly free from similar dangers, though far less harmful than sterilization. We must, as yet, often pasteurize milk, in order to save infants from the almost ubiquitous and often terrible possibility of milk-infection; and we shall unquestionably be obliged to do this in many instances for a long time to come. But it does seem that these recent biologic investigations of milk emphasize the dangers of sterilization, and offer further indications that the results of pasteurization are at least not wholly beneficial. We have been accustomed to attribute the ill-effects of heating to physical and chemic alterations produced thereby, chiefly in the proteids. We are, however, well justified in believing, even in the absence of exact proof in all cases, that these ferments and substances with ferment-like activities are of very decided importance; and, also, that there are other important biologic characteristics of milk that are not yet known. Most of these distinctive biologic characteristics are, as stated, destroyed by heat; many of them, even at the pasteurizing temperature. It is highly probable that some of the bad results of heating milk are due to these changes. It is, at any rate, quite clear that even pasteurizing milk causes alterations in it.

This work provides, then, added and important reasons for insisting to the profession and to the intelligent public that the end that must be sought is not some artificial means—such, even, as pasteurization—of overcoming an infection of milk that has already taken place; but the production of reliable, clean, and uninfected milk. Such milk, when properly kept, does not need artificial treatment to make it a safe infant food. When the general public reaches the point of demanding that milk for infants shall not be a constant menace to health but shall be even cleaner and safer than the food used by adults, uncountable infants will be saved from destruction.

PERSONAL EXPERIENCE IN OPERATIONS UPON DIABETIC PATIENTS.

BY

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Diabetes mellitus being a comparatively rare disease, individual surgeons do not have the opportunity of acquiring a considerable experience in operating upon patients suffering from this malady as a complication to their surgical diseases. I have had the opportunity of operating upon 7 women suffering from diabetes mellitus, and shall present the history of these patients, together with such cases as it has been feasible to gather from the literature, for your consideration. The chief object of this paper is to elicit discussion on the general question of the influence which diabetes has upon the course and result of operations. There is a general impression prevailing in the profession that diabetes is one of the gravest complications to be met by the surgeon, and that operation should be avoided upon diabetics. It is widely believed that the healing process in wounds in diabetics is markedly interfered with, and that the sloughing rather than the healing of wounds is to be expected. It seems probable that this view has its origin in the fact that in the past, a large proportion of operations upon diabetics have been done for diabetic

TABLE I.—OPERATIONS UPON PATIENTS SUFFERING FROM DIABETES MELLITUS.

No.	Name.	Age.	Disease.	Operation.	Result.	General Treatment.	Remarks.
1	Mrs. W. '93	60	Carcinoma mammæ.	Mammectomy, radical.	Recovered from operation; died from cancer 4 months later.	Codein and strychnia, and diet after operation.	Patient operated on by mistake; urine mixed in laboratory; quantity of glucose was large; suppuration in axilla from sea-sponge left in at operation.
2	Mrs. F. 2-22-97	47	Postoperative ventral hernia.	Operation for radical cure of ventral hernia.	Recovered.	Diet, codein and strychnia.	Amount of glucose at time of operation small; patient still has trace of glucose in urine, and urine shows hyalin and granular casts with albumin at intervals.
3	Mrs. L. 10-10-98	50	Procidentia uteri.	Vaginal hysterectomy.	Died in diabetic coma on sixth day.	Diet and codein for weeks before operation; diet, codein and strychnia with salt solution after operation.	Diabetes was of many years duration; prolonged preliminary treatment; quantity of glucose large.
4	Mrs. R. 2-3-01	26	Appendicitis; walls of appendix much infiltrated.	Appendicectomy; gauze drainage.	Recovered.	Diet, codein and strychnia before operation; morphia, codein, strychnia and diet after operation.	Urinalysis showed: Before operation, glucose .55%, sp. gr. 1024; after operation, glucose 1.66% to .5%, sp. gr. 1034 to 1030. Patient had severe nephritis immediately following operation, which subsided in a few days; 3 weeks after the operation the urine was perfectly normal; this patient had recently weaned a baby.
5	Mrs. M. 5-8-02	48	Ventral hernia, large.	Radical cure of ventral hernia. (Three constricting rings removed with difficulty, also small hematoma removed from fatty layer of abdomen.)	Recovered.	Diet, codein and strychnia.	Patient very fat; glucose .58%; operation prolonged.
6	Mrs. B. 2-26-03	61	Procidentia uteri (complete.)	Trachelectomy; anterior colporrhaphy; perineorrhaphy.	Recovered.	Diet and codein before, and opium and salt solution after operation.	Glucose in urine before operation, 2% to 6%; glucose in urine after operation, .5% to 2%.
7	Mrs. F. 4-11-03	70	Rectovaginal fistula.	Excised walls of fistula; split vesicovaginal septum; closed by suture. Done without anesthesia.	Recovered; wound suppurated.	Diet, codein and strychnia before operation; morphia, and later codein, strychnia, and diet after operation.	Specific gravity of urine only 1020 to 1026; glucose 1.5% to 2.5%.

gangrene. It is hardly necessary to point out that the course of operation wounds in such subjects is not a fair criterion to estimate the healing process in wounds in diabetics in general, as the nutrition and blood supply of such patients is profoundly altered. Of the 7 patients operated upon by myself, six made good recoveries and one died in diabetic coma. In the 6 remaining cases the healing of the wounds and the general progress of the patients toward recovery were not different from that in patients not the subject of glycosuria.

In looking up the literature of the subject I have been able to add to my own list 62 cases of operations upon diabetics, upon those organs of the body which are the special field of the gynecologist and abdominal surgeon, making a total of 69 cases. Of the 62, there were 14 operations upon the female breast, 31 operations upon the female generative organs, and 17 abdominal operations other than on the generative organs. Of the 69 patients, 52 recovered and 17 died—a mortality of 24%. Of the 17 deaths, one was from erysipelas, two were from sepsis, five from causes not stated, and nine from coma. A careful reading of the reported cases would indicate that the proportion of deaths from other causes than coma was not extremely high. The chief cause of death after operations upon diabetics is coma, and apparently this result is the one which is the least possible to guard against.

My first operation upon a diabetic was an accident. The urine from 2 patients to be operated upon the same day was mixed in the laboratory. The supposed diabetic was refused operation, and the patient supposed to have normal urine was operated upon. The error was not recognized until the following day. This patient made a good recovery from the operation (the removal of the breast) except that there was suppuration in the axilla, due to a sponge left high up in the axilla. The favorable course of this case was a factor in inducing me to operate upon the subsequent patients.

The rule which I have followed has been to postpone operation if more than 2% of sugar was present in a total

TABLE II.*—OPERATIONS ON THE BREAST.

No.	Sex and age.	Reference.	Disease.	Operation.	Result.	General treatment.	Remarks.
1	Male, 50 years.	Fischer, 1876.	Scirrhus (ulcerated).	Amputation; glands removed.	Cellulitis on the second day.	Adopted on the discovery of sugar; carbolic acid internally.	2.2% sugar.
2 a	Female, 56 years.	Tuffier.	Scirrhus of right breast.	Amputation.	Recovery.	Adopted for some months previously.	Glycosuria 3 years; on the fifteenth .3%.
2 b	.....	.....	Recurrence in glands 9 months after.	Glands excised.	Recovery.		
3	Female, 61 years.	Rosenberger, 1882.	Scirrhus of 2 years' history.	Amputation.	Most of the wound healed by first intention, but on the fourteenth day sepsis from the drainage wound occurred; death.	Had been adopted some years before.	Diabetes 6 years.
4	Female.	Berger.	Encephaloid of the right breast.	Amputation; the glands were also removed; no attempt was made to close the wound completely.	Recovery.	Adopted until the sugar had disappeared.	Severe diabetes 10 years; 4% to 5% of sugar; 2 ovarian growths 4 months later; died.
5	Female, 65 years.	Willett (St. Bartholomew's Hospital Surgical Register, Vol. i, 1898).	Scirrhus (left).	Amputation; glands were also removed.	Healed mainly by first intention; small abscess was found on tenth day; recovery.	Presumably dieted, as she was transferred from a medical ward.	Diabetes 7 years; 4.5% to 2.25% of sugar; total per diem 45.5 grams to 16.23 grams.
6	Female.	Willett (private case).	Scirrhus.	Amputation.	Recovery.	.....	Diabetes was discovered after the operation; very stout patient.
7	Female.	Lilienthal.	Scirrhus.	Amputation.	Recovery.	.....	Sugar persisted.
8 a	Female, 61 years.	Fisk, August, 1895.	Scirrhus (ulcerated) right breast.	Amputation after Halsted's method.	.....	Not adopted.	Diabetes, 2.5% sugar; ether.
8 b	.....	.....	.....	Thiersch's grafting 14 days later.	.....	.....	.....
8 c	.....	March, 1898.	Small recurrence.	Removed.	.....	.....	Cocain.
8 d	.....	November, 1898.	Fresh ulcerated recurrence.	Excised with portion of a rib.	Granulated up.	.....	2.2% sugar; still alive in August, 1899.
9	Female, 64 years.	Tuffier (No. 11, 1881).	Carcinoma of the right breast.	Amputation.	Erysipelas; death on the fifth day.	.....	No sugar before operation; urea 1.8%; after the occurrence of erysipelas "much sugar;" Smith and Durham consider the glycosuria to have been caused by the erysipelas.
10 a	Female, 64 years.	Le Conte (details by letter), 1899.	Recurrent scirrhus; the breast had been removed 3 years before with the glands.	Free excision of recurrence; the second and third ribs were involved, but were not removed; a large operation, skin flaps being necessary.	Recovery.	.....	Ether; from 4% to 11.5% of sugar present.
10 b	.....	.....	Six months later another recurrence.	Excised.	Recovery.	.....	Ether; no sugar.
11	Female.	Reynier.	Carcinoma of the mammæ.	Amputation.	Recovery.	Adopted; total sugar per diem reduced from 35 grams to 11 grams; as the result of the operation the sugar rose again to 28 grams; atheromatous vessels.	
12	.....	Reynier.	.....	Amputation.	Recovery.	Atheromatous vessels.	
13	Female,	Reynier (with Dr. Marieux).	.....	Amputation.	Recovery.	Diabète gras.	
14	Female, 61 years.	Butlin (St. Bartholomew's H'spital Female Surgical Register, Vol. iv, 1900, p. 432).	Scirrhus (in small spheroidal cells).	Amp'tation of the breast with free removal of the skin and some of the pectoralis major; March 2, 1900.	Recovery.	Drained for 2 days; convalescence was uneventful; tumor in the upper and inner quadrant of the breast; the skin was adherent, but not ulcerated; diabetes was first detected in June, 1899; some sugar in the urine on the day of admission to hospital; none on the day of operation or after; a stout subject; no special diet or medicinal treatment.	

* Phillips, L. C. P., "Some of the Surgical Aspects of Glycosuria and Diabetes," the Lancet (London), May 10, 1902, p. 1311.

TABLE III.*—OPERATIONS ON THE FEMALE GENERATIVE ORGANS.

No.	Age.	Reference.	Disease.	Operation.	Result.	General treatment.	Remarks.
1	33 years.	Matthews Duncan (Sir John William's case).	Rupture of the perineum into the rectum.	Perineorrhaphy 8 months after the rupture (primary operation having failed).	Recovery.	Adopted.	Diabetic symptoms present on and off for 13 years during pregnancies.
2	.....	Baldy (unpublished case); by letter, 1900.	Prolapsus uteri; lacerated cervix.	Cervix repaired; cureting; plastic operation on the anterior and posterior vaginal walls.	Recovery.	Strict preliminary dieting.	2.5% of sugar; a trace on discharge.
3	.....	" "	Procidentia, etc.	Amputation of cervix; plastic operation on the anterior and posterior vaginal walls; ventrofixation.	Recovery.	.....	About 2.5%; discharged in 3 weeks.
4	.....	Baldy (*vide* discussion on Noble's paper).	Procidentia.	Plastic operation.	Recovery.	.....	"Much sugar."
5	.....	" "	Procidentia.	Plastic operation.	Recovery.	.....	"Much sugar."
6	.....	" "	Complete tear of the sphincter ani.	Perineorrhaphy.	Recovery.	Sugar and opium reduced while in hospital.	Diabetic and opium-eater for years; 6 years later still diabetic
7	48 years.	Kleinwächter.	Fungous endometritis; lacerated cervix with erosion; warts on the vulva.	Cureting; repair of cervix; removal of warts.	Wound healed rather slowly; recovery.	.....	Thirst; polyuria; sugar disappeared under dieting; 2 years later well, probably diabetic.
8	.....	Landau.	Torsion of an ovarian cyst.	Ovariotomy.	Recovery.	.....	Emergency operation; diabetes only discovered after operat'n.
9	.....	Landau.	Ovarian cyst.	Ovariotomy.	Recovery.	Dieting until an irreducible minimum of sugar was reached.	Rigid antisepsis; 1½ years later still a small sinus in the wound.
10	.....	Landau.	Ovarian cyst.	Ovariotomy.	Recovery.	Dieting until an irreducible minimum of sugar was reached.	Rigid antisepsis.
11	?	Loeb (Schroeder's case).	Double dermoid ovary.	Ovariotomy.	Death.	.....	A sister also diabetic; very difficult and tedious operation on acc'nt of numerous adhesions.
12	68 years.	Reynier.	Malignant disease of the ovary.	Ovariotomy.	Death on the fortieth day.	.....	Wound apparently progressed favorably, but on fourteenth day it gaped and the intestines protruded; it was resutured, but did not unite; death resulted on the fortieth day.
13	60 years.	Kreutzmann.	Epithelioma of the cervix.	Vaginal hysterectomy.	Recovery.	Diet reduced sugar before operation.	Chloroform; easy and rapid operation; diet was continued after, sugar only reappearing in small quantities from time to time.
14	47 years.	Landau.	Carcinoma uteri.	Vaginal hysterectomy (22 minutes).	Coma on the second day; death.	.....	Diabetes for 1 year; sugar entirely absent before operation; no symptom present; marked euphoria; strict diet had been employed earlier in the year.
15	63 years.	Landau (unpublished); letter, 1901.	Carcinoma cervices uteri.	Vaginal hysterectomy, December 8, 1900.	Recovery.	Carbohydrates withheld.	3% of sugar; chloroform: discharged December 31, 1900; diet did not diminish the sugar.
16	38 years.	Gottschalk (Berlin); details by letter, 1901.	Fibroids; uterus.	Abdominal hysterectomy, 1893.	Recovery.	Carlsbad regimen.	Uterus reached 14 cm. above the umbilicus; much hemorrhage from uterus; 1% of sugar in 1893, .6% in 1901; chloroform.
17	47 years.	Landau (unpublished); letter, 1901.	Intramural myoma of the size of a man's head.	Abdominal enucleation, February 2, 1901.	Recovery.	Diet.	Slight suppuration in wound; sugar .5%, unaffected by diet; discharged March 21, 1901; chloroform.
18	53 years.	" "	Multiple fibroids; umbilical hernia.	Abdominal hysterectomy (the right ovary left behind); radical cure of the hernia.	Recovery.	Diet.	Wound healed by first intention; diet removed the sugar (.5%); operation on February 27, 1901; discharged March 21, 1901; chloroform.
19	.....	Reynier.	.....	Abdominal and vaginal hysterectomy.	Recovery.	.....	Wound gaped on thirteenth day and was sutured, recovery eventually resulting.
20	'Young.'	Noble. (Morris' case).	....	Cureting.	Coma; death on the third day.	.....	.....
21 a	54 years.	Champneys (unpublished); St. Bartholomew's Hospital Register, Vol. vi, 1896	Epithelioma vulvæ.	Excised.	Recovery.	....	After second operation (on the glands) the patient removed her dressings, and slight suppuration resulted; specific gravity of urine, 1035; sugar, 4.5%.
21 b	.....	....	Glands enlarged.	Excised.	Recovery.		
22	55 years.	Kleinwächter, Zeitschrift für Geburtshülfe and Gynäkologie, Band xliv.	Myoma of the uterus; umbilical hernia.	Removal of the tumor (polypoid) p.v. cureting.	Recovery.	Adopted beforehand; (sent to Carlsbad.)	Sugar 1.4% to 3.2%; absent at time of operation; recurred afterwards from injudicious food; diabetes.
23	48 years.	Giles.	Myoma of the uterus; umbilical hernia.	Hysterectomy; radical cure of the hernia.	Recovery.	.....	5% of sugar, but no symptoms of diabetes; sugar persisted for 1 week after the operation; discharged cured in 3 weeks.
24	53 years.	Croom.	Colloidal tumor of the ovary; weight, 56½ lbs.	Ovariotomy.	Recovery.	Before operating, general treatment and morphin had no effect; after the operation, under general treatment the sugar gradually vanished.	Specific gravity of the urine, 1047; much sugar; 14 days after the operation the sugar began to diminish; in 2 months it was absent.
25	52 years.	Noble (Beyea's case); discussion; *vide* also Beyea's paper.	Multilocular pseudomucinous oöphoritic cystadenoma; weight, 22 lbs.	Ovariotomy.	Recovery.	After the operation general treatment was adopted; 4 weeks after operation there was only 4% of sugar; treatment was continued, and in 3 weeks there was no sugar.	Urine contained 7% of sugar; all symptoms of diabetes were present; urine excreted by day contained from 60% to 80% of the total sugar excreted.

*Phillips, L. C. R., "Cases of the Surgical Aspects of Glycosuria and Diabetes," the Lancet (London), May 10, 1902, p. 1315.

TABLE III—Continued.

No.	Age.	Reference.	Disease.	Operation.	Result.	General treatment	Remarks.
26	31 years	Imlach.	Double pyosalpinx.	Appendages removed.	Recovery.	1 month's history of thirst, etc.; polyuria; specific gravity of urine, 1036; much sugar; dieting, etc., reduced the urine to from 5 to 6 pints, with total quantity of sugar 2,560 grains in the 24 hours; 3 months later there were 1,200 grains of sugar in the 24 hours; operation performed; in a week the sugar had permanently vanished.	
27	49 years.	H. Füth, assistent-arzt der Klinik Prof. Zweifel, Leipzig; "Diabetes Mellitus und Gynäkologische Operationen" Deut. med. Wochens., Nos. 4 and 5, January, 1903.	Carcinoma portis vaginalis (operable).	Vaginal complete hysterectomy; ether.	Death in coma on eighth day.	Preliminary diet.	Considerable sugar before and after operation; no albuminuria; postmortem; peritoneum normal; pancreas greatly atrophied and sclerosed; fatty degeneration of kidneys; lungs edematous.
28	61 years.	" "	Carcinoma of cervix uteri.	Vaginal complete hysterectomy; chloroform.	Death in coma on seventh day.	Diet for 7 days.	Urine "rich in sugar"—Trommer's test; albumin negative; no postoperative fever; condition satisfactory until seventh day, when patient became somnolent and died in typical diabetic coma; postmortem; pancreas unchanged; peritoneum healthy; fatty degeneration of liver and kidneys; lungs edematous; brown atrophy of heart.
29	51 years.	" "	Carcinoma of posterior lip of cervix uteri.	Vaginal complete hysterectomy; spinal anesthesia (.05 gm. beta-eucain between second and third lumbar vertebras); duration of operation, 30 minutes; no pain.	Death in coma on fifth day.	Diet and opium for 8 days.	Polariscope showed 9.8% sugar before operation and 4% after operation; excessive thirst; polyuria and odor of acetone in breath both before and after operation; "diabète gras;" postmortem; peritoneum normal: no free fluid; pancreas soft and pale; heart, stomach and liver fairly normal.
30	38 years.	Baldy (by letter).	Fibromyoma uteri.	Supravaginal hysterectomy.	Recovery uninterrupted and uncomplicated.	Diet in bed for 4 weeks before operation; diet after operation.	Before operation .06% glucose in urine; pulse on admission 120 to 130; during a temporary discontinuance of the antidiabetic diet during convalescence, sugar was again found in urine and pulse again became rapid.
31	60 years.	Hirst (by letter).	Ovarian cyst (pseudomucinous).	Celiotomy for removal of ovarian cyst.	Death in coma on seventh day.	Diet in bed for 4 weeks before operation; diet after operation.	Patient had 4% glucose in urine for a number of years; enormous ascites due to hepatic scirrhosis.

TABLE IV*—ABDOMINAL OPERATIONS OTHER THAN ON THE GENERATIVE ORGANS.

No.	Sex and age.	Reference.	Disease.	Operation.	Result.	General treatment.	Remarks.
1	Female, 58 years.	Barker.	Malignant tumor of the transverse colon.	Excision of the growth (4½ in. of gut removed.)	The wound did not run a quite aseptic course; later a small slough formed in the mesocolon with temporary fecal fistula; recovery.	Adopted; codein phosphate .065 gm. (1 gr.) subcutaneously; diet, bismuth carbonate as an intestinal antiseptic.	On the fourth day after the operation there was 6.6% sugar, and on the ninth day 2%. It was later reduced to a much less amount.
2	.....	Barker.	Carcinoma recti; complete obstruction.	Colotomy.	No repair of wound; death.	.....	.....
3	.....	Naunyn. P. 452 (? by letter.)	Carcinoma of the stomach.	Gastroenterostomy.	Death next day, not from coma.	Diet.	.3% of sugar.
4	Male, 50 years.	Fisk.	Acute appendicitis with symptoms of perforation on the second day.	On the second day the abscess was opened and the appendix was excised.	The wound healed slowly by granulation; recovery.	.....	Diabetes was known to have existed for several years; the abdomen was distended, tympanitic and rigid; a lump in the iliac fossa.
5	Male.	Barker.	Umbilical hernia.	Radical cure.	Repair bad, but eventually recovery.	.....	Sugar previously absent reappeared day after the operation.
6	.....	Reynier.	Umbilical hernia.	Radical cure.	Slight disunion of the wound; recovery.	.....	Diabète gras.
7	Male, 17 years.	Fisk (unpublished case), by letter, 1901.	Irreducible properitoneal hernia (right.)	Radical cure (Bassini.)	Recovery perfect.	.....	Sugar varied from 1.5% to 2.5%.
8	.....	Reynier.	Femoral hernia.	Herniotomy.	Recovery.	.....	"Diabète athéromateux."
9	Female, 56 years.	Railton and Southam.	Femoral hernia, strangulated.	Herniotomy under cocain.	Coma 36 hours later; death. (The coma was apparently induced.)	.....	Under treatment for diabetes for the preceding 2 years, at the time of operation there was an acetone smell about the breath and prevading the room; strong ferric chlorid reaction.
10	Male, Middle-aged.	Ashurst.	Hernia, strangulated.	Herniotomy; the stricture divided	The bowel at time of operation was gangrenous. The gangrene spread to the wound; death.	.....	Diabetes for a long time.
11	.....	Reynier.	Hernia of the bladder.	Radical cure.	Recovery.	.....	Intermittent diabetes for years.

*Phillips L. C. P., "Some of the Surgical Aspects of Glycosuria and Diabetes," the Lancet (London), 1902, May 17, p. 1387.

TABLE IV.—Continued.

No.	Sex and age.	Reference.	Disease.	Operation.	Result.	General treatment.	Remarks.
12	Male, 35 years.	Churton.	Pancreatic cyst with history of gallstone colic.	Laparotomy and counter incisions, Dec. 7, 1892.	By July, 1893 the wound became a sinus; on Sept., 1893, the patient was readmitted (he had been having insufficient food.) Purpura on the legs and acetone in the urine; much discharge from the wound; he went down hill and died Jan. 8. 1894. Postmortem examination showed atrophied pancreas, rupture of the ureter, and free retroperitoneal suppuration.		In spite of pancreatic diabetes he got over the immediate effects of the operation, but probably from the effects of bad diet, etc., sepsis gained the upper hand.
13	Male, 45 years.	Ball.	Pancreatic cyst, 10 months' history	Laparotomy July 19, 1886; incised July 26, 118 oz. evacuated.	Diet not restricted until the end of Sept. Codein then administered; much improvement; gained 12½ lbs. after the operation; wound became a mere sinus; died suddenly at the end of Nov., 1886.		Urine, from 100 to 140 oz., 5% sugar.
14	Male, 40 years.	Pagenstecher.	Pancreatic cyst.	Incision and drainage Dec. 12, 1888.	Became a mere sinus; patient died 1½ years later from diabetes.		At the end of operation 4.5% of sugar was present in the urine.
15	..... 51 years.	Deaver (by letter.)	Acute appendicitis (abscess.)	Appendicectomy with coffer-dam drainage.	Death from diabetic coma.	None.	Glucose in urine before operation, 1.3%.
16	..... 52 years.	Deaver (by letter.)	Acute appendicitis (abscess.)	Incision and drainage of appendiceal abscess.	Death from sepsis.	None.	Operation done under local anesthesia (cocain); glucose in urine before operation, .6%.
17	..... 27 years.	Deaver (by letter.)	Floating kidney.	Nephrorrhaphy.	Recovery.	None.	Glucose in urine before operation, 2.4%; after operation, .65% to negative.

excretion of 3 pints per day. In all cases preliminary treatment by diet and the administration of codeia and stychnin has been followed. After operation morphia, codeia, and strychnin have been administered, salt solution has been freely administered per rectum and by hypodermoclysis, and the diet has been strictly regulated. Several diabetics in which the indication for plastic operation was not well marked, have been advised against operation. On the other hand, when the indication for operation was marked, it has been advised, and at the same time the risk from the possible occurrence of diabetic coma has been pointed out. The study of the literature as a preparation for the writing of this paper has not altered my opinion as to the wisdom of this guide to practice.

When the routine examination of the urine as a preliminary to operation is followed, operation upon patients suffering from unrecognized diabetes can be avoided. Careful preliminary dietetic and medicinal treatment strongly commends itself upon theoretic grounds, although the reported cases in the tables in which this point is brought out do not indicate that diabetic coma occurred less frequently in patients submitted to preliminary treatment than in those not so treated. The counterindication to operation is strongest in those patients suffering markedly from the constitutional symptoms of diabetes—poor nutrition, wasting, intense thirst, and morbid appetite.

THE VALUE OF EOSINOPHILIA IN THE DIAGNOSIS OF TRICHINOSIS, WITH REPORT OF A CASE.*

BY

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Trichinosis in man has been considered as occurring only occasionally in this country, it being stated that only 900 cases have been reported since 1860, when its etiology was first made known.

Of recent years, however, evidence has accumulated to show that it is not nearly so infrequent as we have thought. It can scarcely be otherwise in view of the fact that governmental inspection of many thousands of hog carcasses has proved that of all the hogs slaughtered for food purposes, approximately 2% are trichinous, and again, that many of the recognized human cases have followed the eating, not of raw, but cooked, albeit insufficiently cooked, pork.

* Read before the Academy of Medicine, Buffalo, N. Y., October 21, 1902.

The frequent finding of it unexpectedly in the postmortem room also points in the same direction, and in this connection the painstaking work of Dr. H. U. Williams in the *Journal of Medical Research* for July, 1901, is of peculiar interest. Williams found evidence of it in 27 out of 505 autopsies of persons in whom trichinosis had not been suspected during life—a percentage of 5.34.

Before reviewing the literature of the last few years with the purpose of estimating the value of a differential leukocyte count as a diagnostic sign in these extremely obscure and usually unrecognized cases, which is the chief object of this paper, a brief reference to some of the salient facts in the history of the affection will be of interest and not out of place.

It seems entirely fitting that the Germans should have taken first place in elucidating the pathogenic nature of the trichina parasite, as they are the greatest sufferers from it. A recent report of the Bureau of Animal Industry of the Department of Agriculture on the subject of trichinosis in Germany gives statistics in detail. Since 1860, and up to 1898, 14,820 cases, with a mortality of 835 occurred, while from 1883 to 1891, during which time American meats were excluded, 4,093 cases are reported with a mortality of 274, and this, notwithstanding an army of meat inspectors variously estimated from 25,000 to 100,000. Of the total number, 3,388 are believed to have been due to errors of inspection, and no case has ever been traced to American pork. While prior to 1860 trichinas had been found in numerous instances in human cadavers in America and England, and in 1847 by Professor Joseph Leidy, of Philadelphia, in the hog, the relation of one to the other was not suspected until the famous case of Zenker at Dresden furnished us the whole theory of the parasite as a pathologic entity practically as we have it today.

Since then, also, no very important additions have been made to our knowledge of the subject, aside from the accumulation of an immense amount of clinical observations and statistics, until 1897, when a patient in Dr. Osler's clinic with a tentative diagnosis of typhoid fever was discovered to have a leukocytosis with very marked increase of the eosinophile cells and a corresponding decrease of the neutrophiles.

Subsequent examination of muscle tissue excised from the patient showed a number of trichinas. These two observations led Dr. Brown, who made the blood examinations, to suspect that in the blood condition we have a valuable diagnostic sign of this disease, which otherwise is so frequently obscure from a clinical point of view. Other investigations confirmed his suspicions, and in January, 1899, he reported his fourth case, diagnosed

largely by the blood examination. Since then 33 other cases, making 37 in all, have been reported in which the blood has been examined, and it is quite generally conceded to be a most valuable procedure.

Cabot says in his fourth edition that the constant presence of an eosinophilia in cases of trichinosis may be safely inferred and transfers it from the list of difficult to that of diseases easy of diagnosis. This sanguine expectation is somewhat greater than more recent observations justify, as 6 of the 37 cases are reported as not showing an increased number of eosinophiles.

DaCosta reports 1 of the 6 cases, but attaches great importance to the presence of eosinophilia of high grade, and concludes that "it may be the *only* evidence of trichinosis in obscure cases, but its absence does not necessarily exclude a diagnosis."

Ewing, in his "Clinical Pathology of the Blood," remarks that "it appears that a marked eosinophilia invariably accompanies trichinosis, and its constancy and extent make an examination of great value in these cases." He says further, that "while the presence of a high-grade eosinophilia should always suggest the possibility of trichinosis, there is no pathognomonic value attached to it, since equal grades have long been known to accompany many other conditions." Of the 37 cases referred to, 31 had eosinophile counts ranging from 20% to 86%. There seems to be little relation between the degree of eosinophile increase and the severity of the infection, but Blumer and Neuman, in reviewing 9 cases which they were privileged to see and report, find that while some of the mildest cases give high degrees of eosinophilia, the leukocytosis, generally considered, is in direct ratio to the seriousness of the case as indicated by other clinical symptoms.

FIRST DIFFERENTIAL COUNT.

Name of Reporter.	Number of Case.	Number of Blood Examinations Made.	Number of Leukocytes.	Polymorphonuclear Neutrophiles.	Large Mononuclear and Transitional.	Small Mononuclear.	Eosinophiles.	Maximum Leukocytosis.	Average Leukocytosis.	Maximum percent. Eosinophiles.	Average percent. Eosinophiles.
Brown *[1]	1	69	17000	55.	5.	3.	37.	35700	19435	68.2	33.2
*	2	23	13000	43.1	6 5	1.4	42.8	13000	10530	42.8	23.1
*	3	8	17000	48.4	4.7	1 5	45.4	17000	13616	49.	44.4
*	4	11	18100	43.	1 7	7.3	48.	18100	10510	48.	25.3
McCrae *[1]	1	11	11000	65.	3 6	3.4	28.	21700	13740	43.8	23 4
Blumer and Neuman †	1	5	19000	47.4	8.8	3 2	40.6	20600	16640	40.6	25.7
†	2	5	8400	61.4	6 8	10	21.8	20000	14720	41.5	31.5
†	3	5	24000	56.8	6.4	3.6	33.3	24000	18360	36.	29.6
†	4	4	8000	51.	7.8	7.6	33.6	13200	11200	33.6	30.6
†	5	4	8000	32.8	10.8	6.4	50.2	18600	13800	50.2	41 8
†	6	4	14000	45.6	15.6	7.	32.1	17200	11300	46.	32.5
†	7	4	16000	44.	9.2	15.8	31.	23000	16500	39 4	35.7
†	8	4	10000	39.	6.	20	35.	14600	12450	50.4	38.2
†	9	4	12400	48.	9.6	25.4	17.	15200	12550	20.	14.6
Kerr *[1]	1	17	25000	52.	1.	1.	42.	25000	17000	68.7	45.1
*[2]	2	19	18500	41.6	23.9	16.4	18.1	25000	19700	86.6	65.7
Atkinson *	1	6	§	31.1	6 4	3.1	58.5	28000	.....	58.5	47.9
Cabot	1	2	11000	39.	35		28.	11000	9000	28.	22.5
	2	7	14100	59.	7.		34.	25000	17000	34.	18.1
	3	6	15600	65.	18.4		22.	16100	13700	26 3	24.6
	4	1	17900	54.	22.		24.	17900	17900	24.	24.
Brooks *	1	.....	18000	.....	.....	.....	10.	.....	.....	83.	.....
Gwyn *	1	3	17000	.....	.....	.....	33.	.....	.....	65.9	52.3
Stump ‡	1	2	§	33.4	13.2	1.4	52.	.....	.....	52.	33.5
Gardineer *	1	.....	.....	.....	.....	.....	77.	.....	.....	.....	.....
‡	2	.....	.....	.....	.....	.....	29.9	.....	.....	.....	.....
Sears *	1	6	16200	.....	.....	.....	17.5	16200	11740	39.	26.
Vickery *	1	.....	.....	.....	.....	.....	.....	25000	.....	29.	.....
*	2	.....	.....	.....	.....	.....	23.	.....	.....	37.	22.3
Patek †	1	1	.....	55.	12.	3.	30.	.....	.....	.....	.....
Kinnicutt *	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
DaCosta *	1	4	12680	65 5	.....	21.	4.	21000	17800	4.	3.2
Howard *[2]	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Drake *	1	6	6600	65.	.....	.....	.8	.....	.....	.8	.3
	2	6	.....	73.	8.	17.5	1.5	.....	.....	.2	1.4
	3	3	.....	72.	3.	24.	1.	.....	.....	1.	.8
	4	2	.....	80.	6.	14	0.	.....	.....	0.	.0

Examining now the 6 cases reported without an eosinophile increase, somewhat more in detail, we find that Howard reports one in the person of a woman who had been sick for 3 months before admission to the hospital, and died 2 weeks later. No differential leukocyte count was made, a stained specimen being examined only, without counting. While somewhat unsatisfactory, I am not inclined to doubt that there was no marked eosinophilia, but a moderate increase might easily be overlooked by this method.

DaCosta reports the second case, one somewhat peculiar, that of a young man in whom the force of the infection seemed to expend itself principally on one thigh and leg, and the same one which had suffered a severe contusion in an accident 4 months previously. The patient, thinking a second attack of swelling and pain was in some way connected with the previous trouble, did not enter the hospital for some time, so that it was 3 months after the beginning of the second attack and 7 months after the accident that Dr. DaCosta made his first blood-examination. In reporting the case he does not seem to attach much importance to this fact, but makes the suggestion that possibly the overwhelming toxemia of a severe infection prevented the increase of eosinophiles, as very frequently has been observed in other diseases in relation to leukocytosis in general.

In this connection also we notice that the only 2 fatal cases in the series of 37 showed no eosinophilia.

Drake reports 5 cases and none with an eosinophilia, and two of them fatal. In one of the fatal cases no blood-examination was made and it is not included in this tabulation. The other fatal case was one of a patient suffering from dementia, 10 years an inmate of the institution where the 5 cases occurred. Taken severely ill with a chill, high temperature and vomiting. Considerable anemia was present, there being only 3,704,000 red cells, and 6,600 whites, of which only .8% were eosinophiles. Patient developed a progressive weakness, with rising pulse and respiration, and died 3 months later. Autopsy beside showing many trichinas present, also revealed a miliary tuberculosis. Five blood examinations were made of this patient, the first 6 weeks after the initial symptoms.

The second patient was admitted to the hospital wards with a history of "having refused to walk at times for the past 2 or 2½ months, and at present is going around on her hands and knees, and saying she cannot walk because she is sick." The first blood examination was made a month after entrance to the hospital, and a week after a diagnosis was made by examination of a piece of muscle excised from the patient and in which the trichinas were found *encapsulated*. Six blood examinations were made in this case.

In the next, a patient with dementia was transferred to the hospital wards January 25, 1901, for "general weakness." Blood reported normal, but no differential count mentioned. Patient recovered sufficiently to be sent to the asylum wards in a little over 2 months, but was again placed in the hospital April 16, 4 months after the initial sickness, when the first differential count was made. Diagnosis was confirmed by muscle examination. In the fourth, a patient 64 years old in advanced state of tuberculosis, said he had noticed that for 5 or 6

* Muscle from patient examined and trichinas found.
† Trichinas found in suspected food.
‡ Muscle from patient examined. Myositis and degeneration found but no trichinas.
§ Leukocytosis.
[1] Complicated with typhoid fever.
[2] Associated with gonorrhea.
[3] No differential count made.

months his muscles were tender, and that he was unaccountably weak. Feet had been swollen for only a month. Muscle was removed from leg and *partly calcified* trichinas found. Two blood examinations were made. The elapse of months in four of these cases between the beginning of symptoms and the first blood examination, and the finding of *encapsulated* trichinas in one and *partly calcified* in another, prompt the thought that a blood examination earlier in the disease might have revealed an eosinophilia which had disappeared.

Such observations, however, as have been made on the persistence of the blood condition would seem to show that it is present for a long time after the recovery of the patient.

A considerable fluctuation has been noted by several: Vickery recording 23% of eosinophiles at one time, 2 days later only 2%, and again in 2 days more 37%.

The possible influence also of an associated infection, as tuberculosis, pneumonia, etc., is not determined.

McCrae found in his case, which was one of trichinosis and typhoid fever, a diminution of the eosinophiles from 29% to 4% with the onset of pneumonia, the percentage rising again with the clearing of the lung condition.

It only remains to notice some of the other diseases in which an increase of the eosinophiles takes place as affecting the question of differential diagnosis.

A large number are associated occasionally, at least, with small percentages, and of these the ones most likely to be confused with trichinosis are the other intestinal parasites.

Bucklers seems to have done the most work along this line, and he finds that practically all are associated with some increase of these cells. He reports these percentages:

Anguillula intestinalis	13.5%
Anguillula with ankylostoma	15 %
Oxyuris with ascarides	19 %
Ascarides alone	9.8%
Tænia saginata	10 %
Tænia sollum	8.2%

Of these the ankylostoma has furnished the only case with a high degree of eosinophilia.

Ehrlich and Lazarus reported a case in 1898 with 70%.

A profound and progressive anemia, however, accompanies this affection, which is not characteristic of trichinosis, the red cells and hemoglobin being rarely disturbed.

Of other diseases the post critical stage of pneumonia is mentioned, 5%; after articular rheumatism, 9%; after injection of tuberculin, 27%. The afebrile stages of malaria, 20%; varicella, 16%.

Neusser considers an eosinophilia diagnostic of sarcoma of the bone marrow, finding 60,000 per cmm. in 1 case.

A case of hemorrhagic septicemia gave 76% (Klein).

Bronchial asthma during the paroxysm, relapsing fever, emphysema bronchitis, chorea, and rachitis have all been reported with slightly increased number of eosinophiles.

Loos claims it occurs in syphilis during presence of a marked eruption.

The chronic skin diseases, pemphigus, eczema, scleroderma, psoriasis, pellagra, and lupus give higher percentages than any other diseases, and Lazarus has reported a case of urticaria with 60%.

The list is long, and I am indebted to Dr. DaCosta's article for most of it, but it will be conceded, I think by all, that with the possible exception of the intestinal parasites, a differential diagnosis as against trichinosis presents no great difficulty.

A point of minor value at this time is a discussion of the origin of the eosinophiles. Brown suggested that they are derived from the polymorphonuclear neutrophiles, because of the inverse ratio of these cells to the number of eosinophiles, the presence of both in the affected muscle areas, and the staining peculiarities. Da Costa, Howard, Kerr, Ewing, and others find no evidence of such transition.

The other clinical features of the infection deserve more than the passing notice possible in this paper.

Nearly all authorities emphasize the early gastrointestinal disturbances and the severity of the muscle pain and tenderness, while in many of these cases the reporters call attention to the absence or insignificant character of these symptoms.

Professor Packard,[1] in reporting a case in 1897, speaks particularly of frequency of respiration without apparent cause as a diagnostic sign and Dr. Stockton in discussing the paper speaks of the edema of the eyelids and face as occurring early.

The study of this series indicates that this edema of the face is one of the most constant and valuable signs. Frequency of respiration is not nearly so constant and must depend upon extensive invasion of the diaphragm. Lassitude, malaise, and sensations of weakness with slight or severe muscle tenderness, and especially upon motion, are early symptoms. Profuse perspiration and insomnia are also quite commonly present.

But it is its resemblance to typhoid fever that is most deceptive as the following comparison will demonstrate. In 21 cases reported with some detail, a palpable spleen is mentioned 6 times, headache 7 times, epistaxis 3 times, rose spots or suspicious spots on the abdomen 5 times, dicrotic pulse twice, heavily-coated tongue 6 times, chill or chilly sensations 8 times. The diazo reaction was present in 5 cases. Add to these a slow invasion with malaise, dull indefinite pain in legs and back and slight disturbance only, of stomach and bowels, and the similarity is complete.

To such a problem in differential diagnosis the radically different blood conditions come as a most welcome aid.

Dr. Osler,[2] in an article reporting five of these cases from a standpoint of clinical diagnosis considers this leukocytosis with eosinophilia as one of the three most characteristic symptoms, the other two being muscular pain and swelling, and edema, especially of face and eyelids, and later in hands and feet.

The following case well illustrates the class of cases in which a diagnosis is seldom made, and in which the examination of the blood is most useful. It will be urged doubtless that a diagnosis is not justifiable without the positive proof afforded by microscopic examination of muscle from the patient. One must admit that such evidence is most desirable in presenting a case to medical men, and that without it, as a scientific demonstration, it is far from complete. Such a procedure, however, is not always possible or expedient, and I have endeavored to show that a diagnosis may be established with as great a degree of certainty without it, as is possible in the majority of diseases.

I was called to see Mr. B. on the evening of July 14, 1902. He was born in Germany, but a resident of London, Eng., for the last 24 years; age, 48 years. He had scarlet fever when a child, pneumonia several years ago, and 18 years ago was thoroughly and apparently successfully treated for syphilis by the celebrated Mr. Hutchinson. He remembers having had some slight fever in March, 1901, and soreness of legs, which passed away without special treatment. His appetite has always been good, and he has been accustomed to eat heartily of anything which he might fancy, and to drink moderately of the lighter alcoholic beverages. He has at times some distress after eating. Otherwise history is unimportant. About a week before my first visit, he began to feel weak and have a dull, aching sensation in legs and back. This had increased.

His appetite was not much impaired, but he noticed some more distress in stomach than usual. There was no vomiting, diarrhea, or headache. When in Montreal 10 days before, he felt a sudden pain in his eyes, which he had attributed to the light and dust.

Upon examination I found a man of exceptional intelligence, medium height, inclined to corpulency, with a full round face and a quick, nervous disposition.

He, himself, called my attention to a puffiness about the

[1] Journal of American Medical Association, Vol. xxix, p. 59.
[2] American Journal of the Medical Sciences, March, 1899.

eyes which I might have overlooked because of his full face. Each eye presented a subconjunctival ecchymosis. Heart and lungs were normal. The area of splenic dulness was not increased, and the spleen and liver were not palpable. There were no rose spots; tongue not coated. Temperature 103°; pulse, 95; respirations, 20. During the night he did not sleep well, and vomited once, which I attributed to a dose of calomel. He perspired considerably.

For the next two days there was little change, but the edema and ecchymosis increased slightly. He was wakeful and perspired freely, while the muscles of thighs and legs were slightly tender upon pressure and exertion.

Upon examining a blood-smear stained with Ehrlich's triple stain I was struck at once with the great increase of eosinophile cells, and made the diagnosis of probable trichinosis.

I was in some doubt as to the character of some of the leukocytes because of the peculiar staining. Many had the characteristic large refractive granules but without the bright eosin color and I requested Dr. Lyon to examine the slide and subsequently to make a careful differential count, which he did on July 16.

During the afternoon of the sixteenth, I also requested Dr. Charles G. Stockton to see the patient with me. He concurred in the diagnosis and elicited the further confirmatory history of his having eaten heartily of raw Westphalian ham in New York about July 2, and of sausages on June 28.

Four days later there were detected a slight dulness with diminished breathing sounds and a few coarse rales at the base of right lung and at the same time the spleen was just palpable. The temperature fluctuated between 100° in the morning and 103° at night for 13 days, after which it declined gradually, reaching normal July 29, and remained practically normal until his discharge on August 6.

At no time were the symptoms at all severe. The muscle tenderness persisted until, and after, his discharge, but was of a very mild grade and was detected only by careful search.

The urine was examined frequently but nothing pathologic found aside from a slight trace of albumin and an occasional hyalin cast. The diazo reaction was not present. Just before his discharge a Widal test was made and found negative.

On July 21 I carefully examined a fluid stool for the trichina parasite but without finding it.

Dr. Lyon's report of the blood examination is as follows:

Leukocytes 9,800. Neutrophiles 48.6%. Small lymphocytes 17.3%.

A good many of the polymorphonuclear cells partaking character of neutrophiles and eosinophiles were classed as neutrophiles.

Undoubtedly above 30.6% were eosinophiles.

Ten days later I again made a differential count of 1,000 leukocytes finding 10,500 per cmm. Neutrophiles 68.7%, small lymphocytes 4.1%. Large lymphocytes and transitional 3.5%. Eosinophiles 23.7%. A little over three months later, on November 3, the patient had his blood examined at the Bacteriological Institute of Dr. C. S. Engle, in Berlin, kindly sending me the report as follows: Reds, normal. White cells, normal, of which 61.5% were neutrophiles, 35% lymphocytes and 3.5% eosinophiles.

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INGUINAL HERNIA OF AN IMPERFECTLY DEVELOPED UTERUS AND APPENDAGES.

BY

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History.—Mrs. R. D. consulted me March 20, 1903, for violent attacks of periodic headache to which she had been subject since she was a girl of 14. She is 32 years of age, and has been married 6 years, during which time the attacks increased in severity. They recurred every 4 to 6 weeks, were referred to the temporal region, unilateral, sometimes on one side and sometimes on the other. The duration of the attacks was about 24 hours, with pain and vomiting so severe as to incapacitate the patient for the time being and to cause her to fear insanity. The headaches were attended by no local pelvic symptoms. In appearance the patient is robust and muscular, and in the intervals between the attacks was in perfect health. In temperament she is phlegmatic rather than neurotic.

Hernia.—The patient had an inguinal hernia of the left side. She first noticed it when about 7 years of age. It caused no pain or discomfort, and gradually grew larger. It always disappeared upon lying down. For 4 months prior to operation she wore a truss on account of the increasing size of the rupture, and the truss sometimes caused pain of a nauseating character.

Examination.—Mammary glands well-developed, but nipples absent, and site occupied by a tender areola. External genitals well developed. Vagina of small capacity and in form of a culdesac. Cervix uteri absent, and no trace of an os discernible. On bimanual examination the uterus and appendages appeared to be absent. On the left side I felt what I thought might be a cystic ovary or a knuckle of inflated intestine. Urethra and bladder were normal. The hernia was not completely reducible, the irreducible portion feeling like omentum.

I advised operation with a view to determining, if possible, whether the attacks of headache were due to abnormality of the pelvic contents, and with a view also to effect a radical cure of the hernia.

Operation.—Dr. Hodge administered the anesthetic, and Dr. D. Arnott assisted. A median abdominal incision showed the bladder normally outlined in the pelvic cavity. The uterus and appendages were not to be found. To the extreme left of the pelvic cavity I could feel a couple of broad bands, and other structures which I took to be intestines and thickened omentum, but as these structures could not be brought into view, and as I associated them with the hernia, I closed the median incision and proceeded with the operation on the hernia.

In the sac I found what proved to be an ovary adherent to the distal end of the sac, and an imperfectly developed uterus, to which was attached a cystic body—apparently a degenerated ovary. This cyst I think was what I felt in the pelvis when making my first examination. The internal ring was very much enlarged, encroaching upon the floor of the canal almost throughout its entire length.

I decided to do a hysterctomy in the canal. I was satisfied from my examination through the median incision, as well as by further examination of the structures found in the canal, that the bladder was not involved. I merely drew the structures well up into the canal, transfixed and ligated the neck or pedicle on a level with the floor of the canal, and excised, allowing the short stump or base to retract into the pelvic cavity. The pulsation of the uterine artery could not be felt in the pedicle before ligating. I completed the operation by the ordinary Bassini method. The patient made an uninterrupted recovery, and left the hospital May 10, 23 days after the operation. Only 4½ months have as yet elapsed since the operation, but thus far she has been in perfect health, and without a trace of her former headaches.

I am of opinion that this case was primarily one of congenital inguinal hernia of the left ovary, involving subsequently, by traction, the uterus and remaining ovary. Hernia of the ovary is not extremely rare—upward of 100 cases have been recorded. I have however not been able to find a report of a case with congenital defects similar to this one. The comparative frequency of congenital ovarian hernia is doubtless

attributable to sexual confusion during the development of the fetus, the ovary, instead of becoming attached in its descent to the side of the uterus, taking the course of the testicle in the inguinal canal. In the male a similar confusion results in undescended testicle. These defects of fetal development range from a simple hypospadias in the male to the most complex forms of hermaphrodism, not to speak of monstrosities.

The entire cessation of the attacks of headache since the operation, would seem to indicate that the generative organs had some causative relation to these attacks. It may be that attempts at ovulation under abnormal conditions excited the headache, causing neuralgic dysmenorrhea in which the pain is usually not referred to the pelvis at all. This aspect of the subject, however, comes under the head of neurology rather than gynecology.

SPECIAL ARTICLES

THE SURGERY OF TODAY.[1]

BY

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Much of our surgery is empiric and not rational, and hence the opportunities for original research are great. That which has stood the test of time is retained; some of it, no doubt, will be perpetuated; while again, long-cherished theories and practices must vanish in the light of new discoveries and inventions. I take it, then, that I have considerable license in selecting and in emphasizing what in surgery seems to me to be of most importance.

At no time in medical history has surgery been so international in character as at present. In the processes of the development of the high grade of surgical efficiency that is now established, we find countless instances of hardships in times of peace and war, of examples of life sacrifices, daring deeds, unexcelled industry and charitable acts, the most altruistic to be found in any calling or profession, for

> "'Tis what the happy to the unhappy owe,
> For what man gives, the gods by him bestow."

The surgeons of each generation have been stimulated to emulation by the precepts and examples of the great surgeons of the preceding generation, and the sum total of their true labors, we now cherish, practise, and enjoy. The differentiation of the work done in various countries and the designation of it as being national, no longer pertains. We do not now recognize British, German, French, Italian, or other surgery as being different from each other, or from our own. An American gave anesthesia to the world, not to America alone, and equally true it is that a Briton gave us practical antiseptic surgery, founded on the bacteriologic researches of a great Frenchman. In looking over surgical literature it is noticeable that the surgeons who played the most prominent parts in the evolution of our art and science have walked the hospitals in foreign countries, sat at the feet of masters, studied in foreign laboratories, and conducted experiments of their own. A personal friendship was thus formed between the profession of different countries, and the knowledge of one became the knowledge of all, until now reciprocity is complete.

The Western men, unhampered by the restraining influences of ancient customs and effete precedents, have been for some time, and are now more than ever scattering scientific and practical seeds from the tree of knowledge to all the world through innumerable channels, to such extent as to command the attention and respect of the men of the East. The increasing number of distinguished surgeons visiting us every year is complimentary. In addition to individual visitations of doctors from one country to another, conveying principles and practices to and fro, there are other professional avenues through which surgical knowledge finds its way to all nations. Chief among these are the publication of books, monographs, and treatises; the issuance of journals, and the publication of transactions of special societies.

The influence of professional gatherings, from the smallest local society to the great national associations with their surgical sections, reaches far and wide. Then come the special surgical associations, international congresses, and now an "International Surgical Association" is organized, by representative surgeons from each country, to work on special surgical lines. This reaches a plane in the search of scientific truths that has never been attained before in the surgical world.

While surgical societies have their special value and place, there can never be a danger of their teaching causing a separation of the labors of physician and surgeon. So long as the internal organs of man become disordered and diseased, they shall need medical treatment. It is an indisputable fact that the best results in surgery are obtained, not by the competitive struggle between the surgeon and physician, but by a graceful cooperation, one with the other, for the benefit of the sufferer. This is the result of education and culture. How different now from the time (1774) when Von Wuthwehr, of Frieburg, suggested a union of surgery with medicine! The students threatened to mob him.

The surgical appliances, instruments, materials used, the aid to diagnosis, the technic of operations and the operations themselves are universally the same. The inventions and new discoveries of different individuals are eagerly published and heralded with lightning speed all the world over.

While aseptic precautions make it possible to expose and explore the brain, with comparative impunity, still owing to its high and special organization, its feeble recuperative, reparative, or, if any, regenerative power, outside of raising depressed fragments of bone, compressing it, tying an artery and opening an abscess, the practical field is limited. The surgical treatment of most diseases of this organ is but seldom satisfactory. It is true that we perform craniotomies for the microcephalic, supply intracranial drainage for the hydrocephalic, and oftentimes benefit them, still I have yet to see an intelligent citizen develop from one of these subjects. What is needed for the more successful removal of brain tumors is an earlier diagnosis, more accurate localization and probably better technic. Hemorrhage, so often causing death in these operations, is no longer dreaded when we temporarily clamp the carotid arteries.

Reports of successful cases of the removal of brain tumors are becoming more and more frequent. Obscure disturbances of the brain, following severe injuries, such as mental cloudiness, irritation, stupor or persistent headache, are often relieved when one or two or more ounces of cerebrospinal fluid is removed by lumbar puncture. The procedure is so simple and free from danger that it should be more generally employed for the relief of cerebral tension. As a means of diagnosis of injuries of the cerebrospinal axis, it is not reliable. For the probable relief of epilepsy or insanity following trauma, the trephine is invariably applied. The x-ray is a welcome aid in the diagnosis of obscure fractures, bone depressions, and for the detection of bullets or other foreign substances carried within the cranium. Division of the sensory root of the gasserian ganglion has been found successful in the relief of tic douloureux. This operation may rival the removal of the ganglion.

When the source of irritation which produces the fit in "essential epilepsy" is clearly defined, a surgical treatment may be found and carried out according to the nature of the disturbance. The present mass of evidence in literature is rather against operations in this disease.

The distressing aspects caused by facial palsy and facial contractions have found relief in anastomosis of the spinal accessory or hypoglossal, to the facial nerve—a procedure recommended 5 years ago. It is based on wellknown physiologic laws of repair and supported by carefully conducted experiments. New plastic operations devised in the last few years for the early and even late closure of cleft palate, give results

[1] Being the Address in Surgery before the Canadian Medical Association, at London, Ont., August, 1903.

vastly superior to the older methods. The earlier congenital defects of the palate and lips are repaired, the better will be the speech. All defects should be closed before the child begins to talk. The temporary closure of the carotid arteries is a distinct advance in preventing hemorrhage while operating on the head and neck. It is founded on clinical experience and sustained by experimental researches. Many have died from loss of blood, and from shock and even poisoning caused by prolonged anesthesia in trying to check the hemorrhage in such operations as the removal of the parotid gland, tongue, superior maxilla and postnasal growths, when a simple temporary clamping of one or both carotids would have been life-saving, and prevented the indescribable grief and anguish of relatives sometimes worse than death itself. Not to seek ardently to know and utilize all we can of practical advances in surgery is nothing short of "man's inhumanity to man." In regard to the thyroid gland, let me say that its behavior in health and in disease is still an enigma. The disease affecting it and mysteriously disturbing the entire economy of the sufferer, some parts more prominently than others, that puzzles us most, is exophthalmic goiter. The problem of its pathogenesis is unsolved. How then can a rational surgical treatment be prescribed? If we wait for some theory to explain all its phenomena, history will surely repeat itself. In desperation from the almost invariable uselessness of internal medication, thyroidectomy and sympathectomy have been resorted to by surgeons and with considerable success; the present statistics giving 76% of cures when the organ is removed, and 63.8% after bilateral extirpation of the cervical sympathetic nerves. I apprehend that these excellent results will not be obtained universally. It is noteworthy that the mortality of thyroidectomy, mainly from pneumonia (croupous), embolism of the sylvian artery, heart failure, and thyroid intoxication, is considerable, while that of sympathectomy is practically nil.

Mammary carcinoma is the most formidable and common surgical disease in this region of the body. Let our radical operations for its extirpation be ever so extensive, we are never certain that it is entirely removed nor can we positively tell whether lymphatic extension is near or far, even by the most careful microscopic examination of the gland and structures removed. Another grave uncertainty confronts us; that is, an early dissemination of cancer to the internal organs. This has always been a perplexing clinical problem, but the discovery of the hemolymph vessels has solved it satisfactorily, for they establish a free communication between the lymphatics and bloodvessels; and through them small particles of the carcinoma are taken up into the general circulation and then distributed to internal organs. In the face of evidence from the most reliable sources, to the effect that cancer is rapidly on the increase, and in view of our sad clinical experience in dealing with it, except at a very early stage, it is high time that a cure be discovered that will abolish it as the serum does diphtheria. It is a mistake to speak of cancer as returning after an operation. The fact is, that its extirpation was not complete. The removal enmasse of the breast, axillary fat, and lymphatics below the clavicle, with a sacrifice of a part or of the whole of both pectoral muscles, has been slowly but surely accepted by surgeons as the proper thing in all cases of cancer of the breast. In order to obtain better results, we must go still farther, and remove the supraclavicular and mediastinal glands in at least some of the cases, as carried out by only a few men. In comparatively young and otherwise healthy women, the practice of first attacking the mediastinal and cervical glands, whether palpable or not, and at a second operation removing the infraclavicular and axillary lymphatics, along with the breast, is commendable, safe, and successful. Inoperable cases of breast cancer present themselves before and also after operations have been performed. For the treatment of these, the much abused x-ray is a favorite remedy, but assuredly most disappointing except in skin involvement alone. Oophorectomy is on trial for these same inoperable subjects. Interscapulothoracic amputation, and amputation through the shoulder-joint have been done to relieve the patient of a swollen, useless, and painful arm, which often follows a radical operation for mammary carcinoma.

There have been a series of successive triumphs in attacking wounds of the heart, the pericardium being boldly opened and the vital organ sutured. End-to-end anastomosis of the popliteal, brachial and femoral arteries has been successfully executed, and the management of wounds of the large veins easily carried out. The surgery of the lungs offers a field for future work, and what has been already accomplished, although not of the most satisfactory character, is encouraging. Visceral pleurectomy or decortication of the lung for chronic empyema is the last practicable procedure recommended, after drainage, resection of the ribs and thoracoplasty have failed to effect a cure. This operation, to my observation, has saved several lives.

Since I entered upon the study of medicine, 26 years ago, a retrospect of the advances in surgery since then is simply bewildering. My vivid recollections of septic gangrene, sloughing phagadena, flaming erysipelas, pyemia and septicemia are still clear, and this, too, at a time when antisepsis had gained considerable acceptance.

I shall never forget the first operation of a major character I witnessed. It was amputation near the hip-joint, and the patient died on the table. The scene is now before me. The crowded amphitheater; the active arena; the mist of carbolic acid spray half obscuring the patient, operator, assistants, nurses and honored guests; the smell of ether; the outstretched sleeping patient; the glittering instruments in 1 in 20 carbolic; the new white gown on the surgeon, introduced for the first time; the winding of an elastic cord about the hip and body of the patient; the long amputating knife twice traversing the limb obliquely; the hot room and pale freshmen; the profuse bleeding and quivering flesh; some of the boys walking out, perspiring freely; the severance of the bone by a live electrocautery wire—then being on trial—and the long time it took; the cold shivers; the clamping of arteries and veins; the twisting of the femoral artery eight times between 2 forceps, and torsion of other vessels; the sea sponges soaked in hot water and with a forceps placed between the flaps for a few minutes, controlling capillary oozing; the boys yet pale, collars wilted and handkerchiefs soaked; then the active spray apparatus giving out, then a clearer view of blood-stained men, women and things generally; more boys walking out; the sewing of the stump with silk, rubber tube inserted and dressed with 12 layers of carbolated gauze; the operation completed; seeing stars; the patient's last breaths—death rattle; and finally the announcement from the surgeon: "There will be no more operations this day"—a great relief to all.

It would be invidious to compare the surgeons of that day with this, but those still alive no longer see death from hemorrhage in amputations at or near the hip-joint, nor the frequent loss of life from infection following clean operations. I have described an amputation of a quarter of a century ago as a comparison with the bloodless major amputations and exceedingly low mortality of today.

In the saving of limb and life in diseases of the extremities many improvements are now in use as compared with even a few years ago. Take, for instance, in bony ankylosis of the large joints—the hip, knee and elbow. Instead of the old sweeping excisions, a curtain of muscle or fascia is carefully fixed between the ends of the bones after a minimum amount of resection is done, which not only prevents a reunion of the bones; does not interfere with the longitudinal growth of the bones in children, and also furnishes an excellent false joint. The bloodless operation for congenital dislocation at the hip-joint is a welcome advance in orthopedic surgery. The open operation that shall cure the cases not amenable to the bloodless method is not yet invented. Time does not permit me to speak of the many other valuable advances that have been made in surgery of the extremities.

In preantiseptic days surgery of the abdomen, including hernia, was far behind that of the extremities, for reasons that are quite clear to us now, but since we have learned to invade the peritoneum without causing inflammation of it, the advancement of abdominal surgery has far outstripped that of any region of the body. On account of the great frequency of hernia, and proneness to strangulation, operations for its cure by the open method became established. A young person today is not advised to wear a truss if he is otherwise healthy. An operation is performed, and he is cured. Any operation for

the cure of oblique inguinal hernia that does not take into consideration the various local causes and proper relationship of structures should be discarded. Empiric procedures include all the operations or combinations of them devised, in which the cord is raised out of its bed. By following these the science of surgery loses its charm in the search of truth, and the art its beauty. The only true surgical operation yet produced for the radical cure of oblique inguinal hernia is the typical operation, because it counteracts the local congenital defects, sutures the structures where they normally belong, and cures the affection. It is the simplest because based on an accurate knowledge of the anatomy and defects in this region. We now know that the presence of a large infundibular process, nonclosure of the funicular process, and increased intraabdominal pressure, are not all the main causes of hernia. In order to verify what I have said, let any surgeon raise a semilunar flap of skin, fat and both layers of superficial fascia; slit up the aponeurosis of the external oblique and carefully measure the origin of the internal oblique muscle at Poupart's ligament, and he will find that its origin is deficient more or less in almost all cases of oblique inguinal hernia. In some instances the muscle has no attachment at all to Poupart's ligament, therefore the hernial protrusion has a sausage-shaped appearance, and bulges the skin, nearly the entire length of Poupart's band. In a normal inguinal region the internal oblique muscle comes down and completely covers and ably protects the internal ring. Let us not forget that this muscle is the only muscular structure in this region, and it is the most powerful.

If it is not in its proper position, how can it protect the internal ring during active intraabdominal pressure, as in lifting, jumping, etc.? Remove the sac, suture the internal oblique to the inner aspect of Poupart's ligament, down two-thirds of its length at least, and at the same time pick up the slack in the transversalis fascia with the same sutures, thus fitting it around the root of the cord, as to make a new internal ring; now sew the aponeurosis of the external oblique, coapt the skin, and the operation is completed. The cord is not disturbed, nor the testicle endangered. The results are better than by any other method, and this treatment can be supported by the reports of several operators in over a thousand cases in all.

The history of abdominal surgery is novel reading. Injuries and diseases of the structures and organs, within and near this cavity furnish abundant material for several specialties. There is the special abdominal surgeon, who incidentally repairs the perineum; the gastrologist and enterologist; the gynecologist; proctologist; genitourinary specialist, and others, but the general surgeon claims all, and may be looked upon as a balance wheel in this line of work.

Diseases of the liver, the largest organ in the body, on account of its friable, vascular structure, and its bile-secreting function, was dreaded by the surgeon till of recent years. It may be reached through the abdomen or thoracic wall, and hepatotomy performed for abscess, hydatid cysts or cholemia. We do not hesitate to remove benign and malignant tumors from it, when not too extensive. The mortality from partial hepatectomy is not more than 12%, and the bleeding is not so difficult of control as one at first thought would believe. Ascites due to cirrhosis of the liver is now cleared away through a collateral circulation established by stitching the omentum to the abdominal wall or spleen.

It is only 35 years since the first cholecystotomy was performed for gallstones (1867); and 17 years (1886) since the relation of typhoid fever to cholelithiasis was first pointed out. That bacterial infection is the cause of gallstones is now accepted. Early gallbladder surgery is easy and safe; while late operations with their complications are difficult and dangerous. The irritation of gallstones is surely an etiologic factor in cancer of the gallbladder. Cholecystotomy has the widest range of usefulness. Cholecystectomy, commonly performed, is an operation that is seldom indicated, if the attending physicians only realize the importance of early surgical treatment.

The symptoms and signs of active cholelithiasis are sometimes obscure, but usually they are so clear as to make diagnosis easy. It is much wiser to face 1% mortality in immediate operation than about 10 times that risk in remote. The conditions when the gallbladder should be removed are pretty well defined. It is the operation of choice in (*a*) complete stricture of the cystic duct; (*b*) thickened contracted gallbladder already almost obliterated by inflammation; (*c*) septic gangrenous condition; (*d*) hydrops; (*e*) and in cancer.

Choledochotomy, like cholecystectomy, is the operation of necessity in neglected cholelithiasis. When it is performed and the stones removed from the common or hepatic duct, hepatic drainage is most likely indicated, whether the gallbladder and cystic duct are removed or not, for additional calculi may come away later. It is not necessary to suture the common duct.

I fail to see the necessity of long transverse or oblique incisions of the abdominal wall in order to expose the gallbladder and ducts. Unless the operator is clumsy, and inexperienced, or has large hands, the vertical incision to manage the gallbladder, and a curve inward and upward toward the ensiform cartilage when the stone or stones are in the common duct, is all-sufficient.

Surgery of the pancreas, spleen and kidneys has had a new and substantial impetus the last few years. Acute and chronic pancreatitis has come under the knife, and a calculus has been diagnosed and removed from the pancreatic duct, the patient making a good recovery.

The surgical treatment of chronic nephritis is quite beyond the experimental stage. Decortication of the kidney is an easy and safe operation, and although we cannot as yet definitely account for the marvelous benefits that immediately accrue, two things prominently suggest themselves as a probable explanation, namely, the relief of tension, and the establishment of collateral circulation, and, too, the great determination of blood to the kidney after such a procedure must have a renovating effect upon it. Nephrectomy, nephrotomy and suspension of a floating kidney are established operations. Partial removal of a kidney is sometimes advisable in traumatism, or when a malignant growth is being extirpated, and in many conditions in which a circumscribed portion of kidney is involved. Nephroureterostomy will, I am sure, be found indicated and successfully performed.

Ureteral anastomosis and ureterocystotomy, although difficult of execution, are very successful procedures. The task of removing impacted stones from the pelvic portion of the ureter is no longer considered insurmountable. The most reliable means of locating a stone in the genitourinary tract is by the x-ray. Transplantation of the ureter into bowel is an immediately successful operation, but ascending inflammation to the kidneys almost invariably follows and mars its usefulness.

In a "System of Surgery" in 1866 removal of the prostate is referred to in the following words: "Excision of the prostate has been recommended. It does not, however, appear that any one has really ever had the hardihood or folly to perform it. Excision of the middle lobe would be less objectionable." The experience of the last 4 years has proved both suprapubic and perineal prostatectomy to be feasible, practicable, and the safest and best treatment for prostatic hypertrophy, with a preference in America for the perineal route. The mortality is lower than that of any other major operation on the aged, even men over 80 years surviving it and enjoying life without the annoyance or agonies accompanying obstruction to the free flow of urine. If no other advancement in surgery were made, the last decade, except this one, offering as it does, relief to at least a third of the male population over 60 years of age, surgeons could well hold up their heads with pride. The dangers of the catheter, aspirator, trocar, and bougie are only too sadly known. Another instrument that has been put to a practical test and found wanting is the electrocautery knife. It is dangerous and clumsy, and only a small percent of cases are benefited at all. Its use should be limited to (*a*) pathologic bar; (*b*) fibrous vesical orifice, and (*c*) sessile middle lobe, still quite small; and these conditions are more amenable to perineal section, with less risk to life. A genitourinary specialist may use the electrocautery knife, but it takes a surgeon to remove a part or the whole of the prostate. The most difficult prostatectomies are in those patients who have been burnt, and only partially, if at all, benefited.

The median perineal incision is the most surgical; less structures are injured, and it furnishes the only proper route

for drainage. Transverse cuts, semilunar curves, the Y-shaped, and the inverted ⊥-shaped incisions, or modifications of them, may be all right for the mediocre, but not for the expert operator. Through a median cut of the perineum, the membranous, and a portion of the prostatic urethra, an educated finger feels what the exact obstruction is, without and within the bladder. It is the best prostatic depressor, enucleator, and guide to the passage of the prostatectomy forceps, but ofttimes even he who boasts of being long-fingered fails to reach the parts desired, and has to resort to aids, depressors, tractors, retractors, and hooks in order to see, as well as feel, what is being done. The exposure of the prostate through a median incision, with proper retractors, is simple, complete, and beautiful. The removal of the lateral lobes first, with the aim of not injuring the ejaculatory ducts, facilitates a safe entrance into the bladder with the finger, depressor or prostatome to deal with the middle lobe, and it should be dragged into the perineum through the vesicoprostatic urethra.

While abdominal surgery began with ovariotomy nearly a hundred years ago, owing to the high rate of mortality in those preantiseptic days only the boldest and most enthusiastic men opened the abdomen at all. Up to 1870 the mortality was fearful when the abdomen was opened for any cause whatever. In the general hospitals nearly every case of ovariotomy terminated in death. From 1870 to 1885 the mortality rapidly decreased from over 80% to 4%, 3%, 2%, 1%, and no percent in exact proportion to the knowledge gained of antisepsis and asepsis, as well as to that of improvements in the technic of operations. It is rare at the present time for a woman to die from the removal of an ovarian cyst or tumor. The rapid strides of abdominal surgery are revealed in the history of the glorious victories over injuries and diseases within the belly wall, in lessening suffering, and saving life. Small and well-equipped hospitals have sprung up through the land, like so many life-saving stations, vigilantly watching to save a sufferer in despair on a boisterous and ruthless sea of trouble. Injuries of all kinds may demand prompt attention by the local surgeon; a daughter bleeding to death from gastric ulcer, a strangulated hernia, acute bowel obstruction, urinary obstruction, rupture of the bladder, perforating typhoid or other ulcers, extrauterine pregnancy, and many other conditions too tedious to mention. We must not forget acute inflammation of that small anatomic vestige, the vermiform appendix, which has probably caused more acute suffering and death than that of all abdominal organs combined. Appendicitis may well be looked upon, from a surgical standpoint, as an accident that needs a prompt operation, except in its very mildest forms, when delay may be safe for a convenient day and hour for the appendectomy. One may suffer with gallstone colic and jaundice for weeks, months and years; from renal colic for days and weeks, but from appendicular colic and pain, only hours, without imminent danger to life.

The indications for gastroenterostomy are in advance of any method that can be pointed out as superior to the many practised. Bone plates and bobbins have had their day, but the anastomosis button is still in active competition with the needle and thread. The elastic ligature is the quickest, easiest, and safest in its application, and experimental and clinical evidences are convincing that it is sufficiently prompt and thoroughly reliable in establishing an anastomosis between the stomach and the intestine.

In establishing end-to-end intestinal union, the anastomosis button has the advantage that it can be used where sewing cannot be done, and it is quickly inserted. It is not necessary to mention the objections to it, but be they what they may, the button is a good thing to have along when emergency calls for treatment of intestinal obstruction. Of all the methods of suturing devised, some 36 in all, the intraintestinal has recently gained most favor, and preferably a continuous, to the interrupted suture. With a little practice it can be as rapidly applied as the extraintestinal suture. A new procedure, known as the "single cuff method of circular enterorrhaphy," has been devised. It is founded on extensive experimentation on dogs, and has been used twice on the human subject.

The treatment of carcinoma of the rectum, except that near the anus, has recently undergone a complete change. The abdominal route is eagerly accepted as more satisfactory and safer than resection of the coccyx and portion of the sacrum to reach it from below.

More conservative efforts are being put forth in young women in the surgery of the uterus, tubes, and ovaries. Myomectomies, instead of hysterectomies; bisection of ovaries and removal of the pathology instead of oophorectomies, and salpingostomy and hysterosalpingostomy instead of salpingectomy, are praiseworthy and sufficient.

The radical treatment of cancer of the uterus through the abdomen, with a removal of the lymphatic glands, is, as it should be, gaining favor. Abdominal and pelvic surgery has been greatly facilitated, and mortality lowered by the introduction of raising the pelvis high above the rest of the body, thus enabling the operator to see what he is doing. Intravenous and hypodermic introduction of normal salt solution at the temperature of 115° to 120° F. has saved many a life.

While the surgery of today is marvelously in advance of what it was even 10 years ago, we must not delude ourselves that there is nothing more to be discovered, invented or improved upon. The teaching of surgery must be revolutionized. The manual training of the medical man has been and is woefully neglected. Practical surgery on the cadaver does not teach a student how to seize and tie an artery, set a fracture, sew a wounded bowel, etc. All this should, in justice to suffering humanity, become at once a part of the curriculum of studies.

Judging from the signs of the times, the surgery of the future will have a more limited sphere than the present. The discovery of only a cure for two monster human destroyers—cancer and tuberculosis, now contributing largely to keep surgeons busy, would greatly lessen the number of operations. We shall hail the day when laboratory workers will find something that will cool all forms of inflammation in their incipient stages. It may not be a Utopian dream that in the near future we can buy antihemorrhagins, furnish an antidote to any kind of ptomain, before blood destruction and death have come; secure an antiiso and antihetero-nephrolysins for interstitial nephritis; and furnish a serum that will shield us from the "horror autotoxicus," or self-poisoning. It has been recently said by one of America's most profound pathologists that "looking at it broadly, the cornerstone of modern pathology is toxicology."

> Give us but knowledge though by slow degrees,
> And blend our toil with moments bright as these;
> Let Friendship's accents cheer our doubtful way,
> And Love's pure planet lend its guiding ray,
> Our tardy Art shall wear an angel's wings,
> And life shall lengthen with the joy it brings.

Fight against Algerian Mosquitos.—The *Boston Transcript* contains a translation from *Le Temps*, in relation to the fight which is to be waged against mosquitos in Algeria. The greatest hope appears to lie in the fact that young mosquitos are bred in stagnant pools of water and in swamps, and this can be successfully prevented by the careful drainage of such bodies of water. That it is not necessary to drain swamps at a considerable distance from habitations is proved by the following observation from the article quoted, which says: "It will be sufficient to consider the observations made in Bengal, at Accra, at Freetown, at Lagos, and at Blantyre. These show very clearly that a settlement situated at least 400 meters from ponds or stagnant pools invariably suffers from mosquitos. At a distance of 500 or 600 meters mosquitos are appreciably rare. Finally, since at a distance of 700 or 800 meters the mosquitos are wholly got rid of, or put in only an infrequent appearance, this indicates the extent of the territory in which they are able to multiply. At Freetown the results are uniform; at 500 meters, nothing to fear; moreover, at Freetown again, it has been proved that mosquitos and malaria exist only in certain quarters; in others they are lacking altogether. At Ostia also it has been shown that the distribution of mosquitos is quite local. At Blantyre, a house 40 meters from a swamp is infested; another at 200 meters is immune, and the hospital, at 400 meters, knows nothing of mosquitos. At Accra not a mosquito within 800 meters of the nearest swamp. To sum it all up, the mosquito is sedentary; he never travels more than 500 meters, on an average, from his native swamp. (But he can be accidentally carried by the railroad; in hay or straw; this must not be forgotten.) Hence, by destroying the swamps for a distance of 800 to 1,000 meters in every direction, we shall protect ourselves."

THE WORLD'S LATEST LITERATURE

Journal of the American Medical Association.

September 19, 1903. [Vol. XLI, No. 12.]

1. The Subcutaneous Injection of Paraffin for the Correction of Deformities of the Nose. F. GREGORY CONNELL.
2. Precision in the Determination of Human Parasites. HENRY B. WARD.
3. Uncinariasis in the South: Further Observations. CLAUDE A. SMITH.
4. Occurrence of Strongyloides Intestinalis in the United States. MARSHALL LANGTON PRICE.
5. The Surgical Treatment of Undescended Testicle: A Further Contribution. ARTHUR DEAN BEVAN.
6. Apoplexy. T. B. GREENLEY.
7. A New Tonsil Scissors, Forceps, and Tongue Depressor. C. C. STEPHENSON.

1.—See *American Medicine*, Vol. VI, No. 1, p. 10.
2.—See *American Medicine*, Vol. V, No. 20, p. 762.
3.—See *American Medicine*, Vol. V, No. 21, p. 822.
4.—See *American Medicine*, Vol. V, No. 20, p. 771.
5.—See *American Medicine*, Vol. V, No. 25, p. 983.

Boston Medical and Surgical Journal.

September 17, 1903. [Vol. CXLIX, No. 12.]

1. The Ill-health of Francis Parkman. (Continued.) GEORGE M. GOULD.
2. Minor Surgery in Country Practice. CLIFFORD S. CHAPIN.
3. The Dietary Treatment of Constipation. HENRY F. HEWES.
4. Hyperchlorhydria. ROSCOE W. SWAN.

2.—Minor Surgery in Country Practice.—Clifford S. Chapin, in his paper, takes up a number of subjects which pertain more or less to minor surgery and also in some instances to major surgery. He calls attention to the importance of properly bandaging a part which is dressed and asserts, that many surgeons are unable to apply neatly and properly the ordinary bandages of minor surgery. Asepsis and antisepsis are dwelt upon at some length and the results which we now have are compared with those in former years without them. Lister's method was based largely upon the idea that infection occurred from the contact with the air. It was later found that the germs from the air are usually of an innocuous character. Wound infection more often comes from clothing, instruments, etc., and its severity depends largely upon the quantity of germs which enter the wound. The value of strapping as a surgical treatment is dwelt upon and various conditions cited in which it may be properly applied. Poultices, though somewhat out of date, are especially beneficial in inflammatory affections of the joints and bones and when combined with rest, their action is most satisfactory; likewise in deep suppuration. Intravenous injection and infusion of saline solution have saved many lives and is invaluable in profuse hemorrhage, shock, septicemia, uremia, and puerperal eclampsia. Especial attention is devoted by the writer to anesthetics, more particularly to the giving of general anesthetics. Comparatively few practitioners really know how to give a general anesthetic and often this is the most important part of the operation, and yet the giving is often committed to hands wholly incompetent for its administration. Fracture dressings are discussed by the writer and it is asserted that in the ordinary clinics much attention is devoted by the surgeons to the large operation and comparatively little to fractures, dressings, and minor surgery. These are the very things that the young graduate will first meet and it is highly essential that he shall be thoroughly grounded, not only in the principles but in the practice of this work. [A.B.C.]

3.—Dietary Treatment of Constipation.—H. F. Hewes found 51% out of 1,200 consecutive cases in his out-patient clinic suffering from habitual constipation; 90% of these were using drugs alone. All had been treating for a year or more. Constipation results either from some definite pathologic condition or from faulty hygiene; if from the latter a correct hygiene will cure it. The factors bearing most directly on the function are a regular period of defecation, exercise, and diet. A faulty regimen may induce sluggish habits. To stimulate the intestine we must use certain classes of foods: (1) Those having a large undigested or unabsorbed residue as grains, green vegetables, and fruits; also those with many seeds; the writer gives a table showing the residue percentages of common foods; (2) foods containing organic acids or other substances which increase intestinal activity as tamarinds, prunes, plums, manna and certain green vegetables; (3) substances which ferment in the intestine producing organic acids, as carbohydrates, including cellulose. Whole wheat or rye bread should be used; as vegetables, cabbage, beets, turnips, lettuce; for dessert, prunes or tamarinds. If the feces show marked absence of fat an excess of this should be given. If feces are large in quantity, but the action is sluggish, the second class of foods must be relied on. The writer gives a definite diet list. In obstinate cases not improving in 10 to 14 days senna may be stewed with the prunes and be gradually withdrawn, without the knowledge of the patient if possible. This treatment has been tried in 126 cases; 68 of these have not been heard from, 54 were relieved, and 40 of these by diet alone; senna was used in 18 cases, but all but 4 have become able to continue on diet alone. [H.M.]

4.—Hyperchlorhydria.—R. W. Swan describes the symptoms of this affection. These arise directly from the stomach or reflexly through the absorption of toxins. He gives the causes and the differential diagnosis. The prognosis is generally good. In very old people the condition may point to malignant disease. The author prefers a mixed diet with a predominance of albumins and little starchy food. Sweets increase the quantity but diminish the acidity of the gastric juice, and in moderate quantity are beneficial. Spices, condiments, acids, oils, and alcohol should be absolutely prohibited. Extract of belladonna or atropin will check the flow. Calcined magnesia combines with nearly twice its weight of HCl, and sodium bicarbonate with less than half. The best results are from combining the two, diminishing the magnesia as the bowels become loose. Carlsbad salts reduce the HCl. Silver nitrate 1–1,000 by the intragastric spray gives fine results. Lavage will relieve pain by washing away the acid. [H.M.]

Medical Record.

September 19, 1903. [Vol. 64, No. 12.]

1. Differential Leukocyte Count in the Early Days of Typhoid Fever. HENRY A. HIGLEY.
2. A Case of Leukosarcoma of the Choroid. THOMAS R. POOLEY.
3. The Range of Osteoplasty as an Aid in the Conservative Surgery of Bone Traumatism. THOMAS H. MANLEY.
4. Some of the Mistakes We Have Inherited. MARK I. KNAPP.
5. Early Symptoms of Dementia Præcox. A. R. DIEFENDORF.

1.—Differential Leukocyte Count in the Early Days of Typhoid.—H. A. Higley reports a series of observations begun nearly 2 years ago. These vary quite markedly from those found by Thayer. He describes the technic used. The number of cases studied was 16. All dates were computed according to the first appearance of the eruption, which is believed to occur from the seventh to the tenth day. Nine of the 16 cases responded to the test at least 3 days previous to the first appearance of the roseola. A characteristic differential leukocyte count within the first week of the disease is contrary to the general supposition. The value of the count in diagnosis is as yet problematic; but it seems certain that when used in addition to the total leukocyte count more information may be obtained than by employing the latter alone. [H.M.]

2.—See *American Medicine*, Vol. V, No. 23, p. 900.

3.—Osteoplasty in Conservative Surgery.—Thomas Manley cites numerous conditions in which osteoplasty in some form may be employed with success. For instance, in open fracture of children, if fragments of the shaft have been shelled out of the periosteum, there is no use attempting to replace them, for fusion will certainly fail, but with the periosteum intact and the limb placed in a comfortable position, full regeneration may be expected. The adjustment should be rather a support than a fixation, at least until ossific repair be well advanced. Secondary osteoplasty has a wide range of application for those deformities or anatomic defects which follow various serious fractures. The following various procedures are defined, discussed, and cited as illustrations of the utility of osteoplasty: Osteosection, osteoclasis, osteotomy, osteectomy, etc. As further illustration, he says: "At present resection of bone is rarely necessary as a primary procedure

after open fracture. In preantiseptic times, when the sharp projecting side of the bones penetrated the integument, if much resistance was offered attempts at reduction, it was the custom to cut them off. Now, by embalming and delay until muscular spasm passes away, they are usually easily reduced. If this fail we may do a tenotomy or freely enlarge the opening and replace the fragments." [A.B.C.]

4.—Mistakes We Have Inherited.—M. I. Knapp contends that vomiting is no more diagnostic of scarlet fever or cerebrospinal meningitis than is the pain of osteomyelitis or the headache of typhoid fever. The vomiting is due to a simultaneous, palpable, concrete cause acting on the stomach. If there really exists vomiting due only to cerebral causes, it is rare. It is to chemistry we must look for the cause of vomiting. Substances irritating to the mucous membrane cause the contractions. Tickling the fauces or putting one's finger into the mouth appears to act reflexly. However, by putting in the finger the epiglottis is closed, and air rushes into the stomach, distending it. Anything pressing on the intestine, as tumors or the pregnant uterus, obstructs the passage of the contents, favoring the production of noxious chemic changes, contraction of the walls, and expulsion through the stomach. Bile is not green. The green color of the chyme in some instances is due to the growth in the stomach of a green mold. From large quantities of red mold the contents often appear chocolate brown. Blood can be proved only by chemistry or the microscope. Alkaline brown vomit points to blood, acid to mold; both may coexist. A "ravenous" appetite is pathologic; it is only one degree removed from pain. It comes from large quantities of organic acids in the stomach. These irritate the mucous membrane. It is not the freshness of bread that harms, it is the quantity of fresh bread that is consumed. To remedy constipation we have been taught to eat fruits, sweets, whole grain flour, etc., but they may become decidedly injurious in large quantities, producing organacidia gastrica and organacidia enterica. [H.M.]

5.—Early Symptoms of Dementia Præcox.—A. R. Diefendorf divides these into 4 classes, simple mental deterioration without hallucination or delusion, cases with a few indefinite delusions, neurasthenic cases, and hysteroid cases. Each of these classes the author illustrates by the history of a case and gives the differential diagnosis from simulating affections. The necessity of an early recognition becomes apparent when one learns the disease has generally been in existence one or more years before the patient comes to the hospital, in which interval some have wandered from home, developed alcoholic habits, acquired sexual diseases, become pregnant, or have committed criminal assaults, all of which might possibly have been prevented. The honor of the family, the protection of society, and the welfare of the patient demand more careful attention from the practitioner to this common mental disease. [H.M.]

New York Medical Journal.

September 12, 1903. [Vol. LXXVIII, No. 11.]

1. The Value of Confirmatory Cultures in Diphtheria. JOHN S. BILLINGS, JR.
2. The Röntgen Ray as a Therapeutic Agent. CYRIL FULTON.
3. Surgical Shock, with Special Reference to the Solar Plexus as a Factor. L. J. DANDURANT.
4. The Preparation of the Patient for Nose and Throat Operations under Local Anesthesia. NATHAN G. WARD.
5. The Leukocytes in the Summer Diarrhea of Infants. JOHN ZAHORSKY.
6. The Prognosis and Orthopedic Treatment of Acute Anterior Poliomyelitis. WALTER G. STERN. (Concluded.)
7. Straight Splints in Elbow Fractures. J. HUBLEY SCHALL.

1.—Confirmatory Cultures in Diphtheria.—John S. Billings, Jr., says that a small percentage of cases of true diphtheria fail to show diphtheria bacilli on first culture, this failure being due in many instances to a conjoined infection with the septic micrococci. With the exception of these cases, the statement that a case is probably not diphtheria can be made on a negative culture up to the tenth day of the disease. Valid reasons for requesting a confirmatory culture in negative cases are: (*a*) Cases showing no growth whatever on the culture medium; (*b*) complete contamination and liquefaction of the culture medium, in cases which are clinically diphtheria; (*c*) cases showing the presence of suspicious or diphtheria-like bacilli; and (*d*) croup cases in infants or children, where the membrane is limited to the larynx, and the duration of the disease is less than 5 days. Dryness of culture medium, scanty growth on culture medium, and recent use of antiseptics with satisfactory growth of other organisms than diphtheria bacilli, do not alone furnish sufficient grounds on which to request a confirmatory culture. [C.A.O.]

2.—The Röntgen Ray as a Therapeutic Agent.—Cyril Fulton reports a case of epithelioma of the lower lip in a man of 51, cured by means of the Röntgen ray. The growth was of 8 months' duration and was about the size of a large filbert nut. The patient was cachectic and had lost 30 pounds in weight. The growth was exposed almost daily for a period of about 2 months when the growth was found to have disappeared entirely and the lip healed. The patient had been free from pain from the first seance and had gained 15 pounds. [C.A.O.]

3.—The Solar Plexus as a Factor in Shock.—L. J. Dandurant describes a condition which he has called "solar plexus shock." The condition is characterized by a lack of symptoms rather than by any group, with the exception of one symptom, but that one seems to be constant and pathognomonic, viz., a rapid, wild, and erratic heart action with the consequent like pulse action. Direct violence, not necessarily direct contact, is mentioned as a cause. This produces a paralyzing effect on the plexus, which is communicated to the auxiliary plexuses, with the result which characterizes the ordinary form of shock, viz., vasomotor paralysis of all, or a greater part of the vessels of the abdomen. In order to compensate for this loss of function the heart must increase its labors to a very great extent. Another cause which the author believes is, perhaps, more directly responsible for the condition is that in great shock to the solar plexus we have paralysis of the inhibitory nerves due to their relations. The disastrous results which would follow such a condition are a heart running at random, wild and erratic, without any control whatever, until it finally succumbs to exhaustion or dilation. [C.A.O.]

4.—Preparation for Nose and Throat Operations.—N. G. Ward says the following precautions in nose and throat operations even under local anesthesia will assure less shock, prevent complications, and hasten repair: 1. Local treatment, to free the nose and nasopharynx from mucus and relieve congestion. 2. Laxatives, diaphoretics, and diuretics, to stimulate elimination. 3. Tonics, to tone up the nervous centers and restore general functional activity. 4. Atropin, to prevent reflex inhibition. [C.A.O.]

5.—The leukocytes in the summer diarrhea of infants is discussed by John Zahorsky. He has made some investigations, and concludes with Knox and Warfield that the leukocyte count in the summer diarrhea of infants is too variable to be of any special diagnostic importance. But he believes a differential count is extremely valuable in estimating the intensity of the intoxication. In studying the figures given by Jopha and Knox and Warfield, with his own observation, he concludes that the normal ratio of the polymorphonuclears to the lymphocytes in healthy infants is 2 to 3 or 4. In gastroenteric disease this ratio becomes changed; the leukocytes gradually increase and the lymphocytes diminish, when the ratio becomes 1 to 1, 4 to 3, 3 to 2, 2 to 1 and 3 to 1 successively. This predominance of the polymorphonuclears, therefore, becomes a corroborative sign of the intensity of the morbid process. A great relative increase in the polymorphonuclears means that the baby is pretty sick, whatever other signs may indicate [C.A.O.]

6.—Orthopedic Treatment of Acute Anterior Poliomyelitis.—W. G. Stern says the orthopedic treatment rightfully begins as soon as the first acute symptoms have subsided. Electricity more than all other agencies has the power of stimulating the muscles and nerves and of keeping up an activity which approaches the physiologic. To electricity are to be added ordinary hot baths and massage, in seances of from 15 to 30 minutes daily. Passive motion, gymnastics, and careful teaching carry out the advances made by the aforementioned methods and may often accomplish a great deal. It is the whole duty of every practitioner to insist upon treatment, if only to prevent deformity. The flaccid deformities and the mildest of

rigid ones can be overcome by the proper use of braces, extension, exercise, and massage. For the rigid ones tendon transplantation, forcible redressment, tenotomies, and fixation in an overcorrected position suffice. Flail joints in total paralysis or dangle limb can always be made serviceable by means of a resection. [C.A.O.]

7.—Straight Splints in Elbow Fractures.—The first case mentioned is that of fracture of the external condyle with a longitudinal fissure extending into the elbow joint, the second was a fracture of the external condyle and olecranon, and the third was a fracture of the internal condyle and olecranon. In these fractures the only splint used was a narrow light board, which was long enough to extend from the upper third of the arm to the wrist, and which had a slight divergent angle at the elbow. A little padding of cotton was laid in the bend of the elbow to fill in the hollow. In none of these cases was passive motion resorted to early; in one case it was postponed until all dressings were discarded. Schall believes the straight splint far superior to any other, and that in the extended position there is less liability to deformity. [C.A.O.]

Medical News.

September 19, 1903. [Vol. 83, No. 12.]

1. The Etiology and Chemic Pathology of Gallstones. (Continued.) C. A. HERTER.
2. The Modern Treatment of the Acute Suppurations of the Knee-joint. ARPAD G. GERSTER.
3. What Ought We to Expect from Cardiac Drugs in Heart Weakness? O. T. OSBORNE.
4. A Study of Good Results in Hip Disease. V. P. GIBNEY.
5. Chronic Nephritis without Albuminuria. ARTHUR R. ELLIOTT.

2.—Modern Treatment of Acute Suppuration of the Knee-joint.—Arpad G. Gerster considers 3 forms of acute suppuration of the knee-joint, and recites a number of cases illustrative of each. The first is metastatic or pyemic suppuration. Usually the onset is mild and the course inclines to chronicity. It often occurs in infants about the time the cord stump drops, and in puerperal women. The mildest forms may undergo spontaneous resolution, but the severer forms demand opening, irrigation, and drainage. The pyemic form may be due to gonorrhea, usually in the form of gonorrheal rheumatism. Unless the effusion is copious, surgery need not be employed; the course is usually slow and rebellious, but function is commonly restored. The second form is suppuration due to osteomyelitis. This occurs most frequently about adolescence. The lower epiphyseal line of the femur or the upper one of the tibia is the site of the predilection in the lower extremity, and extension of the suppurative process occurs into the knee-joint. Radical treatment is necessary, and an incision from one condyle to the other, dividing the quadriceps tendon just above the patella after the method of Mayo is the best treatment. This requires also that the joint be fully opened up, packed with gauze, and dressed at an angle of 45° for a week or 10 days. Ollier supplements Mayo's incision by division of the crucial ligaments, gaining complete and free access to the joint. The third form is traumatic suppuration of the knee-joint, and this is the most dangerous of all. These cases not infrequently have a fatal termination in spite of all that can be done. The writer has had the best results from using Mayo's method of free incision and complete opening up of the knee-joint. [A.B.C.]

3.—Cardiac Drugs.—O. T. Osborne believes the increasing cases of cardiac and arterial weakness to be due to the high tension of our daily life, the nervous strain of some of our pastimes, as bicycling and automobiling in cities, the reckless consumption of coal-tar products for pain, oversmoking in young men, and overuse of alcohol for dysmenorrhea in young girls. He discusses the types of cardiac disease, the difference between a cardiac tonic and stimulant, the action, indications, and contraindications for digitalis, strophanthus, spartein, cactus, barium chlorid, strychnia, caffein, ammonia, and alcohol. [H.M.]

4.—Good Results in Hip Disease.—V. P. Gibney calls attention to the fact that many conditions may be mistaken for tuberculous hip-joint disease, such as trauma, periarthritis, a coxa vara rachitic or traumatic, congenital dislocation, psoas abscess, poliomyelitis, etc. In reference to our aim in treatment he says: "Good results are those with the minimum of shortening, without deformity, and with the maximum range of motion. Results must be studied on a basis of the stage in which well-recognized methods of treatment are begun. The keen diagnostician will recognize the lesion before the deformity arises and at an early stage, while the poor diagnostician will fail to recognize hip disease until the mother of the child has already made the diagnosis herself. Then the second stage, that of deformity, will have been reached and the advantages of early protection are lost. The tardy recognition of the value of instruction in orthopedic surgery by the medical schools throughout the country is largely responsible for the destruction of hip-joints and the hopelessness of restoring functions to points thus impaired. Now we have reason to hope for better results because the large and well-equipped schools of medicine have within the last decade established such chairs, and the younger practitioners who will soon make their influence felt will increase the number of those who get efficient treatment before the second and third stages are reached. In the third stage we must be content with correcting deformity and eradicating necrotic areas and sinuses." [A.B.C.]

5.—Chronic Nephritis without Albuminuria.—A. R. Elliott notes that latency of symptoms is so constant a characteristic of chronic interstitial nephritis as to almost constitute its most saliant feature. This obscurity involves all manifestations, symptomatic, physical, and urinary, and prevails throughout the entire course of the disease. Latency does not constitute a point of absolute distinction between early and advanced stages, or mild and severe forms of the malady. Diagnosis of chronic interstitial nephritis, especially during the early period, must generally be made from physical signs rather than symptoms or urinary signs. Albumin is very frequently absent, sometimes until the final stages, or rarely throughout the entire course. More reliable evidence of renal change is diminution in urinary solids. Casts are especially significant. Although diagnosis cannot be founded on them alone, they constitute a corroborative sign of high clinical value. Cardiovascular changes, arterial tension, and enlarged heart, with hyalin casts and deficiency of organic urinary excretives, suffice for a positive diagnosis. [H.M.]

CLINICAL MEDICINE

DAVID RIESMAN A. O. J. KELLY

REVIEW OF LITERATURE

Caisson Disease.—G. Herrmann[1] discusses the theories concerning disease and death as the result of decompression (sudden or insufficiently gradual lowering of pressure in individuals, who work under increased air-pressure). He is a believer in the gas-theory which is based on the proved fact that free gas-bubbles (nitrogen) exist in the circulatory system of individuals in whom pressure has been rapidly removed. Symptoms referable to the cardiorespiratory or nervous system, or both, may be noted in such individuals. Herrmann has studied 450 laborers working under pressure, with special reference to the organ of hearing. Congestions of the ear with tympanic injections were common; acute otitis media with perforation and serohemorrhagic discharge was also noted; epidemics of coryza were very frequent. The latter is often the precursor of the former. He discusses at some length the disturbances in hearing (usually central in origin) which result from too rapid decompression, and especially those symptoms which go to make up Ménière's symptom-complex. Cases of Ménière's dizziness were not at all rare, and of interest because their etiology was known. The treatment consists in recompression, oxygen inhalation, or both. Men permitted to work under high pressure should have large permeable nostrils and be able to perform Valsalva's distention act; they should not have perforations due to acute otitis media, nor labyrinthine disease or purulent nasal discharge. Chronic middle-ear disease is no contraindication, as such a state even improves under pressure. [E.L.]

Muscular Stenosis of the Cardia.—By means of esophagoscopy in man and animals, together with other experimental

[1] Volkmann's klinische Vorträge, No. 334.

investigations. F. Sinnhuber[1] found that the cardiac opening of the stomach is in a state of tonic contraction, which is increased by the surrounding musculature of the diaphragm and by the abrupt opening of the esophagus into the stomach. The contractile state of the cardia is the result of two opposing forces: (1) A contracting force, arising in the neighborhood of the cardia or in the cardia itself; and (2) a relaxing force arising in the medulla, and being conveyed by the vagi. If the vagus is divided immediately above the diaphragm, the cardia becomes relaxed; but if the section is made higher up, the tone of the cardia is increased. [B.K.]

Factors in the Incidence of Infantile Diarrhea.—The article of H. M. Richards[2] is based on a study of the infantile deaths in Croyden during the past 10 years. It is a very valuable contribution to the subject in question, and lays more than usual stress upon the etiologic value of polluted soil. Richards concludes that: 1. Fatal infantile diarrhea is usually a form of food poisoning. 2. Infection usually takes place at the home. 3. Urban conditions are chiefly dangerous because of the polluted soil found in the roads and yards. 4. Infinite care is needed if babies are to be hand-fed in towns. 5. Practical preventive measures should include (*a*) impermeable roads with efficient drainage; (*b*) copious flushing of roads; (*c*) education of mothers as to the necessity of scrupulous cleanliness; (*d*) erection of houses that can be cleaned with the least possible expenditure of energy; (*e*) an efficient control of the milk trade. [A.G.E.]

Disease of the Cardiac Muscle.—D. Gerhardt's[3] article is an extensive thesis concerning the modern pathology and views of diseases of the heart, and especially of the muscle. He bases his remarks upon a study of over 100 cases, and considers causation, symptoms, complications, pathology, diagnosis and treatment. Palpitation, sense of oppression and slight edema are usually the first symptoms of which the patient complains; the well-developed disease consists of the symptom-complex of cardiac insufficiency. Pleural effusion, symptoms traceable to the organs of digestion, dizziness, loss of strength, etc., may also be the first signs pointing to a cardiac muscular lesion. The disease is common in advanced life, especially after the age of 50. Alcoholics, obese people, and individuals suffering from chronic respiratory disease are frequently sufferers. Infections are common precursors of the disease. Especially important for the diagnosis are a broadening of the cardiac dulness toward both sides, associated with a systolic murmur at the apex due to relative mitral insufficiency. Increase in the number of pulse-beats and irregularity are nearly always observed. The treatment does not differ from that of other cardiac disease. Of drugs he favors digitalis. [E.L.]

The Dysentery Bacillus in Infantile Diarrhea.—Martha Wollstein[4] has examined the stools of 114 infants suffering with diarrhea, and has found the dysentery bacillus (first isolated from cases of infantile diarrhea by Duval and Bassett) present in 39. Of the positive cases, 29 died. The cases in which the bacillus was found presented a more or less typical picture of dysentery, with frequent and mucous stools. The character of the stools, however, varied greatly. Mucus was present in every case, usually in large amount. Blood appeared in 20. The stools varied from 2 to 9 in 24 hours; were in most cases green, and in 5 instances were accompanied by marked tenesmus. In the uncomplicated cases the temperature ranged from 98° to 103°. The greater number of the patients died during the first, or early in the second week. The serum-reaction with the dysentery bacillus was uncertain during the first week, frequently positive after the sixth day, and sometimes absent for 2 weeks. It cannot, therefore, be relied upon for the purpose of early diagnosis. The isolation of *B. dysenteriæ* in the stools is the only positive evidence of infection during life. The bacilli are present in the stools for a period of from 2 to 3 weeks, but may persist for a long time. Hospital infection, when cases of dysentery are present may occur, and was demonstrated by Dr. Wollstein in several instances. The type of organism isolated by her was that of the Manila, or Flexner bacillus. [D.R.]

Study of the Health of University Girls.—Mary E. B. Ritter[1] says that personal observations in the University of California for the past 13 years lead her to believe that the majority of college girls and boys improve in health during the 4 years of their college life. During the past 2 years she has examined 660 freshman girls and of these only 149 reported themselves free from all aches and pains and functional disturbances. Among the girls, 176 were subject to headaches, 193 were habitually constipated, 86 had indigestion, 57 were markedly anemic, 105 had abnormal heart sounds, and 443 were subject to menstrual disorders. This list is cited to show that most of the ills from which the harvest of semi-invalidism is reaped in mature womanhood, are sown in early girlhood. Among the conclusions reached are: 1. College education does not necessarily injure the health of women. 2. A large proportion of college women are improved in health and better fitted to become disciplined and intelligent mothers. 3. More careful observation by physicians with consequent instruction to mothers would in a large measure obviate the present unsatisfactory conditions. [A.G.E.]

Phlebitis an Initial Symptom of Pulmonary Tuberculosis.—The patient of Singer,[2] a perfectly healthy athlete of 26, suddenly developed obscure lung symptoms, which culminated about 12 days later in pleuropneumonia of the right lower lobe. No tubercle bacilli could be found. The cause for the pneumonia was believed to be pulmonary infarct. No source for an embolus could be discovered until the seventeenth day, when a thrombophlebitis of the leg manifested itself. He recovered from the saphenous and pulmonary affection without apparent sequels, until some months later when infiltration of the left pulmonary apex and tubercle bacilli in the sputum were found. Singer traces this to the venous inflammation, considering it the earliest manifestation of the tuberculosis and calls attention to the embolism, which has been claimed by French observers never to arise in the course of such phlebites. [E.L.]

[1] Zeit. für klin. Med., Bd. 1, p. 102.
[2] Journal of Hygiene, July, 1903.
[3] Würzburger Abhandlungen, Vol. iii, No. 2.
[4] Journal of Medical Research, August, 1903.

[1] California State Journal of Medicine, August, 1903.
[2] Wiener medicinische Wochenschrift, 1903, Vol. liii, p. 601.
[3] Johns Hopkins Hospital Bulletin, August, 1903.

GENERAL SURGERY

MARTIN B. TINKER
A. B. CRAIG C. A. ORR

EDITORIAL COMMENT

The Radical Cure of Inguinal Hernia.—In answer to the inquiries of many surgeons, W. S. Halsted[3] sketches the development of the operation for hernia as performed at the Johns Hopkins Hospital during the past 13 years. The results of their first 1,000 operations for inguinal hernia are soon to be published. More than two-thirds of these have been performed by Halsted's associates, each of whom has been at perfect liberty to perform the operation according to his best judgment. This has furnished variety for comparison, but of late all of the operators have employed practically the same technic. The chief points in the operation as now performed are excision of the veins, avoidance of the vas deferens, use of the cremaster muscle in probably 75% of the cases, transplantation of the neck of the sac, and overlapping of the aponeurosis of the external oblique. Dr. Halsted's description of his present operation is so brief that we may here quote it almost entire. Nine steps are considered:

1. The aponeurosis of the external oblique muscle is divided and the two flaps reflected as in the Bassini-Halsted operation. 2. The cremaster muscle and fascia are split, not directly over the center of the cord, but a little above it. 3. The internal oblique muscle is made as free as possible. A little artefaction is here often necessary. If the muscle cannot be drawn, without tension, well down to Poupart's ligament, it helps to make a relaxation cut or two in the anterior sheath of the rectus under the aponeurosis of the external oblique. This sheath being in part the aponeurosis of the internal oblique, one can readily comprehend that incisions into it, if properly made

might be of service. It is well, however, to postpone making such incisions until the sewing of the internal oblique muscle to Poupart's ligament is begun, for then the amount of tension can be nicely gauged and the number, length, and precise position of the relaxation cuts determined. 4. When the veins are large, and this is usually the case, they should be excised with great care to avoid even the slightest extravasation of blood into the tissues about the smaller veins and about the vas deferens which they accompany. And the vas deferens, as first emphasized by Bloodgood, should not be raised from its bed or handled, or even touched, lest thrombosis of its vein occur. The veins should be ligated as high up in the abdomen as possible, being pulled down quite firmly just before the ligature (in a needle with the blunt end first) is passed between them. As a precaution against slipping, apply two ligatures of fine silk, both for the abdominal stump and for the testicle stump of the veins. The farther from the testicle the veins are divided, the better, provided, of course, that their stump is external to the external abdominal ring. 5. Ligation of the sac by transfixion or by pursestring suture at the highest possible point. Both ends of this suture, after tying, are threaded on long, curved needles, then carried far out under the internal oblique muscle from behind forward, and passing through this muscle, about 5 mm. apart, are tied. 6. The lower flap of the cremaster and its fascia is drawn up under the mobilized internal oblique and held in this position by very fine silk stitches, which, having engaged firmly a few bundles of the cremaster, perforate the internal oblique, preferably where it is becoming aponeurotic, and are tied on the external surface of the latter. 7. The internal oblique mobilized, and possibly further released by incising the anterior sheath of the rectus, is stitched (the conjoined tendon also) to Poupart's ligament in the Bassini-Halsted manner. Catgut is usually employed for this suture. 8. The aponeurosis of the external oblique muscle is overlapped. This is known as Andrew's method, although devised independently. 9. The skin is closed with a buried continuous silver suture, and the incision covered with five or six layers of silver foil. It is unnecessary to dress or examine a wound closed in this manner for two weeks, when the wire may be withdrawn. Patients are kept in bed from 18 to 21 days. Seven excellent plates which accompany the article very largely explain the operation.

It will be seen from this brief description of the technic that there has been evolved an exceedingly careful and complete operation. Dr. Halsted says that some may ask "why make the operation so complicated when such good results as are published may be obtained by simpler methods?" He answers this by stating that the operation is not complicated for the surgeon competent to operate for the cure of hernia, that all its details are not required for the simpler cases, and that he does not know just what the results by the simpler methods are. Halsted himself has had no recurrence in an operated case since 1892, a record of which any surgeon may be justly proud, and which is a very strong argument in favor of the operation in question. Dr. Halsted measures his work by one criterion—results—and no technic that makes for their attainment is considered by him too tedious or complicated. This is amply shown by his method of breast amputation. Though there are valid arguments against these types of operation in some instances, their wisdom in proper cases cannot be gainsaid. Too much surgery at the present time lacks carefulness and nicety of detail. Finally, without in the least detracting from Dr. Halsted's superior skill as a surgeon, it must be remembered that this operation for the radical cure of inguinal hernia has not been evolved by him alone and hence is not entirely dependent for its success upon a purely personal manner of performance. Dr. Halsted's associates, Drs. Bloodgood, Finney, Cushing, Mitchell, and Follis, have all had a part in bringing the operation to its present degree of perfection, and are given full credit by their chief. Statistics regarding the first thousand operations will be awaited with interest, as the Johns Hopkins Hospital staff possess unusual facilities for tracing the after-history of their patients.

REVIEW OF LITERATURE

The Surgical Treatment of Anuria.—A. D. Bevan[1] enters into a general discussion of the subject and reports a case operated upon. The patient was a man of 23. No urine had passed for 6 days before he entered the hospital. Nothing in his history accounted directly for the condition. Since 12 years of age he had had occasional attacks of dull pain in the region of the left kidney. For the past 5 years he has complained of fulness in the lower lumbar region. On examination a fluctuating tumor could be felt in the left lumbar region, extending from the last rib to the crest of the ilium. Catheterization obtained no urine. The patient was able to walk about and presented no symptoms of uremia. At operation a large hydronephrotic sac was found in the left side and emptied of 3 pints of fluid. A mere remnant of the kidney remained. No urine having passed 24 hours after the first operation the right kidney was exposed by operation and found much enlarged. Incision into the pelvis and examination found no stone, but permitted a free escape of pent-up urine. Tubular drainage was inserted. Ten weeks after the operations, a third operation was performed, which opened widely the fistulous tract to the right kidney, but no stone could be found. In the meantime, however, urine had begun to pass in the natural way. The patient recovered, the fistula closing completely. The cause of the obstruction remains unknown, but the author is of opinion that it was obstructive rather than reflex. It may have been a small stone which was undetected, though skiagraphs made previous to the operation failed to reveal such condition. He agrees with Israel that nonobstructive anuria should in most cases be treated medically. When nonobstructive anuria fails to respond to medical treatment, nephrotomy should be done under nitrous oxid anesthesia. There are 3 forms of anuria—obstructive, reflex, and nonobstructive. Surgery is imperative in the obstructive and reflex forms, and may be of value in the nonobstructive type. [A.B.C.]

The Transplantation of Vessels and Replantation of Amputated Extremities.—In a communication to the recent meeting of the German Congress of Surgery, M. E. Höpfner[1] related a number of experiments from which he concludes that the complete section of bloodvessels in extremities need not be followed by gangrene. He has transplanted segments of the femoral artery of a dog into the carotid and *vice versa*. These transplanted segments did not lose their vitality. This result may find practical application in cases of malignant disease necessitating resection of the femoral artery and vein. A segment of a corresponding artery taken from a recently deceased body or from the external carotid or axillary of the same patient may be inserted. Attempts to transplant segments of arteries from one species of animals to another or segments of veins into arteries have not been successful. Höpfner has also experimented with the replantation of amputated extremities of dogs. Following vascular suture, life was maintained in one extremity during 11 days when the dog died from anesthesia induced during a manipulation of the extremity. In a second case the extremity lived 6 days when the dog died of an abscess which formed at the point of union. [A.G.E.]

GYNECOLOGY AND OBSTETRICS

WILMER KRUSEN FRANK C. HAMMOND

REVIEW OF LITERATURE

Hebotomy with Permanent Increase in Size of the Pelvis.—Th. H. Van de Velde[2] describes the method of performing hebotomy and believes the best results may be obtained by the simplest instruments. He places the great value of this operation in the complete separation of the wound from the birth canal, also the technic is simpler than symphysiotomy, the operation shorter and easier. The bladder, urethra, and greater part of the anterior vaginal wall retain their natural supports. All the mothers recover, have no subsequent disturbance or pain, and can walk as well as before the operation, while all the children are born living. Finally, and most important, there is after hebotomy a permanent enlargement of the pelvis from 2 cm. to 4 cm. We can properly await the formation between the healthy bone surfaces of a peculiar callus, which will bind together firmly the sawed surfaces separated by from 1½ cm. to 2 cm., provided these surfaces are held at the proper juxtapost-

[1] Annals of Surgery, April, 1903.

[1] La Semaine Médicale, June 10, 1903.
[2] Wiener klinische Wochenschrift, July 16, 1903.

tion without the intervention of any soft parts. In cases of hebotomy subsequent examination has shown a firm callus uniting immovably the parts of the pubic bone; and that the pelvis was enlarged, was proved by the fact that a symmetric pelvis had become unsymmetric through the lengthening of the pubic bone on the side of the operation. Thus the pelvis is enlarged, while its solidarity remains all that can be desired. The greatest pelvic enlargement practicable through hebotomy is 3 cm. to 4 cm. [W.K.]

Etiology and Pathology of Dysmenorrhea. — W. J. Schultz[1] speaks against the tendency to look upon dysmenorrhea in girls and nulliparous women as a functional or neurotic disturbance. It should not be forgotten that the affection may well be due to structural changes of the mesometrium, such as insufficiently organized connective tissue in the external uterine layers. The pains of dysmenorrhea must be differentiated into premenstrual and menstrual; the first may be likened to the pain caused by tension of the capsule in other parenchymatous organs ("Kapselschmerz"), while the second are analogous to labor pains. Frequently a radical spontaneous cure of dysmenorrhea takes place after the first pregnancy, and this the author explains by the development of the uterine walls incident to the condition. Many socalled reflex symptoms of dysmenorrhea are in reality produced by circulatory disturbances, especially stasis. Our treatment must be adapted to the particular case, hysterolysis, or incision into the uterine capsule, being permissible only in selected instances. [L.J.]

The Question of Ovarian Changes in Vesicular Mole.—Ludwig Pick[2] says that Marchand and Fraenkel first observed the frequent combination of vesicular mole with cystic degeneration of the ovaries and with cystic ovarian tumors; and Stroeckel asserts that these multiple cysts are corpus luteum cysts. Pick reports a case which he thinks may throw some light upon the obscure etiology of the vesicular or hydatid mole. After comparing the case with those reported by Fraenkel, Stroeckel, and others, he comes to the conclusion that in these cases of formation of hydatid mole, because of a primary over-production of lutean tissue, an excess of chorioepithelial action in the uterus or in the tube, and consequent transformation of the ovum, lead or incite to the development of a vesicular or hydatid mole. [W.K.]

The Nuclein Sodium Chlorid Treatment of Puerperal Sepsis.—J. Hofbauer[3] began to treat puerperal sepsis with nuclein in 1896; at that time he reported 7 cases, all of which recovered. He now reports 12 others, all of which belonged to the class of grave general infections with either negative gynecologic status or with local changes, which could not explain the grave symptoms. Eleven of the patients recovered; one died of diffuse peritonitis, the result of a suppurating tumor of the adnexa. The disease yielded very quickly to the treatment. The nuclein was given by mouth in doses of 5 gms. to 6 gms. (75 grs. to 90 grs.) every 12 to 24 hours until the bone-marrow reaction (bone sensitiveness) appeared. The last 5 cases were given in addition, daily infusions of normal salt solutions, subcutaneously or by rectum. The salt solution increases the quantity of blood serum and dilutes the toxins. The action of the nucleins Hofbauer explains through their specific affinity to bone marrow, the importance of which as blood-regenerating apparatus, and as birthplace for leukocytes as well as for formation of immune bodies, he discusses with reference to such diseases as pneumonia, cholera, etc. The leukocytosis, through the product of the vital activity of the leukocytes—the alexins—gives to the blood bactericidal power. [E.L.]

Ectopic Pregnancy of Unusual Duration.—G. T. Tomson[4] reports the case of a woman who had been pregnant for 3 years. At the end of the first year labor failed to take place, and menstruation soon returned. She was operated upon by the author 3 years after the beginning of her pregnancy, and a well-preserved full-grown male child was extracted. From several indications it was decided that the gestation took place in the tube, developing between the ligaments and behind the peritoneum. [L.J.]

[1] Journal Akousherstwa, May, 1903.
[2] Zentralblatt für Gynäkologie, August 22, 1903.
[3] Archiv für Gynäkologie, 1903, lxviii, 359.
[4] Journal Akousherstwa, February, 1903.

TREATMENT

SOLOMON SOLIS COHEN
H. C. WOOD, JR. L. F. APPLEMAN

REVIEW OF LITERATURE

Treatment of Phosphaturia.[1]—This condition is associated with many diseases. Nearly always dyspepsia is present. Treatment is first hygienic: rest for those overworked; for the gouty, moderate exercise and hydrotherapy in the form of warm sprays of 2 or 3 minutes' duration with water at about 90° F., cold sprays being too stimulant in these cases. The food should consist of beef bouillon, eggs, brains, sweetbreads, fish, oysters, peas, lentils, turnips, celery, artichokes, beans, and haricot beans. The nitrogenous foods are generally diminished while green vegetables and fruits are increased. Wine is bad; it should only be given well diluted with water. In gouty phosphaturia, the patient may take a teaspoonful of the following mixture for 15 days 3 times a year:

Rochelle salt	100 gms. (3½ oz.)
Sodium bicarbonate	20 gms. (5 dr.)

This should be taken on an empty stomach.

If the phosphaturia has resulted from overwork, lecithin alternated with arsenic should be prescribed. Lecithin pure may be given for 10 days at a time in doses of 0.20 gm. (3 grs.). During the last 20 days of the month the following solution may be ordered:

Sodium arsenate	0.06 gm. (1 gr.)
Distilled water	300 cc. (10 oz.)

One dessertspoonful before breakfast and dinner.

Cod-liver oil may be given, 1 or 2 spoonfuls 3 times a day. Calcium glycerophosphate or iron glycerophosphate may be substituted for lecithin when the patient is anemic. [L.F.A.]

Aerotherapy in Pulmonary Tuberculosis.—The question of the value of pneumotherapeutic apparatus in this important disease has been the subject of animated discussion. Although recommended by Waldenburg and Fenoglio, pneumotherapy with the aid of differential apparatus signally failed in the hands of Knauthe, and is now considered dangerous by some authors. Ducrocq asserts that it exposes the walls of the smaller bronchi and of the alveoli to the danger of laceration; and the method has also been accused of causing hemoptysis. The latter appears to be the pivotal point of the dispute. There can be no doubt, says Paul Louis Tissier (System of Physiologic Therapeutics, Vol. x), that the apparatus are capable of rendering great service in a disease which, in its local lesions as well as in its reaction on the general condition of the body, presents the very conditions that are known to be influenced by active pneumotherapeutic methods. The question to be answered, therefore, is not whether the apparatus are useful—for that is selfevident—but whether there is reason to fear that their employment will lead to the occurrence of grave accidents. The question is not an idle one; for, were it not for this fear, aerotherapy would find its most frequent and most successful application in pulmonary tuberculosis. It will be generally conceded that all cases of febrile tuberculosis, of tuberculosis with attacks of congestive phenomena, of hemorrhagic tuberculosis, of rapidly progressing tuberculosis, and of advanced tuberculosis with cavity formation, must be excluded as unsuitable for this method of treatment. But in ordinary cases of torpid tuberculosis in which the lesions are localized at the apices, in which there is no softening or at least only a limited degree of softening, and the progress is slow, the use of pneumotherapeutic methods is at least worthy of consideration. Some authors go further, and say that in such cases the physician who neglects to employ them fails to perform his whole duty. During the initial stage when, except for a slight general impairment of strength, the patients present only a little dry cough and faint modifications of the physical signs at the apex, exaggeration of the vocal resonance, roughened breathing, prolonged expiration or even less, should the fear of possible accidents cause us to withhold the best remedy in our possession for influencing both the ventilation and the circulation of the

[1] Journal des Praticiens, Vol. xvii, No. 18, 1903, p. 279.

lungs? This is not Tissier's opinion; and experience teaches that, although the value of the apparatus may have been exaggerated, and they may not in themselves suffice to bring about a cure in the majority of cases, they constitute, nevertheless, one of the most efficient means of combating the threatening infection of the lungs. He employs only the inspiration of feebly condensed air, either pure or saturated with medicinal vapors, and has never had any accident that could be attributed directly to the method. This is the practice that is recommended by Fenoglio, who begins with low pressures of $+\frac{1}{150}$ of an atmosphere and gradually attains a pressure of $+\frac{1}{50}$. It is also Kelemen's practice in cases of apical catarrh, which, he declares, he generally succeeds in causing to disappear; at the beginning of the treatment he adds expiration into rarefied air. Tissier has never employed the method of Waldenburg, who in cases entirely free from any tendency to hemoptysis administers a few inspirations of rarefied air after the inspiration. Solis-Cohen employs inspiration of condensed air with expiration of rarefied air; gradually increasing the positive and negative pressures to a limit of $+\frac{1}{30}$ and $-\frac{1}{50}$ atmosphere, respectively. In giving inspirations of condensed air it is important to use a low pressure, and to see to it that the inspirations do not last more than 3 or 4 seconds at most. The time, duration, frequency, and force of the procedures adopted must be adjusted to the needs of the individual patient; thus the physician must, in large measure, be guided by the results in the particular instance. The effect of the procedure when thus carried out in special cases is to bring into action, one after another, those portions of the lungs which, on account of the pathologic conditions present, are in danger of forfeiting their physiologic function. In addition, it induces a kind of respiratory gymnastics especially indicated in such cases; promotes the gaseous interchanges and restores the appetite in patients who habitually have little desire for food. The systematic use of the apparatus brings about an improvement of metabolism, reflected in the increased appetite, which enables the physician to resort to superalimentation even in cases in which all digestive remedies have failed. Finally, one of the principal advantages of inspirations of condensed air is that they afford a means of successfully combating the arterial relaxation (hypotension) that is constantly present in hypotrophic subjects, even in the early stages, before the appearance of any physical signs. It is well known that the arterial tension in tuberculous patients, as measured with Potain's sphygmomanometer, falls as low as 10 cm. or 12 cm. of mercury—normal pressure being from 15 cm. to 17 cm. This condition, which is important enough to merit full discussion, is not sufficiently observed.

The Cacodylates in Malarial Anemia.—A patient suffering from malarial anemia should be removed from the area of infection, if possible.[1] Quinin sulfate, which acts so well in the treatment of malarial fever, is of little value in malarial anemia, so it is necessary to resort to arsenic. It has long been known that arsenic has a favorable action in this condition provided that it is well borne; gastric disturbances, dyspepsia, eruptions, and muscular paralyses being some of the unfavorable effects when given for a long time. With cacodylic acid in moderate doses all these inconveniences of the arsenical medication disappear. A. Gautier believes that the use of the cacodylates is the method par excellence in the treatment of malarial anemia. Arsicodile (pure sodium cacodylate), neoarsicodyle or arrhenal, ferrocodyle, and ferricodyle are the organic preparations of arsenic which give the best results. Arsicodyle is given hypodermically. Arrhenal is reserved for administration by the mouth. It causes no gastric disturbance or odor of the breath and its curative action is rapid and certain. It is given in doses of 3 pills daily for 4 days, then 5 pills daily for the next 8 days; administration is then stopped for 8 days, when it is begun as before. Gilbert and Lereboullet recommend iron cacodylate in all forms of anemia. Ferricodyle is used hypodermically. It is given in the same doses as arrhenal. [L.F.A.]

[Fraser's recent studies (see *American Medicine*, vi, 5, p. 208) tend to show that the cacodylates are not active. Against these, clinical results, such as those cited, are to be considered. The subject is therefore not yet settled.]

[1] Le Mois Thérapeutique, Vol. iv, No. 5, 1903, p. 56.

OPHTHALMOLOGY

WALTER L. PYLE

EDITORIAL COMMENT

Albuminuric Retinitis in Pregnancy.—The serious import of this complication of renal disturbance in pregnancy renders any statistical, bibliographic or clinical study of it very acceptable to both oculists and general physicians. Two years ago Dr. S. Marx[1] suggested that in these cases the condition arises from diminished excretion of urea, rather than from albumin. The practical conclusions of his very interesting paper are:

1. Toxemia of pregnancy is a complex condition depending on more than one factor. 2. Women go to term with albuminuria without symptoms referable to toxemia. When such symptoms arise they are not caused by the albumin present, but by faulty urea-secretion. 3. In the most desperate and malignant cases there is found neither albumin nor casts. 4. Urea is always found markedly diminished in the socalled toxemia of pregnancy or uremia. 5. A regular and methodic course of urea-estimation in all cases of toxemia is imperative, and not of secondary importance to the time-honored examination for albumin. 6. Progressive diminution of urea-secretion, with or without albuminuria, is the sole indication for the induction of premature labor, which is especially indicated when conscientious medical treatment fails.

E. E. Morse[2] says that in 108 cases with eclampsia, collected by Gerster, no albumin was found at any time, despite repeated and careful examinations. In fact, the very worst cases are those in which eclampsia appears without a sign of albuminuria. He endorses Marx's theory of diminished urea excretion, and says: "Repeated and careful examinations have shown that there exists a close relationship between the amount of urea eliminated and the development of toxin poisoning."

Recently, S. C. Ayres[3] reviews the foregoing and other recent papers on this subject, records several instructive cases in his own experience and offers the following conclusions:

1. The urine of pregnant women should be examined at intervals for albumin. The quantity of urea should be estimated, and if diminished proper therapeutic and hygienic measures should be instituted. 2. Even slight visual disturbances should be followed by an ophthalmoscopic examination of the eyes. 3. When there is a well-marked neuroretinitis in the earlier period of pregnancy, up to the end of the sixth month, the prognosis for sight is unfavorable. 4. When the retinitis comes on in the last three months of pregnancy every effort by suitable internal and hygienic treatment should be made to tide the case over to maturity. 5. The occurrence of convulsions with retinitis is an indication for interference.

Ayres also calls attention to the fact that edema of the limbs is not always present. Headache, which is one of the prominent symptoms, is not always severe, and is often attributed to gastric and intestinal disorders or to the pregnant condition. Constipation should be relieved by mild laxatives, enemas and properly regulated diet.

REVIEW OF LITERATURE

Ocular Signs in Chronic Nephritis.—G. E. de Schweinitz[4] summarizes these ocular lesions as follows: 1. Complete blindness without ophthalmoscopic lesions, or at least without the presence of lesions more or less suggestive of disease of the kidneys, generally called uremic amaurosis, and most often seen in acute nephritis, but also in acute exacerbations of chronic renal disease. 2. Various types of retinitis and neuro-

[1] Medical Record, April 20, 1901.
[2] American Journal of Obstetrics, April, 1902.
[3] American Journal of Ophthalmology, October, 1902.
[4] Medicine, December, 1902.

retinitis, to which the descriptive term "albuminuric" is commonly applied, and which are most often seen in association with chronic forms of kidney disease. 3. Alterations in the caliber and relation to the retinal vessels owing to sclerotic changes in their walls, with or without hemorrhages and exudates in the retina, seen in association with those forms of renal disease in which vascular changes are evident elsewhere in the body; also isolated hemorrhages and exudates, without marked vessel-wall changes. 4. Alterations in the uveal tract, particularly in the choroid and iris. 5. Some varieties of cataract. 6. Paresis and paralysis of the ocular muscles, particularly the superior oblique and the external rectus. 7. Recurring subconjunctival hemorrhages.

Total Unilateral Oculomotor Palsy.—Lindner[1] reports the case of a woman of 42 who was suddenly taken with violent pains in the head, vomiting, violent buzzing in ears, and found herself unable to open her left eye. A total oculomotor paralysis was discovered upon examination, associated with optic neuritis and hemorrhage into retina. All the symptoms gradually disappeared except the third nerve palsy and the patient remained relatively well for a period of 3½ years, when suddenly, without any premonition, she fell over unconscious. A right-sided hemiplegia was discovered; she never regained consciousness. The autopsy revealed the cause of the trouble to have been a pea-sized aneurysm of the left internal carotid, which compressed the left oculomotor nerve. It had ruptured into left ventricle. Of diagnostic importance in such cases are the peculiar boring headache and auditory disturbances, which objectively and subjectively can be made to disappear by compression of the corresponding carotid artery. [E.L.]

Perforating Wounds of the Crystalline Lens.—G. A. Fleming[2] reports three remarkable recoveries from wounds of this kind. The first patient was wounded by a splinter which penetrated the cornea just to the inner side of the ciliary border, went through the iris and lens and entered the vitreous. The splinter was extracted, atropia instilled, a pressure bandage applied, and the patient ordered 10 grs. potassium iodid every four hours. The next morning the anterior chamber was half full of pus, but the condition gradually improved, and the patient made an excellent recovery, now having almost perfect vision. A faint scar can be seen in the cornea, the iris is perfectly healed, and the track of the splinter can be made out like a small hair running back through the lens and vitreous. In Case II the wound was made by a carpet tack; in Case III by a hatpin. The lens in each was perforated, and at least one-third of its extent became clouded by exudate. The same treatment as in the first was pursued, and perfect recovery followed. [A.G.E.]

Silver Acetate in the Prophylaxis of Ophthalmia Neonatorum.—Elemer Scipiades[3] replaces the 2% solution of silver nitrate recommended by Credé by a 1% solution of silver acetate. By this means the conjunctival reaction sometimes seen after the use of silver nitrate is avoided. The technic is simpler, as it is not necessary to neutralize the excess of the silver salt by normal saline solution. Scipiades has employed this treatment in 475 newborn infants with excellent results. [L.F.A.]

The Anesthetic Action of Yohinbin (Spiegel).—A. Loewy and F. Müller[4] report their experiments concerning the anesthetic action of yohinbin on mucous membrane, on motor and sensory nerves, with special references to changes in irritability and conductivity. They employed neutral sterile 10% solution of the drug in sterile water or physiologic salt solution. Three to five minutes after its instillation into the conjunctival sac, complete anesthesia of the cornea and conjunctiva was noted. It did not dilate the pupil nor affect accommodation in the least; other mucous membranes were affected similarly. When applied directly to nerves it weakened and even abolished their irritability and conductivity; when applied to the special nerve-endings of mucous membrane, it produced anesthesia. These actions lasted but a short time, normal conditions reappearing very soon. [E. L.]

[1] Wiener klinische Wochenschrift, November 6, 1902.
[2] Maryland Medical Journal, April, 1903.
[3] Journal des Praticiens, Vol. xvii, No. 25, 1903, p. 392.
[4] Münchener medicinische Wochenschrift, April 14, 1903.

A Method for Measuring the Prominence of the Eyeball.—E. Jackson[1] describes an instrument for measuring the forward projection of the eyeball. For this the name protometer has been suggested. It consists mainly of a rule with one straight and one curved edge with parallel lines on the upper surface, along which the observer sights and is thus enabled to measure the degree of prominence of the eyeball. The instrument measures within 0.5 mm. [A.G.E.]

Good Vision an Important Factor in the Educational Process.—S. D. Risley[2] details facts proving that many school children who get on badly at their books, but are bright, active, energetic and successful elsewhere, remain at the foot of the class because of their defective eyes. He has demonstrated by statistic studies in the public schools of Philadelphia that only 11.19% of the pupils had emmentropic, or model eyes, while 88.81% manifested some congenital defect. The great significance of this fact was borne out in the more detailed study of the relative condition of these two classes of eyes under the strain of school work. The defective eyes, especially those with astigmatism, had a lower sharpness of sight, suffered from pain, headache, and reflex nervous symptoms, red eyes, etc., and that furthermore from these was recruited a steadily advancing percentage of near-sighted eyes with their characteristic pathologic conditions as the children advanced in age and school progress. He describes a card system whereby school children can have their vision tested by the teachers in charge, and a yearly record maintained. [F.C.H.]

A Case of Uremic Blindness.—Roscher[3] reports the case of a youth of 18, who in the course of a cold developed hemorrhagic nephritis; two days later he suddenly became blind. No other uremic symptoms were noted. The pupils were found dilated without reaction, the retinas normal, and vision null. He developed uremic convulsions and died within a short time. He calls attention to the behavior of the pupils and the precedence of the blindness over the convulsions. [E.L.]

Congenital Heart Disease, with Interesting Eye Findings.—This case is reported by S. M. Hamill,[4] who believes that the remarkable condition of the eyes of the patient was due to the extreme degree of cyanosis, from which he suffered. The boy was 9 years of age, the value of the report being lessened by the fact that no autopsy was permitted. The report of Dr. W. Campbell Posey, who made the eye examination, is as follows: The eyeballs are prominent. The conjunctival vessels, both those of the globe and those of the lids, are swollen, especially the veins, giving the eye a dark purplish appearance. The pupils are large and the media clear. The findings of the ophthalmoscope were very striking and consisted in a neuroretinitis of marked degree. The retinal arteries and veins were greatly swollen and tortuous, resembling large angle worms. The head of the optic nerve was obscured by the swollen retina and there were a few small hemorrhages into the nerve fiber layer of the retina close to the disc. The light reflex from the vessels was greatly broadened, that of the veins the more so. He has not seen the retinal vessels of a larger caliber than normal [A.G.E.]

Frequency and Clinical Significance of Inequality of the Pupils.—Previous authors have found inequality of the pupils in 1% to 10% of healthy persons, and 18% to 46% of all persons with various internal affections, nervous and otherwise. O. Schaumann's[5] own figures lie midway between these—28% for dispensary patients, and 38% for hospital patients. There are two main classes of pupillary inequality: (1) Symptomatic inequality, due to organic affections of the eye, nervous system, etc.; (2) constitutional inequality, due to a certain constitutional peculiarity, or "asthenic diathesis." The latter class is subdivided into those due to differences in the anatomic development of the iris or its nerve supply, and those purely functional in origin. The functional inequalities are further subdivided into those in which the same pupil is always the larger, and those in which the inequality is alternating ("springende mydriasis"). Schaumann reports 11 cases o

[1] The American Journal of the Medical Sciences, July, 1903.
[2] Annals of Gynecology and Pediatry, March, 1903.
[3] Münchener medicinische Wochenschrift, March 3, 1903.
[4] Pediatrics, May, 1903.
[5] Zeitschrift für klin. med., Bd. xlix, p. 61.

alternating inequality; 7 of these were the subjects of evident nervous diseases, while even the remaining 4 showed undoubted neurotic tendencies. Inequality of the pupils, when accompanied by failure to react to light, points very strongly to an organic affection. Otherwise it may be taken as an indication of some constitutional instability. An exhaustive bibliography is appended. [B.K.]

A School Epidemic of Conjunctivitis.—H. Zia[1] relates his experience with a school epidemic of pseudotrachomatous conjunctivitis. It spread from one girl with eczematous keratitis to her neighbors, then to the rest of the school, and even to many friends of the schoolgirls. In all cases careful examination did not reveal any lesion beyond slight catarrhal, and in a few cases follicular affections, which in all cases were probably due to overwork in addition to the psychic effect produced by the fear of infection. The epidemic was checked by insisting upon school attendance of the pupils in spite of the eye affections. Every case was first carefully examined for a probable infective lesion, but none was found. [E.L.]

Congenital Nystagmus.—Congenital nystagmus in grandfather, mother and children is reported by Greanelle.[2] The grandfather, aged 68, is known to have had nystagmus from infancy with associated nodding movements of the head. The nodding has largely subsided. There are no eye changes other than the refractive changes incident to old age and a life of study. His daughter, aged 36, has a much more pronounced nystagmus which has been present from birth, and which was in early childhood associated with movements of the head (rotary and nodding). The only eye lesion is a mild degree of myopia. Her son, aged 12, has a nystagmus similar to that of his mother, with occasional nodding movements of the head. The boy's sister, aged 6, has occasional slight nystagmus. Neither child has any eye changes. All members of this family are decided brunets. [A.G.E.]

The Role of Toxins in Inflammations of the Eye.—Randolph,[3] as a result of experimental investigations, concludes: (1) Bacterial toxins, so far as tested, when instilled even for many hours into the healthy conjunctival sac were found incapable of producing inflammation or causing other injury; (2) the same toxins when injected into the tissue of the conjunctiva or into the anterior chamber invariably set up local inflammation, the extent and intensity of the inflammation varying to some degree, according to the species of bacterium yielding the toxin; (3) bacteria which had not previously been proved to produce soluble toxins were found to produce them even in young cultures, and it is suggested that injections of bacterial filtrates into the eye, particularly into the conjunctival tissue, constitute a more delicate biologic test for the detection of certain toxins than the tests usually employed for this purpose; (4) the experiments recorded furnish additional examples in a comparatively new field of the importance of toxins in explaining the pathogenic action of bacteria, and likewise emphasize the etiologic significance of injuries of the covering membrane of the eye in favoring the action of toxins and bacteria. [A.O.J.K.]

The Influence of Temperature and Season on the Development of Acute Primary Glaucoma.—K. Steindorff[4] has analyzed 102 cases of acute primary glaucoma observed in Hirschberg's clinic, during 17 years, regarding their time of onset. He found the largest number during the cold months of the year; the smallest number during the summer months. January headed the list with a percentage of 2.9 of all cases seen during this month; the month of June, during which no cases were noted, was the best month in the year. He explains this state with the wellknown fact of cold contracting the bloodvessels, and therefore increasing intraocular tension. Other factors, as low barometric pressure, low state of aerial electricity, diminution in sweat secretion, are also considered to be of some importance. The practical lesson to be derived from this is that individuals predisposed to glaucoma should be well cared for in winter, and should especially guard themselves against sudden changes in temperature. [E.L.]

[1] Münchener medicinische Wochenschrift, February 17, 1903.
[2] Pediatrics, February, 1903.
[3] American Journal of the Medical Sciences, cxxiv, 771, 1902.
[4] Deutsche medicinische Wochenschrift, December 25, 1902.

Eye Disorders in Children Influenced by Malnutrition, Diathesis and Dyscrasia.—Cotton[1] states that the eye disorders in infancy and childhood, etiologically considered the two extremes, are perhaps best represented by ophthalmia neonatorum and phlyctenular conjunctivitis, the former an acute infection, the latter caused entirely by malnutrition. He attempts to offer nothing new regarding etiology or clinical history, but presents briefly some common affections recognizable by physicians without the aid of technical knowledge or instruments of precision. Symptoms and treatment are concisely given. The article concludes by directing attention to the danger of serious injury to the ocular apparatus during the period of lowered nutrition attendant upon or following acute or chronic disorders of the developing period. "The physician who relinquishes the care of his charge upon the subsidence of pyrexia or at the return to normal digestion, evades a responsibility for the ophthalmic future of his little patient for which he should not be held blameless." [A.G.E.]

Traumatic Keratitis in the Newborn.—R. Jardine[2] reports several cases of difficult delivery followed by keratitis. The condition cannot be a new one, and yet it seems not to have been previously described. Ophthalmic surgeons, who must have seen these cases from time to time, have no doubt ascribed them to congenital conditions. Now that attention has been drawn to the matter it is hoped obstetricians will pay special attention to the cornea in all difficult deliveries, especially high forceps cases. [H.M.]

A Case of Familial Amaurotic Idiocy.—C. Gessner's[3] case was a child of 15, of Polish Jews; this race has thus far furnished almost all the reported cases. The child seemed perfectly well until its seventh month, when symptoms of a flaccid paralysis appeared. This gradually became spastic; there were no cerebral symptoms until late in the disease; audition remained good. The child became more and more apathetic and totally blind; death resulted from a general marasmus. The ophthalmoscope revealed a condition typical for these states: Optic atrophy, and in the macular region large white spots having red centers; they have been found in all cases thus far reported. Nothing is known concerning the etiology of the affection. [E.L.]

Extirpation of the Lacrimal Sac for Dacryocystitis: Late Results.—E. Rollet[4] bases his statements on the results in 27 patients seen at a period varying from six months to six and one-half years after operation. The following forms of lacrimal involvements are considered: Lacrimal blenorrhea, 2 cases, both cures; lacrimal tumor, 12 cases, 2 failures; lacrimal abscess, 4 cases, 1 failure; lacrimal fistula, 5 cases, all cures; tuberculous dacryocystitis, 3 cases, all cures; prelacrimal tumor, 1 case, cured. In no case was there consequent ectropion or disfiguring cicatrix. These results refer to lacrimal suppuration. Regarding abnormal lacrimation, which Rollet considers as meriting equal attention, it is absent in 16, insignificant in 2, intermittent in 1, appears in certain conditions in 3, and persists in 3. Rollet concludes that in a very great majority of cases a definitive cure of dacryocystitis follows methodical ablation of the lacrimal sac. [A.G.E.]

Endogenetic Eye-infection.—It was known long before the bacterial era that certain ophthalmic affections are caused by agents entering the eye through the circulation. This mode of infection is now called "endogenetic" and still presents many obscurities. J. W. Feleukowski[5] analyzes the material made available by nearly 150 experiments, partly conducted by himself, partly taken from literature, and considers the following theses plausible: 1. Endogenetic infection of the anterior chamber is constantly being warded off by the normal circulation of the aqueous tumor, by its pernicious effect on bacteria and by prompt phagocytosis. 2. The posterior chamber offers greater difficulties to the entrance of bacteria, while on the other hand it presents better conditions for their development. 3. Bacterial invasion into both chambers is facilitated by trauma and irritation, as well as by the gravity of general infec-

[1] Chicago Medical Recorder, January, 1903.
[2] Scottish Medical and Surgical Journal, December, 1902.
[3] Münchener medicinische Wochenschrift, February 17, 1903.
[4] Lyon Médical, March 22, 1903.
[5] Russki Vratch, February 15, 1903.

tion. 4. The severity of local infection depends on the virulence of the bacteria and on its seat, milder forms attacking the anterior and sever forms the posterior chamber. 5. In sympathetic ophthalmia endogenetic infections do not play any part. [L.S.]

Intrabulbar Tuberculosis in Children.—C. Emanuel [1] reports 3 cases of intrabulbar tuberculosis in children. In two a diagnosis of glioma retinæ was made, in the third the diagnosis was left undecided. A differential diagnosis between the two is usually impossible, as no symptom is sufficient characteristic. The first was a case of choroidal tuberculosis growing into the bulb, in the second the process was isolated to the sclera, in the third the ciliary body and retina were most affected. [E.L.]

THE PUBLIC SERVICE

Health Reports.—The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended September 19, 1903:

		Cases	Deaths
	SMALLPOX—UNITED STATES.		
California:	Los Angeles.....Aug. 29-Sept. 5...	3	
	San Francisco.....Aug. 30-Sept. 6...	3	
Illinois:	Belleville.....Aug. 23-Sept. 12..	13	
	Chicago.....Sept. 5-12.....	4	
Indiana:	South Bend.....Sept. 5-12.....	1	
Louisiana:	New Orleans.....Sept. 5-12.....	1	
		Five days in city.	
Massachusetts:	Fall River.....Sept. 5-12.....	3	
Michigan:	Marquette.....Aug. 29-Sept. 5...	1	
	Port Huron.....Aug. 31-Sept. 16..	2	
Minnesota:	Stearns County.....Aug. 31-Sept. 7...	3	
Missouri:	St. Louis.....Sept. 5-12.....	2	
New York:	Niagara Falls.....Sept. 5-12.....	1	
Pennsylvania:	McKeesport.....Aug. 31-Sept. 5...	1	
Utah:	Ogden.....Aug. 1-31.....	11	
	Salt Lake City.....Aug. 29-Sept. 5...	2	
	SMALLPOX—INSULAR.		
Philippine Islands:	Manila.....July 18-Aug. 1....	2	
	SMALLPOX—FOREIGN.		
Belgium:	Brussels.....Aug. 22-29.....		1
Colombia:	Bocas del Toro.....Aug. 25-Sept. 1...	2	
France:	Paris.....Aug. 15-22.....		1
Great Britain:	Leeds.....Aug. 29-Sept. 5...		6
	Liverpool.....Aug. 22-29.....	7	1
	Manchester.....Aug. 22-29.....	1	
India:	Calcutta.....Aug. 8-15.....		6
Italy:	Rome.....May 23-30.....		1
Mexico:	City of Mexico.....Aug. 23-30.....	6	4
	Vera Cruz.....Aug. 29-Sept. 5...	2	1
Russia:	Moscow.....Aug. 16-22.....	1	
	Riga.....June 1-30.....		13
	St. Petersburg.....Aug. 16-29.....	18	1
	Warsaw.....Aug. 8-22.....		5
Spain:	Barcelona.....Aug. 1-15.....		7
Switzerland:	Geneva.....Aug. 21-28.....	1	
Turkey:	Constantinople.....Aug. 23-30.....		1
	Smyrna.....Aug. 8-30.....		109
	YELLOW FEVER.		
Colombia:	Panama.....Aug. 31-Sept. 7...	2	1
Costa Rica:	Limon.....Aug. 27-Sept. 3...		2
Mexico:	Monterey.....Sept. 13.....Present.		
	Nuevo Laredo.....Sept. 15.....		1
	Tampico.....Aug. 22-Sept. 5...		3
	Vera Cruz.....Aug. 29-Sept. 5...	50	19
	PLAGUE—UNITED STATES.		
California:	San Francisco.....Aug. 9-21.....		2
	PLAGUE—INSULAR.		
Hawaii:	Hilo.....Sept. 14.....		1
	Honolulu.....Sept. 1.....		1
Philippine Islands:	Manila.....July 18-Aug. 1...	6	6
	PLAGUE—FOREIGN.		
Africa:	Cape Colony.....July 19-25.....	1	
China:	Hong Kong.....July 25-Aug. 1...	10	6
	Inkow.....Sept. 7.....Present.		
Egypt:	Alexandria.....Aug. 8-14.....	8	6
	Damiette.....Aug. 8-14.....	2	2
France:	Marseilles.....Sept. 13.....Present.		
Japan:	Yokohama.....July 25-Aug. 15..		1
Mauritius:	.....June 5-July 2.....	5	5
New Caledonia:	.....Aug. 13.....	26	18
Straits Settlements:	Singapore.....July 18-Aug. 1...		3
	CHOLERA—INSULAR.		
Philippine Islands:	Manila.....July 18-Aug. 1....	15	14
	Provinces.....July 18-Aug. 1....	2141	1488
	CHOLERA—FOREIGN.		
India:	Calcutta.....Aug. 8-15.....		10
	Madras.....Aug. 8-14.....		2
Straits Settlements:	Singapore.....July 18-25.....		39
Turkey:	Baalbeck.....Aug. 22.....Present.		
	Damascus.....Aug. 22.....Present.		
	Hama.....Aug. 22.....Present.		
	Tripoli.....Aug. 22.....Present.		

[1] Klinische Monatsblaetter fuer Augenheilkunde, Vol. xl, 210.

Changes in the Medical Corps of the U. S. Army for the week ended September 19, 1903:

MACY, FREDERICK S., contract surgeon, is granted leave for three months, with permission to visit the United States.

HOGAN, DAVID D., contract surgeon, is granted leave for two months, with permission to visit the United States, and apply for extension of one month.

MEARNS, Major EDGAR A., surgeon, will proceed to Zamboanga, Mindanao, P. I., for assignment to duty.

HUNTINGTON, First Lieutenant PHILIP W., assistant surgeon, will report to the commanding officer, 17th Infantry, and accompany that regiment to Mindanao, reporting to the commanding general, department of Mindanao, for assignment to duty.

GAPEN, First Lieutenant NELSON, and DUNCAN, First Lieutenant LOUIS C., assistant surgeons, will report to the commanding general, department of Luzon, Manila, P. I., for assignment to duty.

BARRON, First Lieutenant NOEL I., assistant surgeon, will proceed to Iloilo, Panay, P. I., reporting to the commanding general, department of the Visayas, for assignment to duty.

SMART, First Lieutenant WM. M., assistant surgeon, will proceed to Fort St. Michael, Alaska, to relieve First Lieutenant William H. Brooks, assistant surgeon, who will proceed to Vancouver Barracks for temporary duty.

PERSONS, First Lieutenant ELBERT E., assistant surgeon, is granted leave for one month from October 12.

SHEPHERD, JOHN M., contract surgeon, is granted leave for one month, with permission to apply for an extension of twenty-five days.

STRAUB, Captain PAUL F., assistant surgeon, will proceed at the proper time to West Point, Ky., and report not later than September 25 to Major-General J. C. Bates for temporary duty during the Army maneuvers to be held at that place, and upon the completion thereof will return to his proper station.

GEER, First Lieutenant C. C., assistant surgeon, is granted leave for one month, to take effect upon the expiration of his present sick leave of absence.

RIESS, HERMAN W., sergeant first class, Fort Leavenworth, is transferred to Fort Snelling, to relieve Sergeant First Class Martin Simmel. Sergeant Simmel will proceed to Fort Leavenworth for duty.

GIRARD, Colonel JOSEPH B., assistant surgeon-general, will proceed to Fort Riley for consultation relative to the site provisionally selected for the camp for autumn maneuvers to be held there, with the commanding general of that post, with Captain C. B. Baker, quartermaster, U. S. Army, and with First Lieutenant Edwin R. Stuart, corps of engineers, now engaged in surveying said site. After careful study and examination of the ground, Colonel Girard will submit a report covering the site mentioned from a sanitary standpoint.

KELLOGG, PRESTON S., contract surgeon, is granted leave for one month from about September 16.

NOBLE, First Lieutenant ROBERT F., assistant surgeon, having reported his arrival at New York City, is relieved from further duty in the division of the Philippines, and will proceed to Fort Sheridan for duty.

AMES, ROGER POST, contract surgeon, is granted leave for two months.

WALES, Major PHILIP G., surgeon, leave granted on surgeon's certificate is extended one month on surgeon's certificate.

Changes in the Medical Corps of the U. S. Navy for the week ended September 19, 1903:

The following assistant surgeons were ordered to report September 30, at the Naval Medical School, Washington, D. C., for special course of instruction: W. S. Hoen, J. P. DeBruler and J. A. Randall, from the Naval Hospital, Norfolk, Va.; A. D. McLain, from the U. S. R. S. Wabash; C. C. Grieve, from the Navy Yard, Boston: A. J. Gieger, from Naval Medical Examining Board, Washington, D. C.; R. L. Sutton, from special duty, Baltimore, Md.; J. S. Woodward and P. T. Dessez, from Naval Hospital, Washington, D. C.; J. R. Dykes, from the U. S. R. S. Franklin; P. S. Rossiter, T. N. Pease and B. H. Dorsey, from Naval Hospital, Newport, R. I.; R. E. Riggs, from Navy Yard, Washington, D. C.; W. B. Smith, from Naval Hospital, Pensacola, Fla.; F. W. S. Dean, C. F. Ely and F. G. Abeken, from New York Hospital; W. W. Verner, H. L. Brown and W. H. Rennie, from Philadelphia Hospital; C. E. Ryder, J. D. Manchester and S. L. Scott, from Naval Hospital, Chelsea, Mass.

TRAINOR, J. P., assistant surgeon, from the Solace and to the Naval Station, Pollock, P. I.

FITZSIMONS, PAUL, medical director, from Naval Hospital, Newport, R. I., home and wait orders.

WELLS, H., medical inspector, from Navy Yard, Boston, and to Naval Hospital, Newport, R. I.

DERR, E. Z., medical inspector, to Navy Yard, Boston, Mass., October 1.

BERTOLETTE, D. N., medical inspector, from Naval Medical Examining Board, and to Naval Dispensary, Washington, D. C.

SMITH, G. T., surgeon, to Naval Hospital, Norfolk, Va.

GATES, M. F., surgeon, from Atlanta, two weeks' leave, and to Philadelphia Hospital.

WHEELER, W. M., surgeon, from Alabama and to Naval Hospital, Newport, R. I.

RANDALL, J. A., assistant surgeon, commissioned June 26.

WISE, A. H., acting assistant surgeon, to Naval Hospital, Philadelphia, Pa.

EDGAR, J. M., surgeon, to the Rainbow.

NEILSON, J. L., assistant surgeon, from the Iris and to the Naval Station, Cavite, P. I.

PECK, A. E., assistant surgeon, from Naval Station, Cavite, and to the Iris.

LUNG, G. A., surgeon, to the Columbia.

LOWNDES, C. H. T., surgeon, to the Naval Hospital, Boston, Mass.

COCKE, P. L., acting assistant surgeon, resignation accepted to take effect September 21.

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PUBLISHED WEEKLY AT 1321 WALNUT STREET PHILADELPHIA BY THE AMERICAN-MEDICINE PUBLISHING COMPANY

VOL. VI, No. 14. OCTOBER 3, 1903. $5.00 YEARLY.

"Local Jealousies."—There are few things that injure the profession in the eyes of the people and lessen its own power in itself, so much as local jealousies. If the matter never comes to the knowledge of the lay public, it is much more generally known among the local profession than the victims of envy guess. In one way or another—a shrug, a hint, a hasty word, or an ill-considered silence—it is soon passed about that Dr. So-and-so and Dr. Blank are not on good terms. The second mistake of the participants in the quarrel is to suppose the good-natured acquiescence of friends means their own taking up of partisanship. Five times in ten these do not take the side of the complainer. The third mistake is to suppose the public knows nothing, or takes sides with "myself who am right." The public soon knows all, or misknows it, and only scorns the profession still more. But the first and fundamental error was the unwarranted conviction that there was any real cause or ground for ill-will and slighting remark. Usually it was and is entirely unnecessary, and a true desire for good feeling would have found the means of reaching a basis of friendliness, or at least of "getting on well with one another." One thing is very certain, the one who complains most, even to his most intimate friends, of a professional brother, or of his conduct, is almost always more in the wrong, is most surely the more to be blamed, and the one who is the more courteous, and at least more silent as to his ill-will, will in the long run have "the best of it." The nobler "rule of love" is of course preferable to the councils of policy, but when love cannot govern, wisdom and astuteness may well rule. None of us is so bad as his enemy thinks, perhaps none so good as he himself supposes. Let us have professional peace!

Statistics of Death by Lightning.—As near as may be determined, 713 persons were killed in the United States in 1900, and between 700 and 800 are probably killed each year. East of the 100th meridian thunder storms occur all over the country, but west of it, except in the Rocky Mountains, the frequency of storms diminishes until on the Pacific coast there are practically none. The greatest number of storms occur in Florida, in the middle Mississippi valley, and the middle Missouri valley. The average number of storms in each in 1900 was 45, 35, and 30, respectively. The greatest number of deaths in any single State (1896–1900) was 186—in Pennsylvania. Ohio came next with 135, Indiana, Illinois, and New York having 124 each. As to city and country, the more dense the population the less the rate per 1,000,000 of population, due of course, to the fact that the territory of the country is far greater than that of the city. Beside this, the metal roofs, telegraph wires, etc., of the cities serve as conductors. Lightning-rods, as usually put up, are of no use. A tin roof with gutter spouts leading into the ground is much more effective. Barns with green hay seem to invite lightning. Maple and cottonwood trees are struck much more frequently than oaks, these much more than beeches. Trees are surely a poor place for shelter, and feather beds are not disliked by the stroke.

Death by Lightning-stroke.—Few things are more gratifying to the self-esteem of the scientific amateur than a comparison of his own views of the thunder and thunderbolt with those held by the great of the past such, *e. g.*, as Aristotle and Pliny. The modern physicist tells us that lightning is the visible discharge of electricity between one group of clouds and another, or between the clouds and the ground. And the cause of thunder is well understood to be the sudden expansion of the heated air of which molecular wave-movements are generated in the atmosphere. And it will ever remain one of the great triumphs of this country, and a special source of noble pride to this city in all future ages that it was on the neighboring bank of the Schuylkill (in the year 1752) that Benjamin Franklin first plucked out the heart of one of the most dreaded of mysteries, by bringing down the electric spark from the overhanging thundercloud along his damp kitestring, thereby overturning the throne of the "Prince of the Powers of the Air." Only those who have experimented with electric instruments and know the effects of sparks of 8 or 10 inches in length can form any conception of the terrific power which accompanies the course of a lightning flash during a progress of 8 or 10 miles. Even approximate contact with such a flash means, of course, instantaneous death, and visible marks of injury would necessarily be present on the body, to some extent on the clothes, and even more definitely on small articles of metal, which, in the course of a very powerful flash, must necessarily undergo either complete or partial fusion. But deaths by lightning have occurred in which there

were no marks of injury whatever—either on the body or clothes of the victim. The occurrence of such was long regarded as mysterious; but we now know that every substance capable of "conducting" electricity, when in the neighborhood of a "charged" body—and not connected thereto by a conducting medium—becomes charged with electricity of the opposite kind. A man may stand within a moderate distance of a thunder-cloud which holds an enormous charge of positive electricity. His body, then, necessarily becomes charged with negative electricity by the influence of what is known as "induction." If that cloud then discharges its electricity in an opposite direction, his induced negative electricity instantaneously returns to the earth, and the resulting shock causes immediate death without the slightest trace of injury on or around his person. Burns, more or less severe, are found on the person, but as a rule there is nothing very distinctive about them. One of the specially characteristic postmortem conditions after death by lightning is that when the shock has been very direct and very powerful, the blood never coagulates completely. One remembers the significance of the imperfect coagulation of the blood after electrocution—the legalized death by pigmy lightning shock—and the vast fund of sensation which ignorance of this pathologic fact provided for newspaper readers on the occasion of its first employment in capital punishment.

The Proper Color of Window Shades.—The special committee of the Cleveland Academy of Medicine appointed to ascertain, with Dr. Lee K. Baker, the proper color for shades used on the windows of school-rooms has made a report to the school council committee on old buildings. The committee reported unanimously in favor of cream colored or buff shades as those best suited to the eyes. In making a special study of the lighting arrangements the Cleveland board of education is following the lead taken by several large eastern cities where this important matter has of late been given unusual attention. This most commendable attention to an important matter should not produce any nyctalopia or moon-blindness as regards the vastly more common causes of ocular, nervous and nutritional disorders of school children—those due to ametropia. It is also well known that photophobia is a common symptom of eyestrain. Window shades that lessen instead of increase ocular irritation are good, bu the reflex-producing optical defect begets a hundred times more trouble than black or white shades, more even than no shades.

Mrs. Eddy and Money-making.—A correspondent has sent us a letter from an eddyite, published in a local paper, defending the lady as to the charge of making money out of souvenir spoons and her books. He does not say anything about photographs, etc. Physicians will readily grant the writer's contention that she is welcome to whatever money she may make in the business of eddyism. It is as Dr. Murphy said of that other "Christian" institution in Chicago, people who are fleeced by such a patent fraud deserve no sympathy and to lose their money. It will do the world no more harm in her hands than in theirs. But physicians can hardly assent to the proposition that disposal of ill-gotten gains in "charity" condones the methods of getting hold of the money. That is the new-old substance of many ethical systems. Newspapers and magazines have for a year been much agitated over the question as to the receipt by institutions of learning of money gained in illegitimate ways. Then one would have to ask what Mother M. B. P. G. Eddy and her sponsor mean by "charity." The sponsor says she has received no percentage on spoons, and the spoonmakers testify likewise. There is no dispute as to the profits on books, but it is said:

> If the book, because of its usefulness, has had a large sale Mrs. Eddy's neighbors should rejoice with her in her prosperity, especially when they consider that no 100 books outside of the Bible can be found which are worth so much to the reader as "Science and Health." It contains a full medical course, full theological course, the key to happiness and health. It binds up the broken-hearted, overcomes sorrow, and makes the every day cares of life run more smoothly. Most of those who own a copy of "Science and Health" will testify that what they have learned from it has saved them hundreds of dollars in doctors' bills and other expenses which attend sickness. Moreover, its authoress has probably contributed to charities an amount equal to the sum total of the profits on said book. "Christian Science History," by Judge Septimus J. Hanna, published in 1899, declares: "Her charities during the last three years have averaged $88,987 per year."

Heredity and Inebriety.—The heredity or non-heredity of acquired characteristics is a subject which zoologists and botanists have been discussing for many years. Three years ago the British Society for the Study of Inebriety appointed a committee to investigate the subject in relation to alcoholism. The report which has now been presented is not signed by all the members of the committee, and must be regarded as tentative. It contains a definite assertion that no instance of the hereditary transmission of an acquired character has yet been demonstrated in the animal or the vegetable kingdom. If this is admitted, a man can only transmit to his son the hereditary taint with which he was born, and if a man having no inborn tendency to excess acquires drunken habits, his progeny are in no more danger than those of his neighbor, leaving out of consideration the influence of environment on young persons. It is not denied that drunken parents who become mentally and physically weak are liable to have children who are degenerate—weak in body and feeble in mind; such individuals as are likely under unpropitious circumstances to become criminals, drunkards or epileptics. The point which is denied is that the drunkard's child has any specialized tendency to become inebriate rather than vicious in some other direction. The capacity for the enjoyment of alcoholic sensations is, the committee reports, certainly transmitted when congenital, and it is for this reason, among others, that one drunken generation is succeeded by another. Where the factors inducing to inebriety are acquired by the individual during lifetime, the evidence is considered insufficient to show that inheritance plays any part in raising a second generation of drunkards, but it must not, of course, be assumed from this opinion that legislation in restriction of the drink traffic is useless. It would seem only natural to suppose that a man does not

develop a taste for strong liquor in excessive quantities, unless, generally speaking, the desire was inherent in him at birth. The tendency to exceed may easily be augmented by his surroundings, but in all probability the habitual drunkard is the product rather of influences which acted upon his nature before his entrance into the world than afterward.

The plague remains with us, but it is gratifying that the seeds of the terrible scourge now wither and die whenever they accidentally happen to fall on our hygienic soil. The history of its scientific conquest teaches the value of the means of prevention, as contrasted with those of cure; and of the formerly unsuspected superiority of the simple and natural agents over the complex and artificial. In the days of "Good Queen Bess," the English capital suffered (1592–94) from a deadly visitation of plague. The advisers of the queen had immediately drawn up and printed a code of regulations and list of remedies, with their modes of administration, for the purpose of resisting the inroads of the invader. Here are the two concluding items of this long-forgotten Elizabethan code of which but a few copies are now in existence:

Time of continuance apart from common assemblies.

Such as haue bene infected, should keepe their house without being conuersant with the whole, untill the sores shall haue left running and be perfectly whole and sound, which in sanguine and cholericke persons will be healed sooner, then in melancholike and flegmatike complexions. Such persons may not wel be conuersant with them which are not infected, for the space of one moneth.

Infected clothes.

The contagion suspected to remaine in clothes, either wollen or linnen, cannot wel be auoyded by better meanes, then by fire and water, by often washing & airing the same in frosts, and sunne shine, with good discretion, and burning the clothes of small value.

It is both instructive and interesting to compare the above extracts with the following from Dr. Munro's translation of the work of the distinguished Spanish physician, Dr. Montenegro (London: 1900), written when the plague-scare was at its height in Western Europe:

Whatever else may be believed, the utility of disinfectants to the individual is very limited. . . . We frequently hear of ten or twelve articles recommended, each of which is held to guarantee the asepsis of a particular part of the body; what those forget who propose such complicated means is that in a few seconds after disinfecting the hands, for example, they are infected *de novo*, since the least contact, and even the air itself, sows the surface immediately with the germs. If we wished, then, to follow this vigorous antiseptic method, we would require to pass our lives in a barrel of corrosive sublimate, or surround ourselves with an enormous number of bottles of drugs, which would remind one of the collection of arms with which Tartarin prepared himself for the struggle with the lions, all of which is, of course, impracticable.

The celebrated Dr. Rubio has, very much *apropos*, made it known that soap and water form the best defense. This is indisputable; to meet the infinite variety of mechanisms of contagion hygiene demands the most simple means, and even for the moral effect it is well that it should be known to all that they may trust in cleanliness to preserve them from the plague.

Comparison of the extracts of their respective codes of preventive medicine above given, must, we incline to think, leave the impression on the minds of most of our readers that the Elizabethan children of that plague-stricken era were not so much less wise in their (hygienic) generation than the Victorian children of (bacteriologic) light, as a mere *a priori* consideration of their more than 300 years of juniority might have led us, on first thought, to suppose.

The Beginnings of Pharmacology and the Rise of Pharmacies in the Middle Ages.—Materia medica is one of the oldest branches of learning, and its beginnings cannot be traced. According to a Chinese legend the Emperor Ching Nang, in 3216 B.C., commanded that medicinal plants be cultivated; and the Ebers Papyrus, which goes back to a still earlier period (about 3500 B.C.), contains extensive references to remedies of vegetable and of animal origin, opium and squills being those most frequently mentioned. The Jews, the Arabs, and the Greeks cultivated the study of materia medica; and in Greece a special trade or occupation was developed—that of the Rhizotomes, or root-gatherers, who were the precursors of the modern apothecaries. The Rhizotomes dealt not only in drugs, but also in cosmetics and curios. In this respect they resembled some of the druggists of the present day, a large part of whose shops is devoted to the displaying of fancy articles suitable for the toilet table, euchre prizes, etc. The first record that we have of any pharmacy is, according to Konrad Brandt, in the thirteenth century. In 1241, the Emperor Frederick ordered an investigation of the pharmacies of Salerno, and issued rules for their conduct. The Löwenapotheke, of Leipsic, still in existence, is first mentioned in 1409. During the Middle Ages the lucrative business of importing foreign drugs was entirely in the hands of the Italians; but after the discovery of America they lost this monopoly. Until the seventeenth century, nearly all drugs were of vegetable origin; it is the great achievement of Paracelsus that he introduced the use of chemicals. He it was, also, that ridiculed the wretched Latin employed by apothecaries and contended for the use of the German vernacular. An interesting feature in the development of pharmacies, of which Brandt makes mention, is that toward the end of the eighteenth century the custom of making presents on New Year's Day to physicians and clients had become so pernicious that a prohibitory edict had to be issued. The custom survives to this time, many apothecaries sending to physicians, at least, a more or less costly gift on Christmas Day. Pharmacy continued to be a rather irregular trade until the end of the eighteenth century, when Trommsdorf founded a pharmaceutic journal and an academy for the study of pharmacy, through which the standard was permanently raised.

A Homeopathic Fallacy.—A kind-hearted man can have no pleasure in adding to the troubles of our homeopathic brethren and will even counsel against the more extreme views of that household divided against itself. He must note, however, that it seems to be their duty to reconcile these differences among themselves at least as to fundamentals, or they can hardly hold popular respect. For instance in the *North American Journal of*

Homeopathy for March, Dr. W. J. Shrewsbury emphasizes a practical detail as to the doctrine of the single drug of which we have often spoken. He puts it in this way:

If a doctor goes to the bedroom of a patient and drops into a glass of hydrant water his single remedy of the 200th he has then and there by that simple act knocked out his own theory and exploded his consistency. For that innocent-looking water is no harmless medium in which to administer such a preparation. It has traveled for miles along the stream beds of Long Island triturating and dissolving a hundred drugs, animal, vegetable and mineral. It has further succussed them through the conduits and city pipes. It is no inert vehicle for his purpose. Compared with the 200th it is a blooming fluid extract of multitudinous and unknown remedies.

In addition to this excellent reasoning, and especially if it should be urged that a good homeopathist does not use hydrant water, it should be noted that there is probably no absolutely pure and single chemic substance in the world. It has been demonstrated that two metals, *e. g.*, gold and iron, left for a time in apposition interpenetrate each other, and leave appreciable amounts of their substances entangled among the molecules of the other.

One of the results of egotism and sectarianism, though luckily somewhat seldom illustrated, is being ridiculed by the students of scientific charity. Philadelphia is the scene, and this the epitome of the incident:

In 1825 one James Wills left property valued at $122,000 to the city of Philadelphia to found a hospital "where persons afflicted with the diseases of the eye and limb will be treated free of charge." Lower interest, costlier equipment, depreciating real estate, gradually have made the income insufficient. The Legislature has helped with subsidies, but very fitfully. Ten years ago it appropiated $10,000 for the erection of a new ward, but this was insufficient, and the building still contains nothing but cobwebs and lumber. Now comes a new testator to add to the confusion. The Board of City Trusts has just received a bequest of $55,000 and three deeds of real estate with which to maintain *another* eye hospital. It will bear the name of the giver.

None would for an instant object to the statement that the ophthalmology of homeopathy differs in no respect from that exemplified by the surgeons of the impoverished, Wills' Hospital. And what a waste of $55,000, and of three little patches of real estate! Both hospitals and the people must suffer for the sacred cause of vanity and new schoolism.

Antiglasses.—In accordance with American habits it is probable that in addition to antidrugism, antivaccination, antivivisection, etc., we are to have a great wave of antispectacleism. It is a part of the great uprising of antimedicine, of course, and when the anti spirit seizes upon the ignorant there is no knowing where it will lead. Logically, one would think the antis would be in favor of glasses, as these are not drugs, and that the osteos should come out against them seems particularly illogical, because lenses are, if anything, "mechanical." But the desire to be agin everything that the medical profession favors is too strong, and so the bonypaths join the eddyites, faith-curers, mental healers, vibralogists, distant healers, and all the wonderful people. In the last number of the *Osteopathic World* all good followers of "the greatest physician that ever lived" are told to go to the D.O. instead of to the oculist, and the D.O. "will find subdislocations of the bones of the neck, atlas, or of the upper part of the back, and the replacement of these bones time and again brings recovery to the eye." If this wont do it, tackle "the general health," osteopathically, of course, and if this fails there is still to be no "tinkering with belladonna and spectacles," but exercises of the eye, osteopathic exercises, and "pressure upon the cilio spinal center," "tapping the eyeball for stimulation," etc. There are several reports of what would seem to be cases of adhesive iritis, cured, to be sure, by manipulation of the "deviated atlas to the right," "stimulating the fifth nerve," and the rest. The osteopath moves in a mysterious way his wonders to perform. One notices also another instance of this in the heralded cure of asthma by massage of an enlarged prostate.

"The Golden Rule," is an excellent illustration of the fact that "Christian Science" is a great promoter of that type of insanity which is not inconsistent with financial cunning. This journal claims 10,000 readers, and even if this is not true the ability to pay the printers' bills on the part of the hundreds of these wild and morbid periodicals tells of the vast amount of such mental alienation and of how near, a great part of the race is to absolute insanity. It is plain that we may not safely ignore the fact, and that "smiling it aside" is not wise. From page after page of *The Golden Rule* not a hint of a real thought is to be grasped, except when it comes to the "cash in advance" commands, and then all is very clear and business-like. Two brothers, seemingly edit, but it is "I" that speaks, very ungrammatically, but as "I" says, "grafficly." We cannot spare space for interesting examples of psychopathic word-rubbish, in which Brother I proves himself divine, and more; that "the universe is a man, male and female;" that "the universe is my institution, I heal the sick, etc." When "a devout member of organized religion," he-they got "catarrh of his head and stomach in fighting the devil, and other troubles," but "when truth came to his vision," he ceased to deny "his desires for tobacco and dancing."

I kept on eating everything that my appetite craved until there was perfect agreement established and my stomach trouble was cured. To my catarrh of the head I said, go ahead if there is something about my head that needs to be taken out or destroyed, I want you to do it. I am Spirit and nothing in heaven and on earth can hurt me. I have healed all kind of diseases and casted out devils. Every day I am laying hands on the sick and they recover. I have taken up serpents and drank the socalled deadly poison and it did not hurt me. I speak with a new tongue in the way of explaining the Truth. Not only have I casted out devils out of one or more persons but out of the whole universe.

I think infinitely. There is no limit to the harmonious power of my life. I heal people far and near.

Terms for treatment is five dollars per month, cash in advance. RATZLAFF BROS.

"M.D.'s" are requested not to send him-them their circulars, and telegrams and cablegrams are not desired, as he-they are so "busy giving treatment till late at night for all kinds of diseases including poverty and writing letters. Five dollars per month in advance." Mother Eddy has much to answer for.

AMERICAN NEWS AND NOTES.

GENERAL.

Health Laws Violated.—Collector Stone has imposed a fine of $5,000 upon the British bark Arracan, Captain W. Kalk, for an infraction of the health laws. Captain Kalk left Valparaiso, Chile, for Carrizal Bajo, Chile, to load manganese ore for Baltimore, and neglected to get a bill of health at Valparaiso. Application has been made to the Department of Commerce and Labor for a mitigation of the fine, the Collector having no discretion as to the amount.

Malignant Malaria near Santiago.—Some days ago it was reported that yellow fever prevailed in the vicinity of Santiago. This was soon contradicted and the statement made that the disease then prevalent was a pernicious form of malaria. This led the health officer to make a special investigation with reference to the character of the disease, and the latest official reports just received state that there is no reason for modifying the diagnosis of pernicious malaria. Its worst extent appears in and around Daiquiri.

Doctor Combating Yellow Fever, Stricken with the Disease.—Word has been received at Monterey, Mexico, that Dr. A. Butron, who went to Linares with Dr. Nuñez, representing the Board of Health in the interest of the fight against yellow fever, has been stricken with partial paralysis. He has a high fever, which has not been diagnosed. Dr. Butron was in good health when he reached Linares and began his work of concentrating the yellow fever cases in pursuance of his plans for stamping out the disease, but next morning he was unable to continue the work, and is in the hands of his associate, who is being assisted by the Linares health officers.

Intoxicants and Tobacco Must Go.—Railroads throughout the country are waging war against the use of intoxicating liquors and tobacco by employes who are engaged in operating the lines. The fiat has gone forth generally that employes who drink or frequent places were liquors are sold are not safe to intrust with the lives of patrons or with the valuable property transported by the railroads. The rules which have recently been inaugurated against the use of tobacco are not so stringent as those against liquor, but generally they proscribe tobacco while on duty and when about stations. As for the cigaret, the order against it is almost as severe as that against whisky. The rule is being strictly enforced.

Yellow Fever Spreading.—From Laredo, Texas, under date of September 27, comes the news that 2 deaths and 12 new cases of yellow fever are reported for that day. It is said that the city now presents a dead appearance, all those who could get away having departed for points north and south of the State of Texas. It is estimated by the authorities that nearly 4,000 people have fled from here since the beginning of the yellow fever scare and the later development of the disease. The city is now quarantined against in all directions of the State, and no person can get beyond the limits of Webb county, other Texas counties having established a shotgun quarantine and turning back all those who are endeavoring to get away in coaches, buggies, and carts.

Railroad Hospital Car.—The new hospital car of the Galveston, Harrisburg, and San Antonio Railroad is one of the most complete in the country. The greater part of the space is taken up by the operating-room, the only furniture of which consists of an operating table and 2 combination cots and stretchers. Six more of the latter are stored in a compartment under the car. These are all adjustable to the operating table, so that in case of a wreck it is possible to carry the injured to and from the table without making any change of cot, which is always a matter of distress to the victim. The room is thoroughly equipped with all the necessary instruments for performing ordinary operations. The remainder of the space on the car is devoted to a parlor and a kitchen. The parlor has 2 berths and a sofa which can be used in an emergency as a bed. This room will also accommodate a couple of cots.

EASTERN STATES.

Osteopath Fined $200.—Everett P. Clisby, an osteopath, who formerly practised in Boston, was fined $200 today, in the Third District Court, for practising medicine without a legal degree. He appealed and was held in bonds of $500. Herbert Parker, a brewmaster, claims that Clisby failed to reduce a dislocation of a fractured shoulder and left him unable to raise his arm above the elbow. The defense was that Clisby's use of the title doctor never meant anything but doctor of osteopathy.

NEW YORK.

The Medical Society of the State of New York will hold its regular semiannual meeting at Hosach Hall, New York Academy of Medicine, 17 West Forty-third street, on October 13-14, 1903. A number of valuable papers will be presented and discussed.

New York State Medical Association.—A special meeting of the Council and Fellows of the New York State Medical Association has been called for Thursday, October 1, at 2 p.m., at the New York Academy of Medicine, to discuss the question of a union of the medical profession in the State.

Firm Sued for Alleged Injury to Girl's Eyes.—Gustave A. Wessman, guardian ad litem of his 12-year-old daughter, Dorothy Wessman, has brought action against H. A. Baker & Co., opticians, of No. 1720 Broadway, to recover $50,000 damages for injuries to the child's eyes by alleged incorrect glasses.

Hospital Sold for Debt.—The property of the Memorial Hospital for Women and Children, Brooklyn, was recently sold at public auction for $96,500. The real purchaser was understood to be the Jewish Hospital Society of Brooklyn. The bidding was between the representatives of this society and those of the Williamsburg Hospital. The $96,500, which includes a mortgage of $50,000, is regarded as being about the full value of the property.

PHILADELPHIA, PENNSYLVANIA, ETC.

Medico-Chirurgical College held its opening exercises September 28. The opening address was made by Prof. George Meeker.

Jefferson Medical College was formally opened for the seventy-ninth annual session, September 24. Honorable William Potter, exminister to Italy and president of the Board of Trustees, made the annual opening address. Over 700 students are enrolled.

Small Attendance at Homeopathic Meeting.—The thirty-ninth annual convention of the Pennsylvania Homeopathic Medical Society was held in the Board of Trade rooms September 22, 23, and 24. The society has 338 active members, but less than 100 were present at the opening.

License Required for Milkmen.—The Camden Board of Health has decided to license milkmen, and instructed its solicitor to prepare an ordinance which will be considered at a special meeting. The license fee will probably be $20 a year. It is said that the State authorities will make a periodic inspection of the stock of local milkmen if the ordinance should be adopted.

SOUTHERN STATES.

Extended Trip Abroad.—Dr. Osler, of the Johns Hopkins University, has recently returned from an extended trip abroad, during which he visited many of the principal medical centers of the old world.

Opposed to Vaccination.—The public school at Woodstock, Va., suspended for a week on account of opposition to an order requiring all scholars to be vaccinated. An appeal has been made to the school board to rescind the order.

The Board of Medical Examiners for the State of Texas will hold its next meeting in Fort Worth, Texas, October 13, 14, 15, and 16, for the examination of applicants to practise medicine and midwifery, and for the transaction of other business. For further information address the secretary, M. M. Smith, Austin, Texas.

Reduced Deathrate.—Sanitary Inspector D. W. Murden, of Portsmouth, Va., reports to the Board of Health of that city that the deathrate among children has decreased more than 25% since the compulsory milk inspection ordinance went into effect there. Murden reports the remarkable fact of only 2 deaths of children in Portsmouth during the summer from the fatal cholera infantum.

Navy Medical School.—The second session of the Navy Medical School will be opened October 1. This year's class will contain 26 students. This list of student officers is augmented by those who have been found qualified by the examiners during September, and pending the receipt of commissions these approved candidates of the corps will be permitted to enter the school. The faculty of the school will remain as last year, with the exception that surgeon Charles F. Stokes will take the place of Surgeon A. C. H. Russell in the department of military surgery, Surgeon Russell having been ordered to the South Atlantic squadron.

Hygienic Instruction for School Children.—The Committee of the Board of Education, in Washington, D.C., reports that instruction is given to scholars in the care of the eye, ear, teeth, and other organs of the body. Last winter a course of lectures by well-known physicians was delivered to the teachers of the public schools on hygiene, first aids in case of accidents, contagious diseases, and other subjects of equal importance. Plans are now in course of preparation for a similar course of lectures by prominent local physicians to be delivered at intervals during the present school term, when in all probability the subject of sterlizing and properly cleaning milk bottles, dishes, and other household utensils will be considered. Careful instruction has already been given in the matter of personal cleanliness.

WESTERN STATES.

Forbid Liquors and Cigarets.—The Rock Island and Alton have followed the example of the Wabash in making a rule prohibiting the use of intoxicating liquors or cigarets by their employes. It is understood that all the roads centering in the city propose to adopt the same rule. The rule has been enforced for several years as to trainmen, but has now been extended to apply to all employes.

Recommended Revocation of License. — *The Iowa Health Bulletin* quotes an exchange as follows: "The secretary of the Nebraska State Board of Health, on August 6, recommended the revocation of the license of Dr. Charles W. Downs, of Omaha, for violating the law forbidding the distribution of advertising relating to sexual diseases which tended to corrupt the morals of people. The advertising is considered of a particularly vicious nature. Downs appeared before the board and made the defense that he did not know there was such a law. It then adds: Good! We wish Iowa's law would authorize the State Board of Medical Examiners to revoke certificates because of obscene and immoral advertising. There would be fewer newspapers that are unfit to go into decent homes."

Chicago's Contemplated Large Medical School.—News from Chicago, under date of September 22, says: One of the most extensive real estate deals in the history of the city has practically been completed for the University of Chicago. The transactions involve the purchase of the entire south frontage of the Midway Plaisance, between Cottage Grove and Madison avenues, at an estimated cost of $1,000,000 for the land and $450,000 for the buildings. The news of these purchases confirms the reports which have been circulated in university circles that the largest medical school in the world is to be established on the Midway. Rush Medical College will form the nucleus of the institution, and it will be supplemented by the McCormack Memorial Institute for Infectious Diseases, extensive hospitals for which probably will be constructed on the "cottage" plan, and possibly the Chicago Polyclinic Hospital.

FOREIGN NEWS AND NOTES

GENERAL.

Death Toll of the Alps.—News from Geneva states that never before in the history of the Alps have death and disaster been so common on the mountains as during the present season. Over 300 accidents have occurred, resulting in the loss of no fewer than 150 lives. Over half of this season's accidents have happened to Germans and Austrians, who, partly from bravado and partly from pecuniary reasons, almost invariably climb without guides.

Annual Cost of Liquors is $35 Per Capita in Germany.—The statistics of the imperial health office show that the total spent on alcoholic liquors in 1902 throughout the German empire was about $625,000,000, an average per head for persons over 15 years of age, of $35. The health office has issued a pamphlet in which, while not advocating total abstinence, it says total abstinence is not disadvantageous to health, and does not impair the working ability.

Tuberculosis in Helsingfors.—The tuberculosis mortality in this northern city has diminished from about 5 per 1,000 in the period from 1881 to 1890, to 4.4 per 1,000 from 1891 to 1895, and 3.7 per 1,000 from 1896 to 1900. Of the total number of deaths tuberculosis is responsible for 48.9% in the ages between 20 and 40 years, 9.8% in the ages between 10 and 20, 30.8% between 40 and 60, 23.9% between 5 and 10, and 12.4% from birth to the age of 5. In Philadelphia the tuberculosis mortality in 1902 was 2 per 1,000, and tuberculosis was responsible for nearly 12% of all deaths.

Disease Spread by Milk.—The *Deutsche medicinische Wochenschrift* publishes a synopsis of a lecture which Professor von Behring, of Marburg, delivered before the German Naturalists' Congress at Cassell. Professor von Behring does not believe that tuberculosis can be inherited or contracted epidermatically by an adult. He asserts, however, that a decisive factor in the spread of tuberculosis is the nourishing of infants with milk taken from cows suffering from that disease. The human infant, like the young of all animals, lacks the digestive apparatus and protective organs which in the case of adults prevents the germs from entering into the tissues. As a consequence, he contends, that young children should be nourished with milk free from the germs of tuberculosis.

From the Voice of India we take the following: "Under 2 years we find the number of widows in Bengal to be 574; under 3 years, 651; under 4 years, 1,576; under 5 years, 3,561. Here we have something like a holocaust, a sort of burning alive of these little mites of humanity, who, but for the prevalence of a rigid sex monopoly, would probably live to be true wives and truly happy mothers—the mothers of future heroes and patriots. What possibilities are lost to the race forever under a system which has not one word to say for itself! It is much to be wished that young Bengal joined hands with old Bengal in making such "marriages" impossible. Surely a hundred years of liberal education ought to suffice for this most elementary item of national improvement. Our remarks apply with much the same force to other parts of India. It is idle to talk of the "spiritual" ideal of marriage, or marriage being a sacrament, and of baby wives and baby widows growing to be the guardian angels of society, when, as a rule, they are consigned to a life of perpetual penance and self-mortification, while needing the tenderest care, amid the free-and-easy movements of their male relatives, whom the "spiritual" conception of marriage does not prevent from marrying again and again.

OBITUARIES.

John H. B. Amick, died in the German Hospital, Philadelphia, September 26. He was a graduate of the University of Pennsylvania, 1875, and was a member of the Common Council for six years; was major-surgeon of the Nineteenth Regiment of Pennsylvania Volunteers during the Spanish war, and was at one time inspector of drugs of the Custom House.

Hugh Morrison Lash, at his home, in Indianapolis, September 21, aged 59. He was professor of mental and nervous diseases, Central College of Physicians and Surgeons, Indianapolis, and consulting physician to the Union State Hospital. He was a graduate of the Cincinnati College of Medicine and Surgery, in 1870.

Joshua G. Allen, of heart disease, at his home in Philadelphia, September 26. He was graduated from the University of Pennsylvania, in 1878 and was physician to the Philadelphia Lying-in-Charity and Nurses' Home, and was a member of the American Medical Association and Obstetric Society.

George Menzies, a medical missionary, died recently at Mhow, central India, from plague. He went to India less than a year ago and was appointed to care for the famine boys. He was a native of Ontario.

J. Paul Jones, suddenly of heart disease, at Camden, Ala., September 13. He was formerly president of the University of Alabama and was a graduate of the New Orleans School of Medicine, in 1861.

Peter S. Greenmeyer, died at his home in Orrville, Ohio, September 11, aged 67. He was a graduate of the Jefferson Medical College in 1872, and a member of the American Medical Association.

George Haven, suddenly at his home in Boston, September 27. He was a graduate of Harvard Medical School in 1883, and was one of the instructors in gynecology in that school.

Stephen P. Yeoman, of fracture of the hip, at the Soldiers Home, Marshalltown, Iowa, September 8, aged 81. He was a graduate of the Rush Medical College, Chicago.

Michael C. Kreitzer, suddenly of heart failure, at his home in Emporia, Kansas, September 24. He was a graduate of the Jefferson Medical College of Class of 1879.

Alexander Bruce McMurray, died at his home in Marion, Ohio, September 8, aged 66. He was a graduate of the Western Reserve University, Cleveland, in 1871.

Henry H. Hempler, died at his home in Washington, September 20, aged 63. He was a veteran of the Civil war and a member of the Lincoln Post, No. 8, G. A. R.

Stephen Hepworth, died of pneumonia at St. Boniface Hospital, St. Boniface, September 20, aged 28. He was recently graduated from the Manitoba University.

Chas. A. Murray, of heart disease, at his home in Vanetten, N. Y., September 3, aged 77. He was a graduate of the Geneva (New York) Medical College, in 1853.

John T. Donaldson, at his home, in Eastaboga, Ala., September 3. He was a graduate from the Medical College of the State of South Carolina, Charleston, in 1867.

Henry C. Sheppard, at his home in Germantown, Philadelphia, September 23, aged 63. He was a graduate of the Hahnemann College, Philadelphia.

H. F. Frederick, committed suicide at his home in Hawkinsville, Ga., September 10. He was a graduate of the Atlanta, (Ga.) Medical College.

Sidney A. Campbell, at his home in W. Pittston, Pa., September 12, aged 83. He was a graduate of the Jefferson Medical College, in 1849.

Frederick J. Halton, of heart disease, at his home in Brooklyn, September 24. He was a graduate of the Long Island College Hospital.

William E. Norton, of pneumonia, at his home in Harlem, September 23. He was a graduate of the Long Island College Hospital.

Seldom Burden Overlock, son of Dr. and Mrs. S. B. Overlock, of Pomfret, Conn., September 26, aged 4 months and 19 days.

Lincoln A. Stewart, formerly resident of Springfield, Mass., was drowned at Westbrookville, Maine, September 20.

H. E. Heddy, an English physician, residing in Madrid, was killed in an automobile accident, September 22.

Calvin Skinner, at his home, Malone, N. Y., September 26. He was a graduate of the University of Vermont.

SOCIETY REPORTS

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

Fifty-third Annual Meeting Held at York, September 22-24, 1903.

[*Continued from page 501.*]

[Specially reported for *American Medicine.*]

THIRD SESSION.

Officers for Ensuing Year.—President, W. B. Ulrich, Chester; vice-presidents, I. C. Gable, York; P. Y. Eisenberg, Norristown; F. W. Coover, Harrisburg; W. A. Marsh, Mt. Pleasant; secretary, C. L. Stevens, Athens; assistant secretary, T. B. Appel, Lancaster; treasurer, G. W. Wagoner, Johnstown. The meeting of 1904 will be held in Pittsburg.

Streptococci and Antistreptococcus Serum.—D. H. Bergey (Philadelphia) spoke of the inexactness of the older classifications of streptococci. They probably present varieties due only to their environment. He recently has found a variety that is chromogenic. Bergey believes that recent studies amount to a demonstration that the streptococcus cannot be classed as the cause of acute articular rheumatism, scarlet fever, or smallpox. The presence of streptococci in connection with these diseases is probably accidental. The point of greatest interest to the profession in this paper was the optimism of the writer regarding the ultimate success of antistreptococcus serum. He believes that an effective serum will be prepared and that even now much better results may be obtained than with the serum prepared by the methods used a year ago.

Appliances for Bacteriologic Work by Country Doctors.—A. C. Wentz (Hanover) exhibited a number of pieces of apparatus, improvised from ordinary utensils, that formed a very practical laboratory outfit. The possibility of preparing for bacteriologic work at a small cost was very well illustrated.

Effect of an Improved Municipal Water-supply on Enteric Diseases.—J. Frank Small (York) presented statistics showing the reduction in the number of cases of typhoid fever, since the city has had filtration of its water-supply. The number of cases per thousand has steadily decreased, there being a total of 45 cases among 36,000 population in 1902, while from 1895 to 1899, with a population averaging about 30,000, the cases varied from 65 to 129, except in 1898, when an epidemic brought the number to 424. In 1898, before filtration, the water contained 1,390 bacteria per cubic centimeter. Now it contains 5.6 per cubic centimeter. Colon bacilli have disappeared since filtration.

Necessity for More Careful Instruction of Students in the Diagnosis of Preventable Diseases.—Benjamin Lee (Philadelphia) contrasted the facilities of former students, who served under preceptors, with those of today as regards their knowledge at graduation of preventable, and especially of contagious diseases. General hospitals do not now admit many of these cases and the quiz class and summer school have taken the place of the preceptor. Hence the young graduate has had no experience with such diseases and gains it at the expense of his patients. Textbooks describe typical cases, but the variations, more numerous, have to be learned by seeing them. Bedside instruction is needed.

Discussion.—J. M. Anders (Philadelphia) said the paper was a very timely and important one. Students do not have sufficient opportunity to study contagious diseases, though in Philadelphia, students are invited to see cases in the Municipal Hospital. Seneca Egbert (Philadelphia) explained the Municipal Hospital instruction above mentioned. The deans of the various medical colleges arrange a schedule, and classes of 10 are sent to the hospital where they receive 2 hours' bedside instruction under Welch. All must have been vaccinated and each signs a certificate exonerating college and hospital authorities in case infection occurs. Caps and gowns are worn in the wards and hands and faces are disinfected before leaving. Only one case has occurred in 4 years and that was in a student who in some manner was admitted though he had not been vaccinated. This instruction is entirely elective, but a large number of students take advantage of it. Lee, in closing, said that this instruction should be made compulsory.

A Clinical Study of Cerebrospinal Meningitis.—T. C. Ely and J. J. Snyder (Philadelphia). This paper will appear in *American Medicine.*

Aneurysm of the Left Subclavian Artery Treated by Wiring.—Judson Daland (Philadelphia). The patient was a male of 52, who 2 years before felt pain in a tender region in the left side of the neck, this being in a few days followed by a pulsating tumor. This tumor steadily increased in size, and finally 20 feet of gold and platinum wire was introduced and a current of electricity, reaching a maximum strength of 80 milliamperes, passed through it. The physical signs did not change much and the patient died in 20 days. Autopsy showed an aneurysm of the left subclavian reaching to the axillary artery. A clot had formed around the wire. The case then was one in which ligature was impossible, medical treatment was ineffectual, and wiring and electricity, though producing coagulation, did not prevent increase in size of the aneurysm. Death was probably hastened a few weeks. Daland believes the operation worthy of trial in cases failing to benefit by medical treatment. Means for slowing the blood, as rest, etc., and the administration of gelatin to favor coagulation, should be employed for 1 week before and 2 weeks after wiring. This case is believed to be the first on record in which wiring and electricity was used for a subclavian aneurysm.

Typhoid Fever.—L. B. Kline (Catawissa) called attention to the continuous ravages of this disease throughout the State. It is not confined to the cities and larger towns with their known bad water-supplies. Treatment was briefly mentioned.

Discussion.—A. O. J. Kelly (Philadelphia) spoke of the great benefit to be derived from hypodermoclysis in cases that are profoundly toxic, with scanty urine and other manifestations of the extreme "typhoid state." In less serious cases, enteroclysis probably will answer as well. The solution used should be of high temperature, 130° F. at times.

Need of Public Hospital Wards for the Treatment of Mild and Curable Cases of Insanity.—J. H. W. Rhein (Philadelphia) gave several points in favor of such wards in public hospitals. Briefly summarized they are: (1) The person escapes the stigma of having been in an asylum; (2) they do not have the remembrance of a first incarceration which remembrance in some cases has seemed to give rise to a second attack; (3) privacy and nursing by skilled female nurses are assured; (4) opportunity to watch cases in their incipiency is afforded; (5) there is a gain in clinical teaching facilities.

The Dietetic Treatment of Nephritis.—J. M. Anders (Philadelphia). This paper will appear in a future number of *American Medicine.*

Recovery from Perforation in Typhoid Fever.—J. H. Musser (Philadelphia) reported this very instructive case. The patient had a severe attack of typhoid fever with a persistent bronchopneumonia followed by relapse. On the fourth day of the relapse he had a slight chill, the temperature fell 3° in 4 hours, there was local pain between the umbilicus and pubes, and vesical symptoms were pronounced. Pain was so severe as to require an opiate. The diagnosis of perforation was made but the patient's condition absolutely precluded operation. After a day or two, improvement began and the signs of local peritonitis gradually disappeared. On the sixth day after perforation intestinal hemorrhage occurred, this complication finally causing death. Autopsy showed that perforation had occurred and had been healed, there being adhesions between the loop of ileum containing the opening and the bladder. The case then is undoubtedly one of recovery from perforation in typhoid fever. Musser stated that he did not report it because he is opposed to operation for typhoid perforation, as that would have been done had the patient's condition warranted intervention.

X-ray, Light, and High Frequency Electricity.—Russell H. Boggs (Pittsburg) compared these three remedial agencies as adapted to various cases. He stated that x-rays prevent metastases, instead of causing them, in carcinoma, though metastases occur coincidently. Of 20 cases of lupus treated by x-rays, only two were not benefited, and in both diagnosis was in doubt. Of 28 cases of pulmonary tuberculosis, two were apparently cured, as were 3 of 5 cases of tuberculous glands.

X-ray Treatment of Chronic and Malignant Diseases of the Skin and Superficial Tissues.—Samuel H. Heller (Lancaster) said that many adverse criticisms of the x-ray came from inexperienced workers. Another cause of failure is that manufacturers furnish poor outfits. Heller reports good results in carcinoma, lupus, ivy-poisoning, and acne. During a period of 3 years not one case discharged as cured has had a recurrence.

The Röntgen Ray as a Palliative in Cancer.—Charles Lester Leonard (Philadelphia). This paper will appear in a future issue of *American Medicine.*

The Röntgen Ray in Therapeutics.—Mihran K. Kassabian (Philadelphia) stated that the therapeutic value of the x-ray has been proved. He compared the effect of this agent with that of operation. Many instances of failure are due to lack of knowledge of the x-ray. Physicians and surgeons should cooperate more in the use of this treatment.

Some Problems in Surgical Work.—G. D. Nutt (Williamsport) said that young men before devoting their time to surgery should know the practice of medicine and become capable diagnosticians. Technic, especially in reparative work, should be more generally careful. In this way, deformities and untoward after-results may be minimized. The reparative powers of nature should always be remembered in abdominal cases that are not emergencies. Exploratory incisions should be used only when all other means of diagnosis have failed.

Proctocolitis, with Special Reference to Treatment.—W. M. Beach (Pittsburg) said that the essential symptoms of proctocolitis are pain, constipation, and membranes. In the diagnosis, appendicitis, malignant and pelvic disease must be eliminated. Acute bacillary dysentery and a neuroarthritic diathesis are to be reckoned as causes. The diet should consist of soft foods, milk being the standard aliment. Medicines must be selected and used with great care. Washing out the colon is also to be recommended.

Abdominal Surgery without Ligature.—A. J. Downes

(Philadelphia) showed a series of charts illustrating various steps in his technic for using electrothermic hemostasis. The technic was also briefly described.

FOURTH SESSION.

Pulmonary Tuberculosis.—THOMAS J. MAYS (Philadelphia) read a paper dealing largely with statistics of many of the cities of the United States showing the incidence of pulmonary tuberculosis and pneumonia. Many charts on which were plotted curves of these diseases were exhibited. The writer showed that in some cities, where registration and other means for the prevention of tuberculosis are in vogue there is a gradual decrease in the deaths from that disease, but there is a corresponding or even greater rise in the deaths from pneumonia. In other cities tuberculosis has increased. This rise in pneumonia must be due to some factor other than influenza. The conclusion of the writer was that the present methods of preventing tuberculosis are not giving satisfactory results. Tuberculosis increases or cases are transferred to the pneumonia death-list.

The Prevention of Tuberculosis.—LAWRENCE F. FLICK (Philadelphia), before speaking on this subject, devoted some time to the question brought up by Mays. He said that one who did not consider certain facts in connection with the apparent discrepancy of statistics might very easily be misled. During the past 5 years laboratories have been opened in many cities, and better diagnoses are being made. Deaths from bronchitis, for instance, are now seldom recorded, such cases being either tuberculosis or pneumonia. And some hitherto doubtful cases are now known to be tuberculosis. Hence there is an increase of tuberculosis in some cities as compared with former statistics. There was an increase in Philadelphia from 1894 to 1902. But the important point is that there has been a decrease in the number of deaths of persons who might have died from tuberculosis, that is, who actually had the disease, since means of prevention and of cure have been adopted. For the prevention of tuberculosis Flick said that there is needed (1) sanatoriums for incipient cases. In this stage there is no contagion, hence if such cases are sent to sanatoriums they can be cured and the contagious period of the disease thus prevented; (2) hospitals for advanced cases. If these are not available, then general hospital wards that can be isolated. Dispensaries can do very much for walking cases, and in the early stages they can be made harmless to others. If the practising physician is willing to take the time to look after the necessary details he can make patients at their homes harmless to others. To accomplish this the most minute instructions about the sputum and other points must be given. Then ask how he has followed them, getting the patient to tell exactly what he has done. It is only in the most painstaking and careful supervision that results can be secured.

Serumtherapy of Tuberculosis.—M. R. RAVENEL (Philadelphia) briefly reviewed the attempts which have been made to produce an effective serum for the treatment of tuberculosis. Brilliant results in the line of bacteriolytic immunity have been obtained during the past few years. These researches incidentally indicate the genetic relation of all the varieties of the tubercle bacillus. The immunization of animals to this bacillus gives strong hope for the future that immunization of man will be secured. The exact line along which this much-desired result will be secured is not known.

Trauma as an Etiologic Factor in Pulmonary Tuberculosis.—W. T. ENGLISH (Pittsburg) spoke of the influence of trauma upon the thorax, especially in later years when the walls are more rigid. Among the statistics cited were 128 cases of traumatic pneumonia, in 48% of which recovery from the pneumonia was followed by tuberculosis. The most prominent idea advanced was that injury to the thorax, followed later by pulmonary tuberculosis, should be actionable in court to recover damages from the person responsible for the injury.

In the *discussion* of these papers upon tuberculosis FLICK said that trauma had a causative relation to pulmonary tuberculosis only in a secondary sense—it might be predisposing. Trauma followed by tuberculosis does not entitle the person to damages, as tuberculosis is probably present before the injury is received.

Four Cases of Malignant Disease of the Lungs.—J. C. LANGE (Pittsburg) reported these cases. One was a fibrosarcoma in a man of 72, one an undiagnosed tumor in a man of 31, another a sarcoma in a girl of 12, the last presumably a lymphosarcoma in a female of 34. The writer dwelt particularly on some of the points of symptomatology. One was that debility, anemia, loss of weight, peculiar color, etc., appeared from 1 to 12 months before there was any symptom of disease in the chest. When the pleura became involved there ensued intense, persistent pain. The accompanying pleurisies were dry.

Drugs Useful in Cardiac Affections.—S. SOLIS COHEN (Philadelphia) said that in prescribing for cardiac affections it must be remembered that different parts of the heart may be affected, as the muscle, the valves, or the nerve supply. Drugs are the least useful of all methods of treatment, much more efficacious being exercise, diet, massage, hydrotherapy, etc. When drugs are demanded, digitalis is still the leader. But digitalis is harmful, practically always so unless guarded by nitroglycerin. The condition of the heart muscle and the blood vessels are of much greater importance than are valvular lesions when one is prescribing drugs. In cases of fibroid heart digitalis does much harm and nitroglycerin does much good. A point emphasized was that in these cases mercury in some form, in small doses, is often of very great benefit even when syphilis is not a factor in the case. Potassium iodid in doses of 1 gr. to 1½ grs. t. i. d., has also a good effect. Minute doses of the latter drug is also efficacious in cases of tobacco heart. In mitral stenosis digitalis does harm. Aconite in small doses t. i. d., will improve such patient's condition.

Fatal Case of Chorea Complicated by Endocarditis, Pericarditis, and Nephritis.—A. A. ESHNER (Philadelphia) reported this case, which occurred in a girl of 10. The chorea was relieved by treatment, but exacerbation followed frightening of the child, and pericarditis and nephritis ensued. The case is interesting because of the nephritis and anemia instead of rheumatoid symptoms. Perhaps they were varied results of a common cause. Chorea is believed to be an infectious disease, not related to rheumatism, and may have a multiple cause.

Modern Treatment of Fractures.—HIRAM S. MCCONNELL (New Brighton) spoke particularly of fractures of the lower end of the humerus and of the bones of the leg. He ascribes much of the bad treatment of fractures to the faulty teaching of anatomy and surgery in medical schools. A principle to remember is that if a fracture be properly reduced there is no necessity for tight bandaging. For retaining in place the fractures of children there is nothing better than splints made of several layers of absorbent cotton covered with gauze. Fractures of the lower end of the humerus should be dressed in extension. McConnell considers the fracture-box an obsolete appliance in treating fractures of the leg. He applies a temporary posterior splint, and follows by a special plaster-of-paris dressing. Passive motion in fractures near the joint is considered harmful until the expiration of 2 weeks.

Surgical Treatment of Fracture of the Patella.—EDWARD MARTIN (Philadelphia) said that in a recent fracture of the patella where the separation is not more than ½ inch and the tension not increased, the knee is fixed, the fragments approximated by adhesive strips, an elastic bandage applied, and later massage and passive motion. All cases accompanied by marked and immediate tension should be treated by the open method. Any case in which the separation is more than ½ inch the open method should be employed. The tendinous expansions should be approximated by mattress sutures, and the fragments of bone by silver wire.

Gynecologic Therapy.—CHAS. F. SPANGLER (Kane) made a plea for operative conservatism in the treatment of diseases of the female pelvic organs.

Three Unusual Vesical Cases with Operation.—ELLA B. EVERITT (Philadelphia). The first case was that of calculus in a female child of 13. The history was that 3 years before while picking about the vulva with a hairpin, this object had disappeared within the urethra. Fear had induced the patient not to speak of the incident until symptoms became unbearable. Suprapubic lithotomy revealed a calculus the size of a walnut with the hairpin as a nucleus. Removal was followed by complete recovery. Case II presented a complete rupture of the vesicovaginal septum in association with traumatic separation of the pubic symphysis, which occurred during forceps delivery. Closure of the bladder was first accomplished, and later colpoperineorrhaphy. The patient was discharged in excellent condition. Case III was also one of calculus, the patient being a mulatto woman of 68. The nucleus was a piece of absorbent cotton lost in the bladder during a cystoscopic examination. The length of time for stone formation, and the condition of the urine for a third of that time was definitely known. Ninety days after the cotton was introduced a phosphatic stone was removed through the vesicovaginal septum. The incrustation varied from 2 mm. to 3 mm. in thickness. This deposit of phosphates was from urine of fairly normal composition.

The Obstetric Experience of a Country Physician.—H. C. MCKINLEY (Somerset) gave a detailed report of a number of interesting obstetric cases.

Retrodisplacements of the Uterus.—J. M. BALDY (Philadelphia). This paper will appear in a future issue of *American Medicine*.

Pathology and Treatment of Empyema.—P. Y. EISENBERG (Norristown) believes that after an empyema is opened irrigation is as essential as in any other pus cavity. Simply to incise and drain or to resect a rib is only a halfway measure. In 3 cases he used at first irrigation every day, and later every other day.

Unfrequent Causes of Obstruction of the Common Bile Duct.—L. J. HAMMOND (Philadelphia) cited several cases illustrating this topic. In one the obstruction was caused by cancer of the stomach. In another there was fibroid thickening with adhesions of the head of the pancreas and neighboring organs. In another obscure case enlargement of the glands caused bending of the common duct. In these cases treatment consists of removal of the glands with cholecystotomy and prolonged drainage.

Surgical Treatment of Ascites Due to Cirrhosis of the Liver.—H. B. ALLYN (Philadelphia). This paper will appear in a future issue of *American Medicine*.

FIFTH SESSION.

Family Periodic Paralysis.—G. E. HOLTZAPPLE (York) read a classic paper on this subject. The disease has affected a

family for 4 generations, 16 members have had paralysis, 18 have had attacks of sick headache, and 30 have had paralysis, sick headache, or both. Six patients have died during attacks of paralysis, though standard descriptions say that death does not occur. A detailed account of a number of the cases was given, the writer's unusual opportunities enabling him to furnish a vivid picture of the affection. One of the most striking features is the rapid recovery from attacks, persons who are not able to turn their head or move a finger regaining the use of their muscles and being able to perform hard labor within a few hours. There is no syphilitic history in the entire family. Some members of the family have had only sick headache, and their descendants have suffered from paralysis. None of the patients that died came to autopsy. Holtzapple looks on the affection as being a vasomotor neurosis. In the treatment the best results have been obtained from the bromids and caffein. Bromids also have decided abortive effects, no severe attack occurring when they are taken during the onset.

Discussion.—C. G. Hildebrand (York) said he was one of the three physicians who has lived among the members of this family. He spoke particularly of the headaches. Females are affected more often than males, and the headache is not relieved by the menopause as sick headaches usually are. Bromids relieve the headache as promptly as they do the paralysis.

Cerebral Thrombosis; Skiagraph Showing Area of Softening.—C. W. Burr and G. E. Pfahler (Philadelphia) reported this case. The real value of the case is in showing the use that can be made of skiagraphy in organic disease of the brain. It was stated that the essential point in making skiagraphs of the brain is to bring out plainly the normal structure which acts as a guide to the diseased portion. Burr believes that increase of skill in technic and accuracy of machines will in the future tend to make skiagraphic pictures of brain lesions of very great value. They may then aid in differentiating the hemiplegia of Bright's disease from a hemorrhage or thrombosis. The skiagraph exhibited was taken after death of the patient.

Ocular Phenomena and Certain of the Reflexes Based on the Study of 100 Normal Men.—Theodore Diller (Pittsburg) studied 103 male students, ranging from 18 to 33 years. Statistics regarding the knee and Achilles jerks, pharyngeal, iris and conjunctival reflexes, etc. One of Diller's conclusions is that more prominence should be given to the Achilles jerk. It is strange that this reflex should have been so neglected. It should always be tested along with the knee-jerks. Ocular phenomena vary greatly and one should be very cautious about drawing inference from them unless it is supported by other phenomena.

Differential Diagnosis between Friedreich's Disease and Insular Sclerosis.—F. Savary Pearce (Philadelphia) drew attention to some of the points in the differential diagnosis of these diseases although it is probable that early diagnosis would result in but little good in the way of treatment. Among the things noted were that if there is any alcoholic or degenerative history in the family and there are no remissions the case is probably one of Friedreich's disease. In sclerosis remissions are common. The former is evolutionary, the latter is more a failure of nutrition.

Acute Inflammation of the Middle Ear in Children.—T. J. Elterich (Allegheny) spoke of the frequency of otitis in infancy. It should not be looked for only in scarlet fever. Examine the ears in the most trivial diseases of childhood, even when not closely associated with that organ. In gastroenteritis, apical pneumonia, and frequently in influenza, this complication ensues. The diagnosis is often difficult. Treatment was briefly detailed.

[*To be continued*]

AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS.

Sixteenth Annual Meeting, Held in Chicago, Ill., September 22, 23, and 24, 1903.

[Specially reported for *American Medicine.*]

Officers.—The following officers were elected for the ensuing year: President, Walter B. Dorsett, St. Louis, Mo.; first vice-president, A. B. Miller, Syracuse, N. Y.; second vice-president, W. D. Haggard, Nashville, Tenn.; secretary, Wm. Warren Potter, Buffalo, N. Y., reelected; treasurer, X. O. Werder, Pittsburg, Pa. The time and place for holding the next annual meeting of the Association were left to the Executive Council to decide.

The Relation of the Colon to Abdominal Tumors.—James F. Baldwin (Columbus, Ohio) said that the colon, while it was quite movable, had its mesocolon well fixed to the abdominal parietes. By inflating the colon, when necessary, by pumping air in at the anus, its relationship to abdominal tumors could be quite definitely determined, and this relationship would enable an accurate diagnosis of the tumor to be made in many cases in which such diagnosis would otherwise be impossible. This was particularly true in differentiating tumors of the spleen, pancreas, kidneys, liver, including the gallbladder, etc., from tumors originating in the pelvis or in connection with the small intestine and mesentery.

The Value of Vaginal Cesarean Section, with Report of Two Cases.—M. Stamm (Fremont, Ohio) stated that to Duhrssen, of Berlin, the credit was due for having introduced this valuable method into practice. The clinical reports of operations undertaken on varions indications spoke favorably of this method. The indications for this operation, as given by Duhrssen were: "1. Abnormal conditions of the cervix and lower segment of the uterus (carcinoma, myoma, rigidity, stenosis, partial pouch-like distention of the lower uterine portion). 2. Dangerous conditions of the mother which may be removed or relieved by prompt emptying of the uterus; affections of the heart, lungs and kidneys. 3. Conditions of the mother where death is imminent and can be foreseen." The last two indications had only value in cases where the cervix was closed and not dilatable, or where the depressing influence of labor pains should be obviated, as in affections of the heart and lungs. In pregnancy complicated with cancer of the uterus Duhrssen advocated immediate vaginal section, with subsequent extirpation of the uterus, no matter at what time of pregnancy or at what stage of labor this condition was encountered. Over 60 cases of vaginal cesarean section have been reported so far. The majority of these were undertaken for cancer of the uterus, but the number performed for puerperal convulsions was also increasing rapidly, and this trouble would furnish the chief indication for such an operation in the future. Most authorities were agreed that rapid delivery was the most important measure to reduce the mortality in eclampsia. He also thought that rapid dilation with Bossi's dilator or similar instrument, where the extent of excision or laceration was under better control and where the wound gave more promise of healing by primary union. The operative technic was described. He had done vaginal cesarean section in 2 cases, with favorable results.

The Limitations of Cesarean Section.—E. Gustav Zinke (Cincinnati, Ohio) stated that the basis of his paper was an analysis of 88 cesarean sections, including 8 Porro operations which had been reported by 52 different authors since January, 1900. The causes for which the operation was performed were, in the order of their frequency, as follows:

	Times
For pelvic deformity	28
Namely: Flat rachitic pelvis	13
Namely: Uniformly contracted and rachitic pelvis	7
Namely: Irregularly contracted, rachitic pelvis	4
Namely: Flat rachitic pelvis complicated by eclampsia	3
Namely: Flat rachitic pelvis complicated by tumor	1
For justominor or uniformly contracted pelvis	12
For fibroid tumors obstructing labor	11
For eclampsia	6
For hysteropexy	6
For cicatricial contractions of vagina	5
For causes not stated	4
For simple disproportion between fetal head and pelvis, and lack of expulsive power	3
For carcinoma of cervix	3
For carcinoma of rectum	2
For placenta prævia	2
For retrodisplacement, impaction, and adhesion of fundus	2
For gunshot passing through gravid uterus	1
For ovarian tumor obstructing labor	1
For threatened rupture of uterus	1
For congenital displacement of kidney	1
	88

Among the 13 cases of flat rachitic pelvis was Coakley's case, in which the operation was done 3 times in 6½ years, and Ill's case in which the operation was done twice in 1 year. Of these 88 cases, 66 mothers and 56 children lived. In 7 instances, however, it was not stated whether the mother lived or died, and in 13 the same information was wanting as to the child. In the consideration of the maternal and fetal mortality, the cases, where there was no reference as to the result of the mother and child, were excluded. Thus it was found that out of 81 mothers, 66 lived—81.5%. Again, it was found that the cause of death in 5 of the mothers was really due to malignant disease, and the patients recovered from the effects of the operation, death taking place 2 months, 4 months, 1 year and 2 years, respectively, after the operation. Counting these 5 cases as recoveries, 71, not 66, mothers lived. Maternal mortality, 12.34%. Of the 90 children born, 56 lived. If the 13 cases were excluded where the result as to the child had been omitted, the fetal mortality amounted to 49%. But a careful study of all cases revealed the fact that three of the children were dead before the operation; two succumbed during the operation; seven died within 24 hours; four within 48 hours. Three lived 2 weeks, and one died of enteritis at the end of 3 months. If we add to the list of children surviving the operation those who lived 24 hours and over, 15 in all, the immediate fetal mortality was reduced to 25.26%. When 2 years ago the author advocated the adoption of cesarean section for certain cases of central placenta prævia, there was quite a marked opposition, and but few supported the speaker in his recommendation of the operation for this always alarming obstetric complication. Much had been said and written against it since, and still today nearly every new textbook on obstetrics and other recognized authorities on this sub-

ject admitted that cesarean section might be justifiable under favorable conditions in the class of cases of placenta prævia then referred to.

The Gilliam Operation: A Clinical Contribution.—EDWARD J. ILL (Newark, N. J.) had done Gilliam's operation 86 times since the author described it 3 years ago. In other words, he had done it in 68% of all cases operated on for retrodisplacements. There were no deaths. Of these patients 51 had reported themselves as entirely well, 6 as markedly improved, and 4 as no better; 7 had become pregnant, and 2 had given birth to children normally. Only 1 of the 4 reported as no better had a relapse of the malposition. This one was operated on again, and an atrophy of the distal end of the round ligament discovered. He had modified Gilliam's operation by not piercing the whole abdominal wall, fearing a weakness from which hernia might result. He would separate the rectus abdominis from its anterior sheath and pierce the rectus muscle, the inner sheath, and the perineum, and progress, as taught by Gilliam, fastening, however, the round ligament to the posterior surface of the anterior sheath of the rectus muscle with chromicized catgut, thus leaving a strong fascia intact.

Analysis of Common Causes of Death following Pelvic and Abdominal Operations.—JOSEPH PRICE (Philadelphia) said that he had selected this topic not because he had had a high mortality, but for the reason that it was one of great interest to the members. He said he had written several papers on postoperative complications and several upon repeated operations in incomplete abdominal procedures. This was the class of cases that perplexed him more and more as he grew older, and gave him the only mortality he met with nowadays. Recently he had had a number of trying and sad experiences. In one case, a patient came from a prominent hospital after a very simple but incomplete operation, where the operator had only partially removed one pathologic ovary and tube, leaving the organs on the other side in a badly diseased state. She was sent to him some 4 months following this incomplete procedure, emaciated, septic, and suffering acutely. He opened the abdomen and found a strongly adherent bowel and omentum. The consolidation of everything made him strongly suspicious of what he would find below. The viscera freed, he found a huge 4-foot gauze towel anterior to the uterus, the towel and pus pushing the uterus well back. The stench contaminated the hospital in a few seconds. This patient lived but a few hours, her death being the only one in the hospital in a long series, greatly distressing the operator, nurses, and all concerned. Postoperative sequels and deaths from gauze were very common. He was satisfied that they were thrice more common than from sponges. For a number of years he used sponges and valued them for clean work, for packing, or for a dry operation, and he believed viscera troubled him less than at the present time. He was then wholly ignorant of postoperative sepsis in his own work, and in that of his pupils. Had he now the time to take care of his sponges, he would go back to them, as highly as he valued gauze. To his mind it was one of the most valuable materials in surgery. He spoke of the value of good nursing in the reduction of mortality-rate. A number of good operators attributed their low mortality wholly to the use of gloves. One very scientific teacher asked him before putting on gloves, if he did not think 12% to 15% was a low mortality, taking the cases as they came? He replied, "No, too high." After adopting the gloves he reduced his death-rate to about *nil*, but his precautions, said Price, were all redoubled. For example: After operating on a septic case, other operations were postponed for 36 to 48 hours. Again, in a study of the complications and pathology, in his reported cases, Price failed to find one which could have died from good surgery. Recently a brilliant young surgeon assisted him in an operation for acute gangrenous and perforative appendicitis, with general septic peritonitis, the peritoneum charged and bathed in septic fluid. This case got a wash toilet and a cofferdam drain; she never had a bad symptom. The young surgeon remarked that about all these patients died in his hands. In a splendidly appointed hospital, with which this young surgeon is connected, the mortality was high in appendicitis operations. His reasons for alluding so fully to this subject were that the disease was so common and the deathrate so high. Vaginal incisions and perforations favored a high mortality in later operations, made for the clean removal of the remaining pelvic pathology. Puriform tubes and ovaries, suppurating tubes, and ectopic pregnancy seldom allowed sufficient improvement in vital force and stamina to bear well the complete operation—suprapubic—after they had been incised through the vagina. Primarily they would all have been easy by complete methods, and without mortality. The choice of method and material was of paramount importance to good work, and the suprapubic procedures, when complete and done early, drainage used when necessary, should, like the infrapubic, when done by one of the finished operators like Jacobs, Ségond, or Pryor, give a mortality close to *nil*. He had done a large number of vaginal hysterectomies for malignancy of the uterus, cervix or fundus, and for small fibroids without a death, and it was one of the easiest operations he was asked to do. In suppurative forms of tubal and ovarian disease he did not consider the vaginal route complete surgery, because the adherent omental and bowel adhesions and the diseased appendix were wholly neglected.

[*To be continued.*]

CLINICAL NOTES AND CORRESPONDENCE

[Communications are invited for this Department. The Editor is not responsible for the views advanced by any contributor.]

THE OLD PRACTITIONER.

BY

JOSEPH CLEMENTS, M.D.,

of Nutley, N. J.

To the Editor of American Medicine:—Apropos of "The Turning Down of the Old Practitioner,"[1] it is not the aged physician who is the victim, but the old physician. There are grades in the old physician list, and many of these not ready, and unwilling, are "turned down" willynilly. Occasionally one of the old men, whose memory and technic and other accomplishments permit, attains a grade of 75, and the door is opened so that, grazing the integument of his professional shoulders, he squeezes through. His 10 to 40 years' experience counts for nothing. The young man of 1903, with a grade of 90 or 95, enters with eclat through wide open gates (as he certainly should.)

An Army Surgeon in New Jersey, who had practised 40 years was not eligible to take the examination before the State Board because of technicalities which conditions in his college days did not permit him to fulfil, and he was considering an appeal to the State Legislature.

A physician of 35 years' practice, a professor in a college in one of the largest 3 cities of the United States, cannot move to California, for the health of his family, because he will not sit on the bench with his own students and take the schoolboy examination.

This state of things does not conduce to a united profession. The Medical Association of the United States with a membership of five-sixths of the profession as against the vastly smaller membership of the American Medical Association as it is now, or the still smaller number of its constituency then, will adjust these matters as they should be. Ten years of reputable practice and experience, or 5 years' practice with an interneship back of it, should entitle every man to a license by the American Medical Association, legal in every State and territory of the United States, and so lessen the injustice done in "Turning Down the Old Physician."

A SWINDLER.

To the Editor of American Medicine:—I would suggest that you call attention to a petty swindler who is devoting his talents to a more or less extensive canvass of the medical field. He is about 40, clean shaven, about medium height, and his appearance is that of a man making an earnest struggle for a living with only partial success. His story is that the publishers of *Life* are offering a year's subscription for $3.00 to physicians, so that patients will see it in their reception rooms and become subscribers. He exhibits blanks that are *apparently* official, and accepts checks payable to the Life Publishing Company, in payment for a year's subscription. I was not altogether satisfied with his story and when I failed to receive the first copy, on the date of publication, I wrote to the office and asked if he was an authorized agent. The publisher telephoned me at once that he was a swindler and that no such offer had been made by his journal. Any physician who has been similarly taken in should, communicate with his bank and with the Life Publishing Company, so that he may be quickly apprehended. It does not seem credible that any one would incur the penalty of forgery by cashing a check for such a small amount, but it may be possible that he is depending on cash payments only and is not using the checks. Any one would be doing a service by having this man arrested and calling on the publishers of Life to prosecute him. I will be glad to testify to the foregoing facts and if necessary will sacrifice some of my time in order to see this fellow properly punished.

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[1] See The Journal of the American Medical Association. Correspondence, p. 505.

ORIGINAL ARTICLES

PRACTICAL CONSIDERATION ON INTESTINAL ANASTOMOSIS.[1]

BY

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of Detroit, Mich.

In the practice of surgery, the field of intestinal anastomosis is becoming daily enlarged, and the questions connected with it more and more important. These questions are necessarily viewed by the general practitioner and the surgeon from very different standpoints, and the physician whose ultraconservatism is regarded by the operator with disfavor is inclined on his part to consider the surgeon too impatient and reckless. It is in such general assemblies as this that all such matters may be discussed with advantage, and we may all hope by a frank interchange of views to arrive at rational conclusions as regards practice.

In this paper I seek to give, as impartially as I may be able, the principles which should govern the surgeon in his work in this particular field. There are 4 classes of cases which may make intestinal anastomoses necessary. They are: 1. The various kinds of intestinal obstructions. 2. Inflammations and ulcerations in the alimentary tract. 3. Displacements of the viscera. 4. Intestinal fistulas. The first class is by far the largest as to numbers, and the most important.

We may divide intestinal obstructions into those which are acute and those which are chronic. Of the acute obstructions I shall have little to say in this connection—the most of them, when operated on in an early stage, can be relieved by simple operative methods. The intussusceptions may be drawn apart, the volvulus untwisted, the binding cord cut, and the hernias reduced.

The question of anastomosis comes in for consideration only when the gut has become gangrenous. In such cases the surgeon has a choice of a variety of procedures, none of which is very promising. He may immediately cut off the mortified coil and make either an end-to-end or lateral junction of the severed ends. This operation on the nearly moribund patient is only occasionally successful. It is difficult to determine the extent of bowel which must be sacrificed, and the surgeon is obliged either to excise a long piece of the gut or to operate on a tissue that is inflamed, soft, and uncertain. Sutures are apt to cut through such tissues and permit an extravasation of feces. Many surgeons prefer to fasten the diseased coil in the abdominal wound and leave it to nature in hope that the patient may recover sufficiently to permit a secondary operation for the resulting false anus.

I venture to suggest a combination of these methods, which I have tried in one fatal case, and which seems to me to offer the best hope for the patient. In my procedure the surgeon draws the gangrenous coil out of the abdomen far enough to permit him to unite the two limbs of the bowel at a point where they seem healthy, by means of a rubber ligature. This requires very little time and causes no shock. All of that part which is liable to slough is then fastened outside of the abdomen and the wound closed around it. The immediate result is a false anus through which the intestine may relieve itself of its contents, and when we consider the character of those contents we may hardly doubt that it is better that they should be discharged by the shortest and quickest route. At the end of 2 or 3 days a new channel has been cut by the rubber ligature, and the false anus becomes unnecessary. It may then in time close spontaneously or be closed by the simple operation of inverting and suturing the ends. In this way we may escape both the great danger of an immediate excision with an end-to-end anastomosis, and the severe second operation for the cure of an active false anus. The closure of the fistula when a free communication exists between the two segments of bowel above it would hardly require the opening of the abdominal cavity. Most physicians recognize the necessity of surgical procedures in cases of acute obstruction, although they are often too slow in arriving at a positive diagnosis. This is, unfortunately, not the case in those chronic forms of obstruction which furnish the largest quota of cases which require the formation of intestinal anastomoses. I do not know why it is that the general practitioner evinces so much repugnance to operations on the very class of cases in which operations give the most brilliant results.

Cases of obstruction of a chronic nature differ from the acute obstructions inasmuch as they are, during a comparatively long period, partial in character. Their symptoms develop gradually and they give to the competent observer long notice of the coming closure. For this reason, the physician is enabled to study the conditions and to prepare, if he only will, for the coming disaster. To the surgeon, who is permitted to operate before the case has become desperate, a field is presented for operation which is free from inflammation, sepsis or gangrene. Stenoses of this character are most commonly caused by tumors or cicatricial contractions. The symptoms vary according to the seat of the obstruction and have to be studied, therefore, with especial relation to their location. When diagnosticating any given case we have to note the intensity and character of the pain or distress produced by the disease, the changes which take place in the form, size, and feel of the abdomen, the location of any abdominal swelling, the degree of tolerance with which contents are allowed to accumulate before serious symptoms supervene, and the character of the vomit when it occurs. The movements of the viscera, seen as they affect the abdominal wall, and the gurgle of the fluids as they pass the point of stenosis will also in some cases afford positive evidence as to the seat of the disorder.

We may become best acquainted with the import of symptoms if we study them in turn as they appear in the obstructions of the separate portions of the alimentary canal from the stomach down. A pyloric obstruction will often end in death before the channel is obliterated. It is not at all uncommon to find in autopsies that death has taken place from a pyloric tumor, in which the pyloric orifice is still large enough to admit the finger, or even the thumb, the patient having died nevertheless from inanition due to the inability of the viscus to force its contents into the duodenum. The explanation of this fact is simple. Under normal conditions, the chyme is forced out of the stomach by rhythmic contractions of its muscular fibers, associated and in unison with a relaxation of the circular fibers which close the pylorus.

It is, in fact, a very complicated process, involving many nerves and muscles, by which small portions of the digested food are forced intermittently into the duodenum. When the duodenum is filled, the further evacuation of the stomach is inhibited. Now any malady which interferes with this delicate mechanism may prevent the passage of chyme and cause vomiting. A pyloric tumor or cicatrix may do so by preventing the rhythmic expansion of the pyloric fibers, by causing a change in the direction of the vermicular motion, or by thrusting a mechanical obstacle before the coming bolus, which will divert its course. So, too, the adhesions around such a diseased segment will prevent free motion of the gut or even cause positive obstruction by producing a bend in the bowel.

Now the first symptom produced by a beginning pyloric obstruction is one of irritation. The patient complains of indigestion and has eructations of gas—these

[1] Read before the Canadian Medical Association, at London, Ont., August, 1903.

symptoms increase in intensity as the disease progresses and sooner or later he begins to vomit. The stomach, unable to dispose of its contents, becomes distended and prolapsed. The pain becomes more intense, and the vomit, which has at first consisted only of ingesta mixed with normal secretions, begins to contain mucus and blood and the products of fermentative changes. It must be noted that bile is always absent from these ejecta. The distention of the stomach usually causes a swelling to the left of the median line, but occasionally the stomach will be so enlarged as to pass completely across the abdominal cavity. The position of the stomach will be influenced also by adhesions which it may form with the surrounding viscera. A tumor, if such exists, may or may not be felt by palpation. It may lie under the liver and be hidden by that organ or by very rigid and tense abdominal muscles.

I wish to insist upon the fact that there are very few diseases, other than obstruction of the pylorus or first part of the duodenum, which can cause just this sequence of symptoms. They might be simulated by the nausea of pregnancy or by that of a purely nervous character, but rarely or never by chronic dyspepsia. Prolapse of the stomach may cause similar phenomena, but it does so by producing a kink in the duodenum, which itself causes an obstruction.

When, therefore, this train of symptoms occurs, the physician should not lose time by vain indecision. If he can find no other cause for the trouble, and if it persists in spite of all his remedies, it is his duty to call in the surgeon to give the relief which medicinal means cannot possibly supply. This should be especially the case when the patient, previously healthy, is steadily losing weight and strength, though it must be remembered that both tumors and strictures are apt to result from old ulcers and inflammations which have caused trouble during previous years.

If I have gone more into detail in the discussion of the diagnosis of pyloric stenosis than might seem necessary, it is because there is no class of cases which, in my judgment, demands so imperatively surgical aid, and in which there is so much unjustifiable delay on the part of the general practitioner.

The profession seems to be hampered by old traditions and unable to distinguish between other chronic digestive troubles and those due to obstruction. It would, perhaps, aid in stimulating to more decided measures if it were borne in mind that these other troubles may themselves be more amenable to surgical than to medical treatment, for many socalled dyspepsias are caused by inflammations of the gallbladder or by gallstones, and many ulcers of the stomach, which have resisted the efforts of the physician, have finally yielded to gastroenterostomy. Dr. Walker, of Detroit, has had much success of late in applying the same surgical remedy to indigestions caused by gastric ptosis. There may be some excuse for physicians who hesitate on account of a doubtful diagnosis, but there can, it seems to me, be only one opinion as to the duty of the physician who has diagnosticated any given case as one of pyloric obstruction. In such cases there can be no relief except by the knife, and the failure to relieve, means a sentence of death to the patient.

A large number of these are cases of benign stenoses, in which a successful gastroenterostomy means a permanent cure. Of tumors of the pylorus, many are fibrous or adenomatous, and a tumor in that region should, therefore, never be assumed to be cancerous. I have just had occasion to correct a diagnosis in a patient upon whom I operated nearly 3 years ago. His case was very instructive in many ways.

He was a gentleman of 68 years. When I first saw him, he was steadily failing in strength on account of a pyloric obstruction. There was a tumor to the right of the navel as large as a hen's egg. He could retain no food on his stomach for more than a few hours. The contents of the stomach, when tested, showed absence of hydrochloric acid and the presence of lactic acid. On opening the abdomen, an irregular tumor was found at the pylorus as large as a hen's egg, and enlarged lymphatics could be felt in the mesentery.

I made a gastroenterostomy by the elastic ligature. He recovered completely, and regained his strength to such a degree that he traveled all over the country attending to his large lumber and mining interests without any inconvenience whatever. His first operation was done on September 15, 1900. He continued in good health until the middle of June, 1903, when attacks of colicky pain began, which were believed to be caused by the spread of the cancerous tumor to the neighboring viscera. These continued with occasional ameliorations until July 9, 1903, when he was at Algonac at a summer hotel. There supervened then a sudden attack of obstruction of the bowels, with fecal vomiting. It was two days before I saw him, but as soon as he was brought to the hospital I operated on him. I found the trouble was entirely independent of the original pyloric tumor. The obstruction was caused by a cancerous tumor of the transverse colon, which had completely occluded that organ. He died shortly after the operation and I made an autopsy. To my surprise, I found that the original pyloric tumor, which I had believed to be cancerous, had nearly disappeared. The pylorus was thickened and contained some small tumors projecting from its mucous membrane. There were some calcified lymphatic glands in the mesentery. There were absolutely no adhesions anywhere. At the Detroit Clinical Laboratory, to which the specimens were sent for examination, the pyloric tumor was found to be an adenoma, and that of the colon a cancer. The orifice between the stomach and the jejunum made by the elastic ligature was large and perfect.

Now this illustrates the extreme difficulty in deciding upon the character of a pyloric tumor without a microscopic examination. In this case we had every reason to believe that the hard pyloric mass and the swollen lymphatic glands were cancerous. There was a rapidly-growing obstruction, and the test-breakfast showed entire absence of hydrochloric acid. The tumor, when exposed, felt like a cancer and looked like a cancer, and yet when the irritation produced by the obstruction was removed by a gastroenterostomy, the tumor began to grow slowly smaller and was disappearing when a new tumor of different kind growing in the colon caused his death.

I have no doubt that the original trouble had been practically cured by my first operation. Now, if when he first began to suffer from that peculiar intermittent colicky pain which characterizes a beginning intestinal obstruction, I had promptly operated, I might by an excision of the cancerous mass in the colon or by an enteroenterostomy have still further prolonged his life. This was not done because I believed that the trouble was caused by the invasion of the surrounding intestines by the pyloric tumor—a condition which would have made an operation of no avail. It was one of those lessons which the practical surgeon every now and then meets, which tells him that no case should be despaired of until every possibility of cure has been exhausted.

When the pyloric tumor is cancerous, it does not forbid, but rather indicates urgently an operation. That which kills the patient is not the tumor but the obstruction. He actually starves to death. The cancer, if not eradicated, would sooner or later kill, but in the meantime, the patient, relieved by a gastroenterostomy, would have his life prolonged from 1 year to 5 years. For these reasons, then, I urgently insist that we are not justified in withholding from patients a means of relief which in many cases would promise a permanent cure. If on opening the abdomen the surgeon finds that the case is not one of obstruction, he should examine the stomach to see whether a displacement causes a bend or if an ulcer has produced unusual symptoms. In either case a gastroenterostomy would give relief. In case of gallstones and evidences of inflammation around the gallbladder, the patient could be operated on and the symptoms relieved, and thus in the rare cases in which the typical symptoms of pyloric obstruction are caused by other maladies, the operation would still be of service to the patient.

While the conditions which necessitate operations for the production of anastomosis in the small and large

intestines are nearly the same as in pyloric stenosis, there are nevertheless peculiarities due to the position of the trouble which should be noticed. Stenosis of the duodenum between the orifices of the bile ducts and the stomach, presents about the same symptoms as pyloric obstruction. Beyond that point, bile will always be present in the vomit if the bile ducts are open. A stenosis in the third part of the duodenum, or at the junction of the jejunum, will usually be marked by great distention of the gut to the right of the median line before vomiting begins. The vomiting may, indeed, be delayed until the patient is nearly moribund. This comes from the inhibiting action, which is caused by a distention of that part of the duodenum, on the motility of the stomach. I saw this manifested in my first case of vicious circle in which the contents of the stomach instead of entering into the efferent limb of the jejunum passed into the duodenum. That viscus and the stomach both became enormously distended, but vomiting did not take place until the patient was moribund. This fact has a very important indication as regards surgical practice for the reason that a gastrojejunostomy would be of no avail in a stricture of the third part of the duodenum, for that bowel, becoming distended, would prevent the contractions of the stomach which are necessary to force the food through the artificial opening.

Stenoses of the jejunum, ileum, and sometimes colon, when incomplete, are manifested by the violent contractions, often visible through the abdominal walls which the bowel is forced to make, in order to empty itself through the narrow ring; by the extreme colicky pain caused thereby, and by the gurgle which announces the success of the movement and the consequent relief. I have noted this symptom only once in stricture of the large bowel, in the case, namely, of colonic cancer which I have just reported. This patient manifested it so markedly that I was deceived in diagnosis and thought I had before me a stricture of the small intestine. Ordinarily a stricture of the colon causes a slowly growing distention with a general malaise and a toxemia resulting from fecal absorption. In many cases, however, the growing obstruction causes little inconvenience until all at once, as the result of congestion or fecal accumulations behind the strictured point, the most violent symptoms arise of acute obstruction. The surgeon is then surprised to find the bowel so completely occluded as hardly to admit a lead pencil through the diseased part. The indications, then, for an intestinal anastomosis, are chronic or subacute and partial obstructions, displacements of the viscera which interfere seriously with their functions, and ulcers and inflammations otherwise incurable. In this last named case the relief is attained by making a new channel for the stomach contents and thus relieving that viscus from the long retention of food and the friction which arises from its own churning action. They are indicated in acute obstructions only as a means of repair. They are counterindicated when the stomach has lost its motor force, for in that case the chyle could not pass into the intestine even though there were a free and unobstructed opening; so, too, from conditions already stated they could not avail in strictures of the third part of the duodenum or the beginning of the jejunum. In some cases a total excision of the diseased area might offer a more permanent cure and be preferable.

It is a curious fact, which illustrates the caution with which statistics should be received without careful study, that gastroenterostomy, an operation not in itself dangerous, has a mortality record nearly as great as that of pyloric excision. The reason of this is evident—it has been the operation of last resort in nearly moribund patients. Many surgeons make a practice of excising a pyloric tumor when the case is hopeful and making a gastroenterostomy when it is desperate. That a man thus operated on, when his stomach has become highly inflamed, and when he himself is at the point of death from starvation, should die, indicates not that the operation, as such, is dangerous, but that it has been too long postponed. It happens not infrequently that a surgeon begins an operation expecting to make a pylorectomy, but finding that procedure impracticable, makes a gastroenterostomy in hope of giving temporary relief.

As regards the mortality ratio, it varies widely in the practice of various surgeons. That it should depend, in a measure, upon the skill of the operator is self-evident, but there are other factors which influence the result to an even greater degree. Conservative surgeons who refuse to operate on patients who have passed the safety line will show exceedingly favorable statistics, for the majority of such will recover. He who operates, as I have done, in all stages of obstruction, cannot fail to lose many patients. It is a question whether it pays to operate in cases so desperate that only now and then one recovers.

Speaking generally, and with reference solely to pyloric obstructions, the operation will be usually successful so long as the ejecta consist solely of food and colorless mucus, and the cases become more and more hopeless as the vomit becomes green and finally black. The safety line may be measured in most cases by the color and character of the vomit. When it assumes a green hue we know that the disorganization of the stomach has begun, and when black, that it is nearly completed.

I think it right to give the patient every reasonable chance, but I now refuse to operate when a black fluid oozing from the stomach indicates an early death. Statistics will become more favorable when the general practitioner arouses from his apathy and ventures to urge upon his patient an unwelcome operation. There are certain nationalities whose members will invariably resist all such attempts, but the duty of the physician is to give good advice, even though he cannot secure obedience.

The question of method is all-important to the surgeon who would make an intestinal anastomosis. Of the many procedures which have been introduced for this purpose, there are only three which can at present claim consideration, the use of the others having been abandoned, or, at most, confined to single operators. These are the suture, the Murphy button, and the elastic ligature.

Of the suture and the Murphy button I shall have little to say, as they are too well known to all practical surgeons to require description. I shall, however, compare them with the method by elastic ligature, which has only recently succeeded in gaining favorable attention.

As early as 1891 I had operated for intestinal anastomosis by the elastic ligature. The patient recovered from the operation and ceased to vomit, but died on the fifteenth day of diarrhea and starvation. Adopting the plan recommended at that time by Lucke, I had united the stomach with the nearest presenting coil of small intestine. This error in technic caused the loss of the patient, as the autopsy showed a magnificent anastomosis of the stomach with the ileum at a point only 91 cm. from the ileocecal valve. I published the case and described the method in a paper read before the American Medical Association and published in its journal of May 16, 1891. The paper and the method fell dead and attracted no attention. I myself soon became enamored of the Murphy button and used it in preference to my own procedure.

That which attracted me especially to Murphy's device, was the possibility of administering food immediately after the operation, while the elastic ligature required an abstinence of 3 days while it cut its way through.

It was not until further observation of 10 years had taught me that it was not desirable that even the most

fluid and blandest food should be thrust into an injured stomach directly after the operation that I recurred to my own, as I now believe, superior method.

In most cases the stomach refuses to contract during the first 2 or 3 days, and food or medicine put into it is liable to be retained there during that time. In the fall of 1900 I returned to my ligature operation with successful results, and am now in position to report many confirmations on the part of distinguished American surgeons of its efficiency.

The application of the elastic ligature as a means of producing an intestinal anastomosis is very simple. The two viscera are brought together and the surgeon connects them with a single line of Lembert sutures a little longer than the desired opening. The rubber cord is then, by means of a large needle, passed through the walls of first one and then of the other bowel and tied firmly in a single knot. Before tying it, however, a silk thread is laid under the knot, and after the knot has been firmly tied with the rubber stretched to its utmost, the silk thread is made to fasten it in place. Both threads are then cut short and the Lembert suture is now completed so as to form a ring inclosing the rubber. In passing the rubber through the gut it should be put upon the stretch in order to lessen the size, and drawn slowly and carefully through in order not to tear the gut. It is not necessary to say that the rubber should be first-class, and fresh, for old rubber is apt to break.

The advantages of this procedure are: 1. Its simplicity and quickness of application. 2. Its aseptic quality, for the rubber fills the openings through which it passes so completely that no extravasation is possible. 3. The delay in opening the passage until the intestines have become well glued together. 4. The ability to make with it a communication of any desired length. If we compare it with the incision and suture, it is more easily and quickly performed, much more aseptic, and is accompanied with much less hemorrhage. If with the Murphy button, it is less liable to meet disaster from faulty technic, causes no loss of blood, is more aseptic, and it leaves no foreign body in the bowel.

The following history is interesting as illustrative both of the dangers which may arise from the use of the Murphy button in the hands of a very competent surgeon and of the condition of the gastrointestinal anastomosis 8 days after the application of the ligature.

Dr. Max Ballin, surgeon to the Detroit Sanitarium, had 2 patients upon whom was performed gastroenterostomy by the elastic ligature. One recovered without any complication whatever. In the other, fearing a vicious circle, he made a second anastomosis between the loops of the jejunum by the Murphy button. The history of this case, as reported by himself, is as follows:

Previous history.—Mrs. S. B., aged 35. At 18 years she had chlorosis with a severe hematemesis. Since then she has suffered frequently from vomiting, pain after meals, etc. In the last 3 years she has vomited more frequently and in larger quantities; has suffered great loss in weight, and has lived mainly on liquid diet. Washing of the stomach gave only temporary relief.

Examination showed the patient's weight to be 98 pounds. At the age of 18 she had weighed 132. Stomach dilated below the umbilicus. No palpable tumor.

Operation, February 14, 1903. Abdominal section showed greatly dilated stomach; near the pylorus hard scar tissue. Fundus nearly 5 inches lower than the pylorus. Anterior gastrojejunostomy after McGraw's method was performed; an enterostomy of afferent and efferent loops of jejunum by Murphy button. For 4 days the patient was in splendid condition, but on February 19 she was taken with sudden collapse and vomiting with symptoms of peritonitis, and died on February 22.

Autopsy showed perforative peritonitis. The new communication between stomach and jejunum was perfect; the rubber ligature had entirely cut through and the edges were well united. On the place of the anastomosis between the loops of the jejunum a perforation an inch large was detected. The button was not found on the place of the anastomosis.

Had there been no postmortem examination the onus of causing death in this case might have been laid on the ligature operation, as the less known and consequently less trusted procedure. The consideration which is, I find, the deterring factor in preventing the trial of this method by surgeons to whom it is a novelty, is the fact that the surgeon is not able to see the orifice produced by the ligature. He closes the abdomen on still intact intestines and is obliged to put his trust in the slow, unseen action of a constantly contracting rubber cord. He desires the evidence of his senses, but is obliged to put faith in things unseen.

It is only after repeated trials of its efficiency that he learns to have confidence in a procedure which is certainly the simplest, and I believe, the least dangerous, of all methods for making an intestinal anastomosis.

THE LYMPH CIRCULATION IN MODERN MEDICINE.*

BY

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In announcing my subject as "The Lymph Circulation in Modern Medicine," I feel that I am treading upon a new continent of thought. It is a subject that is in intimate relation with every branch of medicine and surgery. The unsolved problems of physiology, pathology and therapeutics must find their final solution here. The final contributions in these 3 realms must be cytologic, viz., by painstaking study of the cellular elements. As cells of their own vital activity feed and oxidize themselves from the adjacent lymph stream it must be basic to every problem in medicine how lymph is kept nutrient and how it rids itself of its waste products. The tissue juice or lymph is not only the food of cells, but their sewerage system as well.

Two hundred and fifty years ago, Rudbeck discovered the general lymphatics, and gave the first conception of the irrigation theory of tissue nutrition. Hunter believed in the theory of tissue suction; Johannes Müller[1] ascribed lymph to the vital activities of the living cells of the body.

In 1850 Ludwig propounded the theory which bears his name, viz., that lymph was renewed by filtration and osmosis. Twelve years ago R. Heidenhain startled the physiologic world with experimental evidence, which he claimed was fatal to Ludwig's theory. He experimented with certain substances, which altered in quantity or quality the lymph coming from the thoracic duct; these he called lymphagogs. A great deal of physiologic work has been done in the last 12 years in this department, and a considerable number of physiologic authorities have fallen away from Ludwig's school, although not fully accepting Heidenhain's theory of endothelial secretion from the capillary wall. The champions of Ludwig have been put to their wit's end in squaring the laboratory evidence with filtration, osmosis, and diffusion.

Before touching upon the contested theories, let us have a glance at the modern anatomy of the lymphatic system. Budge[2] thought there were two lymphatic systems. One of these disappeared in development. Ranvier, W. G. MacCallum, Sala, and Florence R. Sabin have separately arrived at this conclusion, that the lymphatic system is a modification of the circulatory system, that it grows by budding backward from the subclavian vein, and gradually invades the tissues and organs, that these buds are closed or blind at their terminals, and have no physical connection with tissue spaces. Ranvier looked upon the lymphatic system as a great gland, the blind, protruding capillaries as the secretory parts, while the ducts were the excretory canals.

*Address in Medicine before the Canadian Medical Association at London, Ont., August, 1903.

These lymphatic capillaries are lined by endothelial tissue. The termination of the lymphatic system in the lacteal of the intestinal villus is a fair sample of its method of termination in other tissues. There are tissues like cartilage and the cornea which are never invaded by lymphatic capillaries. The lymphatic glands seem to be an after-thought in development, as they are absent till we reach birds and mammals.

These anatomic and embryologic studies bring us face to face with this: that we have included as one system the tissue juices and the lymphatic when in reality they are separate. The tissue spaces and their juices are not part of the lymphatic system. The fact that we have been considering two fluid systems as one, demands strong confirmatory testimony of an evolutional, pathologic, and clinical character to be weighed with laboratory evidence in reaching a working hypothesis on this circulation.

The amount of lymph in the human body is difficult of estimation. Waller[3] approximately estimated it to equal 3 or 4 times that of the blood. This estimate is probably too high, but the quantity of this fluid shows its marvelous importance. Florence R. Sabin,[4] when suggesting the function of the true lymphatic system to be a system of absorbents, gives evidence obtained from a "specimen of twins prematurely born, one of which was normal, while the other was so edematous that it was simply a round ball." Examination of the edematous one showed no trace of a thoracic duct, nor lymph-glands.

The tissue juice circulation I shall call the lymph, and the other the lymphatic. As the lymphatic is one of the forces in the lymph circulation there will be no attempt made here to divorce them. Are we in possession of sufficient data to indicate the method by which lymph passes over from the blood stream to the lymph circulation? Does the balance of testimony point to lymph as a secretion, a filtration, or a product extracted or sucked out by the vital activity of the tissues themselves?

If the field of inquiry be extended to embrace facts from evolutional, embryologic, physiologic, pathologic, and clinical sources, the answer to the first question can reasonably be affirmed. The second question points to lymph as an independent circulation, and its forces are the vital activity of the tissues. It would follow that the lymph itself was an extraction product from the blood stream. The extraction process may have some of the characters of secretion and filtration. It is not to be denied that the physical laws of the liquid act in the body, but their scope in the lymph circulation is overshadowed by the selective action arising out of the vital activities of the tissues. The thing that most concerns us is that lymph circulation is an independent one.

Lymph will flow from the thoracic duct in some cases as long as 4 hours after the death of the animal. Ludwig long ago discovered that ligation of this duct was soon followed by rupture of it behind the point of ligature.

Harly's experiments[5] on the production of jaundice in dogs, found that when he ligated the hepatic lymph ducts and the biliary duct simultaneously, there was great danger of rupture of one of them. These experiments were conducted to show that bile gained entrance alone by way of the lymphatic circulation, but they also show an unsuspected power behind this primeval circulation.

There are evidently as many circulatory forces as there are tissues, each tissue possessing a method of its own in the selection of lymph. Easily understood examples of this may be seen in the vitreous humor of the eye, in cartilage, bone, voluntary and involuntary muscle, epidermis, and hair. Their peculiarities will be discussed again at some length.

In addition to the ability of this circulation to continue for hours after cardiovascular death, and independent of the latter forces, we see it the sole circulation in the vegetable kingdom, and the mighty trees of the forest are the evidence of its powers. It is the sole circulation in the lowest forms of animal life, and executes oxidation, excretion, secretion, vital movement, reproduction and repair. It is the sole circulation in the early weeks of embryonic life of all individuals, promoting purposeful growth, building the scaffolding and laying down the framework of all our human system.

Without question the lymph circulation existed long before the cardiovascular, and was in possession of independent forces and functions. Can it be possible that this ancient circulation, which called into being the cardiovascular system, would lose in the newcomer its own identity and independence? Or was the cardiovascular system secured for greater importation and exportation facilities?

The studies of Dr. A. B. Macallum on the inorganic composition of certain sea forms and sea-water show that the former's degree of salinity can only be explained on the ground that the cells lining their gastrovascular channels and the covering cells have a vital selective action. Speaking of the inorganic composition of blood plasma and its strong resemblance to ancient sea-water, the author says: "These can hardly be mere coincidences, and they seem to indicate that the proportion in plasma is an ancestral feature derived from a form which had its habitat in the ocean in the earlier geologic periods when ocean water was very much less rich in salts of magnesia than it is now. Just as in the medusæ of today, the gastrovascular fluid is but sea-water, so in the ancient oceanic prototypes of the vertebrates and of invertebrates, which are provided with a distinct circulatory system, the fluid in their vascular channels, which communicated with the exterior, was probably but modified sea-water as regards its inorganic constituents, and in the long period of time during which the forms were exposed to the conditions of such an environment a physiologic relation between the tissues and the salts in their vascular fluids, in the proportions occurring in their environment, became so fixed and established that it was of necessity transmitted to the descendant forms living in different habitats, whether on land or in fresh water.[6]

By the blood stream, oxygen and nutrition are carried to the tissues, and waste products are carried away. If we knew how oxygen was utilized by the tissues, it would give us "scientific anticipation" of the modus operandi of the other functions of the lymph circulation.

The history of the physiologic teaching of oxidation is interesting. The ancient belief that arteries contained air and carried it to the tissues was abandoned after Harvey, and in its place came the teaching that the lungs were two furnaces burning up the waste products carried to them. Then followed the teaching that the blood oxidized the tissues through walls of the systemic capillaries. This was replaced by the teaching that blood oxidized the perivascular lymph, and the tissues became oxidized by contact. The present day teaching is that cells oxidize themselves by their own inherent vital activity. By their own instinct they seize the oxygen in the lymph and cast back their products of metabolism, viz., products of secretion and excretion.

Internal secretion and excretion are cast from the lymph stream to the blood stream simultaneously. The giving up of lymph by way of the thoracic duct is a very remote and fractional part of the interchange, (Tscherwkow,[7] Lazarus-Barlow, and Starling.[8]) The interchange is almost entirely effected between the lymph spaces and the blood capillaries. It has been found that when an animal is being bled, the latter portions of blood are more dilute than the first, and this is the case whether the thoracic duct is ligated or not.

Experimentally, we know that from the hind limbs of an animal at rest no lymph flows. By kneading the

muscles a free flow can be induced. Passive or active movements of the limbs bring about a free flow. It is known that in the quiescent state, lymph coming from the thoracic duct is from the viscera. Glandular or muscular activity takes front rank as increasers of lymph flow.

In harmony with the postmortem flow of lymph, examination of the web of a frog's foot after the heart has been cut away or the vessels clamped, shows that movement in the blood capillaries will continue from 5 to 15 minutes thereafter; when all movement has ceased, it will return if some irritant be applied to the web.

It seems that the lymph circulation being more ancient and stable continues after cardiovascular death. A student whose mental make-up enables him to see the other side of things, said in my quiz class that "Blood was simply mixed lymph with peculiar cells floating in it." Whatever we find in the serum we know has been cast there by the lymph.

A study of the blood-serum is practically a study of general lymph. All the modern studies of serum will apply to the lymph. The causes of vital movement must be analyzed before we gain a clear view of lymph circulation. Evolutionally this principle must be true, that all protoplasm not undergoing vital movement in offensive or nonnutritive media must have been lost in the evolutionary process. This must be the basic explanation of all vital movement. By vital movement is meant not only contraction, but intervening relaxations.

The contraction of voluntary muscle is a powerful expulsion force on lymph within its sheath. Now, before a voluntary muscle contracts, there is a carbohydrate explosion—giving rise to carbonic acid, sarcolactic acid, etc. This takes place in the latent period before the visible contraction, and changes the reaction of the muscle from an alkaline to an acid reaction. The contraction which follows on this expels large quantities of lymph. Here clearly vital movement was inaugurated by offensive lymph and the purpose was to expel it.

Now the great stimulus to involuntary muscle movement is venous blood, viz., lymph obtained from venous blood surcharged with waste products; viz., offensive lymph, is the stimulus. (The Meaning of Vital Movements.[9])

It is interesting to note the wide distribution of involuntary muscle. We find it composing largely the walls of hollow viscus. It is fully distributed in the stroma and capsules of glands and organs. And I would venture to say that more than half the involuntary muscle of the human body would be found to be in the immense area of the skin. Its slow rhythmic contractions with intervening relaxation suggest a tardily beating heart. The attachment of the arrectores pili muscle to the root sheath of the hair, in such a way as to pump nutritive lymph into the hair shaft, and the acting of the ciliary muscle on the canal of Schlemm are two examples of this involuntary muscle acting as lymph pumps without doing so directly. This variety of muscle has a tendency to have associated with it in this action, white fibrous and yellow elastic. In the lungs the lymph circulation is almost wholly effected by voluntary muscle, during inspiration producing vacuum in the chest cavity which would favor lymph entrance into lymph spaces and reservoirs. The expiratory effort effected in natural breathing almost entirely by the elastic recoil would act as a pump to expel.

I have said enough to show how varied are the ways in which the forces act. Vital movement is best seen in muscular tissue, but is not peculiar to it, as doubtless all tissue is capable of some degree of vital movement. Vital movement does not always take the form of contraction, thorough relaxation may fill the enclosed spaces with lymph and dilute the offending lymph.

The lymphatic glands, spleen, uterus, intestines, ureter, and bladder undergo variation in volume, rhythmically due to their involuntary muscle, and this will continue even when removed from the body. The rhythmic flushings of transparent parts (albino rabbit's ear or bat's wing) and periodic variations in volume of one's arm (when in a plethysmograph) are explained as arising from this smooth muscle tissue. Traube-Hering blood-pressure curves, seen in states of asphyxia are similarly induced. We have the same rhythmic contraction of the walls of the lymphatic duct, and the intestinal lacteal is emptied by this tissue.

Offensive lymph inaugurates the respiratory and cardiac movements. Note how both will speed in states of asphyxia. A piece of steel embedded in the cornea has long taught us that this nonvascular structure can vascularize itself. This can only be explained on the theory that the tissues effect this by suction. Inflammation under such a view of lymph circulation would be simply excessive selection or extraction of fluid and cells from the blood. In states of asphyxia the lymph coming from the thoracic duct is often bloody, an effect to be expected if the tissues secured their own lymph.

Now, what does one mean by offensive lymph? Lymph may be offensive in being devoid of oxygen and nutrition, or containing metabolic and chemic products; high or low temperature would be an offense (to warm-blooded animals), high or low pressure, vibrations, and certain electric variations. It is one's right to question why as often as how. Adaptation of pathologic process is an axiom in pathology, but there are countless examples in physiology. The adjustment of the iris to varying degrees of light is one of these. Here we see involuntary muscle adapted to expel offense. Heidenhain gave 2 divisions of lymphagogs—those increasing the water, and those increasing the solids. I need not burden you here with details except to say certain salts like magnesium sulfate are powerful lymphagogs. This agent acted (1) as a lymphagog, and (2) as a purgative. It is well that internal excretion should precede external excretion.

The lymph passing over to the blood stream contains defensive fluids, as well as waste products. Hence purging within certain limits may be a form of serum therapeutics (see Excretion in the Treatment of Acute Infectious Diseases.[10])

The action of the secretions of the ductless glands have not been brought into this discussion, but they vitally act on the tissues, and consequently on this circulation. The two most powerful agents in interchange of lymph are the muscular systems. They voluntarily expel lymph from their own body, and their sheaths, tendons, and attachments, and place, so far as the limbs are concerned, this circulation almost wholly under control of the will. The influence of the brain over the movements of the involuntary muscles is less than over the voluntary. The emotions can play upon this circulation almost past belief in some individuals.

To consider the skin as a system of external drains is to consider it not an important organ. The enormous amount of involuntary muscular tissue, the ability to corrugate itself to resemble "goose skin" in states of chills and fever, myodema and dermograph from strong or weak strokes to its surface, and the experimental evidence that stimulation of the pilomotor nerves, causes contraction in the skin, especially over the genital region (Langley and Anderson[11]) will justify one in speaking of the skin as a great lymph heart. The skin's elasticity alone would make it that. One can scarcely separate the lymph heart action of the skin from some of its several other functions, it being sensory surfaces upon which are inaugurated impulses of pressure, temperature, pain, etc., which in turn set up reflexes of various kinds that keep the body adapted to environments. If the skin be considered the external body world, it arouses, defends, and stimulates the inner mechanism more than can easily be conceived.

In order that I may not be charged with running thoughts till they are out of breath, I may bring forth Head's conclusions [12] that each viscus had a definite segment of skin that would show sympathetic pain when the former was irritated. He assumed that impulses can reflex the other way, viz., that irritation of the skin over these areas would have trophic influences on the corresponding viscus. The socalled "lung reflex" described by Abrams [13] shows that this is true. By irritating the skin over the lung by means of cold friction or faradic currents dilation of the lung ensues, and an increase of the blood in that lung follows. This is evidenced by obliteration of apex beat, cardiac and splenic dulness, along with the appearance of hyperresonance or percussion, and a more definite lung outline under x-rays.

Whether intraspinal or intraganglionic, excitement inside is communicated to the skin outside, and *vice versa*. Beneath the skin, both superficially and deep, are great laboratories that can be aroused to feverish activity by stimulus applied upon the cutaneous surface.

By contraction of this great lymph heart, interchange of lymph and blood is effected, and the lymph passing over is a mixture of excretion and secretion, waste products and proteids, to defend the whole organism. It appears that the outer world excitement is accompanied by increased activity inside, else we had never been in possession of a heat-regulating mechanism.

You well know the nervous mother who will make a hot-house plant of her child. There comes a day of exposure, the child has "caught cold"—has bronchitis, pneumonia, nephritis, or gastrointestinal catarrh. The *modus operandi* of "catching cold" is this: The lymph stagnates from want of proper skin stimulus (which would be cold). The application of cold to the skin produces a powerful interchange, driving the excretory organs to overwork. Overstimulation from clinical evidence we know can end in inflammation. The child who has daily exposures has his waste products sent into the blood circulation in dosage. The daily exposure is itself a tissue arouser and tonic.

No biologic worker nowadays denies organic evolution, but for the reason that the "how?" entirely dominates the "why?" it has not been pushed into the explanations of purposeful phenomena. From the inception there were certain forces that act upon organic growth, and will continue to act for all time.

Shall we ever know the full meaning of "sunlight," giving us light and darkness; air with its varying shades of dissipation of heat from objects, and the medium of vibrations; the changing seasons, with their variation of heat and cold; the cold and warm rains, cleansing the air, plants and animals, and furnishing fluid for internal use to all? What a cluster of blessings! Try them on the human organism, and everyone plays on its cutaneous surface. Without the sunlight we had no eyesight—without vibration in the air we had no hearing, without the whole group we had not our cutaneous sensations.

In the open air, sunlight, and forced feeding treatment of tuberculosis, we go back to the primal forces of organic evolution, and we have staggered upon them, not by intelligent grasp, but by accident. Have we conceived the full range of possibility of the skin as an inaugurator of impulses, and movements, and the uses of these in maintaining normal health, and in treating disease? We use in typhoid fever the cold bath, and secure rhythmic discharge in dosage of the harmful toxin and of defensive proteids into the blood circulation. In typhoid fever the height of the temperature is merely the indication, the reduction merely the accident of the treatment. We use massage to remove stagnant lymph in conditions of neurasthenia, melancholia, Glénard's disease, and other forms of malnutrition.

The relation of the modern treatment of tuberculosis to the lymph system is easily indicated. The forced feeding enables the cells' inherent activity to obtain the material for the formation of the defensive proteids. The sunlight and fresh air stimulate the skin not hourly, but almost continuously to activity, that defensive proteids may constantly flow into the blood stream to enable the long drawn-out battle to be won on the side of life. Stagnation of lymph can occur from both warmth and cold. This is overcome in typhoid tubbing by friction.

If one concede so much to the skin as an inauguration of defensive process, what shall we concede to the great master tissue, the central nervous system in this regard? The influence of mind on the body has not yet attained its full recognition in medicine. The invigorating effect of sane courage in arousing the whole bodily forces is a medical axiom from the beginning of time.

> "Know then, whatever cheerful and serene
> Supports the mind, supports the body too,
> Hence the most vital movement mortals feel
> Is Hope; the balm and life blood of the soul."

The splendid practice of training the sick mind is far too little used. The neurotic should be taught to cease complaining, to minimize his actual objective symptoms and to train his body and mind to gradually increasing periods of alertness as well as periods of absolute repose.

Had this been more generally done by the profession there had not arisen in the land a cult which appeals to the mystical to heal disease.

I shall not stay to discuss the relation exercise, inflammation, hypertrophy, atrophy and repair bear to this hypothesis.

You will doubtless see that our attention must be fixed on cells and the best method of securing their fitness to fight morbid changes. Chemistry and physics give many phenomena a meaning adaptive to our understanding, yet there are innate properties in cells put there by evolutionary factors that must be baffling to all science.

As one understands more of the whole biology of the human body he turns less to drugs for curative agencies. The body must be considered as a community of cells, and as a united state possessed of a wonderful ability to organize its land and sea forces. All therapy must be measured by its effect on the organization of these forces. In treatment, the great object is to make the human body into the very best fighting machine against the invading enemy—primary or terminal infections. More terrible to a waiting camp than the enemy's weapons are water and food famine and stagnant sewage. Malnutrition and stagnant lymph mean to the human body what famine, polluted sewage and destroyed ammunition mean to a regular army—capitulation without terms.

In conclusion, I trust your curiosity has been aroused, for my attempt has been merely to lead you to a hilltop in this new continent of thought, and to point out the complex landscape and the open roads. It may be true the valleys are hidden with mist, and the mountains with clouds, and the soil is yet to be enriched by the growth and decomposition of thousands of ideas, but, nevertheless, this is the land that will yield us fruit, the eternal biologic verities.

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THE CAUSATION AND TREATMENT OF POSTNASAL DISCHARGE.[1]

BY

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The title of my paper forms, I think, the most common complaint among those patients who consult us for throat trouble. The frequency of the cases, and, I think, the somewhat indifferent routine treatment adopted, form my excuse for asking a few minutes of your attention.

In answer to the question "What do you complain of"? a large percent of my nose and throat patients answer, "a dropping and discharge in the back of my throat." This is also the symptom that in the laity's mind means "catarrh," no matter what little information we are able to gather from this term. The discharge is usually mucopurulent, though pus or mucus may exist alone. It also varies in quantity, being associated with some particular time of the day, attitude of the head, general systemic tone, or atmospheric conditions. Regarding the causation of this annoying complaint, expediency as well as fitness may permit my classifying it into 3 divisions: 1. That depending on and coming from the nose. 2. That depending on some abnormality, whether structural or secretory in the postnasal space and oropharynx. 3. That depending on altered systemic tone. We must not fail to remember that there is about 1 pint of fluid secreted by the nasal mucosa in the 24 hours, and that nature has so arranged things that if the nose and nasopharynx be structurally correct, we should not be conscious of this secretion.

1. Causes situated in the nose:

   a. Acute and chronic rhinitis.
   b. Septal irregularities, either causing chronic rhinitis or interfering with nasal drainage.
   c. Hypertrophy of the epiturbinal.
   d. Foreign bodies—polypi and other neoplasms.
   e. Purulent disease of the ethmoidal, maxillary, frontal, or sphenoidal sinuses.

2. The nasopharynx and oropharynx:

   a. Adenoids—hypertrophy of Luska's tonsil.
   b. Thornwald's disease, if such a condition exists.
   c. Posterior epiturbinal hypertrophy.
   d. Polypi and other neoplasms.
   e. Diseased postnasal mucous membrane.
   f. Infection from suppurative otitis media.
   g. Hypertrophy of the eustachian cushions.
   h. Diseased faucial tonsils.
   i. Toxic and irritative pharyngitis.
   j. Tuberculous, malignant and specific disease.

3. Systemic state:

   a. Neurosis.
   b. Digestive and circulatory.
   c. Rheumatism, gout, uric acid diathesis.

From this somewhat extensive array of causes, it is not difficult to understand how little may be accomplished by cauterants applied to the nasal mucous membrane, snuffing salt and water up the nose or spraying with a small amount of bland oil. I fear this forms the greater part of the treatment many patients get, and one little wonders at the common statement "catarrh can be helped, but not cured." Of what good is any form of local treatment to those neurotic patients, who have a little hypersecretion and a hyperesthesia of the pharyngeal mucous membrane. Local measures serve to intensify the patient's complaints.

I do not purpose taking up each possible cause and giving detailed data regarding it, but will confine my remarks to those points that I have found most common, and give a brief outline of what I have found best suited to my own patients. It might also be mentioned that the Bay of Quinte district, in which my patients reside, is contiguous to the shores of Lake Ontario, and it is said that humidity somewhat favors the hypersecretion of predisposed patients. So far as nasal causes are concerned, chronic rhinitis, septal irregularities, hypertrophy of the turbinal, mucous membrane or sinusal disease have been found usually the causative factor. Chronic rhinitis is, however, usually found existing because of the presence of the other three, and may produce no postnasal discharge if there be no hypersecretion of the nasopharyngeal mucous membrane. Existing alone, it is best managed by cleansing antiseptic alkaline sprays, followed by a stimulating or astringent medicament in an oily menstruum. Too frequent or prolonged watery irrigation may keep up the rhinitis rather than diminish it. Septal irregularities can only produce postnasal discharge by causing rhinitis or nasopharyngitis, owing to their irritation or mechanical effects, or by being so situated that nasal drainage through the inferior meatus is interrupted. Far be it from me to say that all septal irregularities should be operated upon (I fear it has become altogether too prevalent to operate on all cartilaginous and bony tumescences found on the nasal septum), unless they interfere with respiration, press against the outer nasal wall or are situated low and in the form of a curved shelf on which secretion collects. If operated on, the bistoury, spoke-shave, or submucous resection is best for the cartilaginous part, while the saw is necessarily best adapted for those consisting of bone and cartilage. In deflection of the pan septum some straightening operation will be required. Careful attention to the after-treatment is essential to a return of a nasal mucous membrane to its normal condition. Hypertrophy of the mucous membrane covering the inferior turbinated body, causes in probably the largest number of instances, increased secretion with probably postnasal discharge. This enlargement may be periodic or depend on some constitutional state, digestive, liathic, vasomotor, or toxic. It is essential that any measures of rational value should include attention to these details, but here again the furor for operative measures seems to have long held unlimited sway. One would almost imagine, from the instrument-manufacturers' efforts, that all that is necessary for the curing of nasal or postnasal discharge is to invest in a compressed-air apparatus and a galvanocautery. There has probably been more harm done by the indiscriminate and unscientific use of the galvanocautery in rhinology than by all the other measures combined, or than would have resulted had nothing been done. There is no instrument I could easier do without than the galvanocautery point. True, in many of these cases light scarring of the turbinal mucous membrane destroys sufficient glands and causes enough contraction to make our patients much more comfortable, but this measure will most certainly have to be repeated in after years, and is called for in only a few instances. In postnasal hypersecretion associated with turbinal enlargement, chromic acid is better because the tendency to excessive secretion is less after its use than after the cautery; a very small amount, however, should be used. Removal of the hypertrophied portions is most thoroughly accomplished by the cold snare, and will be found to apply almost entirely to the anterior or posterior ends of the inferior turbinal. Massage of the turbinal mucous membrane is a measure worthy of more frequent practice.

Disease of the accessory sinuses of the nose may produce turbinal thickening, chronic rhinitis, or nasopharyngitis, or pus may flow almost directly into the postnasal space. Pus of the middle or posterior ethmoidal cells and sphenoidal sinus usually finds its way easiest to the nasopharynx; frontal sinusitis may also do so in part, and while maxillary antrum suppuration generally causes anterior nasal flow, in about 15% of the

[1] Read before the Canadian Medical Association at London, Ont., August, 1903.

cases the presence of any accessory opening permits a large amount of the secretion to flow backward in the nasopharynx. It is obvious in these cases what course to pursue.

CAUSES SITUATED IN THE NASOPHARYNX AND OROPHARYNX.

Adenoids.—Hypertrophy of the lymphoid tissue of the pharyngeal vault is undoubtedly responsible for the majority of cases of postnasal discharge. In children and young adults, almost the invariable cause, I think they are very frequently overlooked and many patients are dismissed with an alkaline spray to use frequently or are given a number of silver nitrate or iodin paintings. The hypertrophy may be so situated that viewed from a postnasal mirror there appears little to be seen, but on postnasal palpation a surprising amount of tissue may be found requiring removal. Enlargement of the follicles on the posterior wall of the pharynx is almost invariably seen in these cases; the occurrence of adenoids does not necessarily mean postnasal discharge, and it may occur only when there is, from some cause, an acute adenoiditis or subsequent to some of the infective fevers. Occasionally one finds a small pad of lymphoid tissue in cases of atrophic rhinitis, and it is most desirable that this tissue be left alone since removal favors the tenaciousness of the mucus. I believe imperfect removal of adenoids, and it is very difficult to clear the vault thoroughly, is responsible for most cases of secretion remaining or persisting after the operation. A prominent atlas may form a small space when adenoids can be readily missed or when secretion difficult to remove collects. There is only one treatment for discharge caused by adenoids, viz., surgical; medicinal treatment has no place whatever; of course if there is acute adenoiditis, local treatment will rapidly lessen the trouble, but measures such as painting the vault with various pigments, the administration of iodin, or of various other alterative agents are most uncertain as to their action and are rarely of any material value. The snare and galvanocautery are mentioned only to be condemned; the forceps and curet properly and scientifically used leave nothing to be desired. Some care in the after-treatment of any adenoid operation I think desirable. My own practice is to use iodoform and thymol bougies made up with cocoa butter. I believe this hastens the reparative process very considerably. After 4 or 5 days a weak solution of potassium permanganate is of material assistance. These measures lessen the accompanying suppurative process that takes place in healing and thereby tend to a healthy mucous membrane. The vault should be carefully inspected with a mirror a few days after the operation, to avoid leaving any tags, a rather common, occurrence I think. I have not been able to operate successfully and thoroughly under local anesthesia.

Diseased Faucial Tonsils.—There is practically always a lymphoid hypertrophy in the vault in cases of enlarged faucial tonsils in children and young adults. Disease of the supratonsillar space with or without a caseous condition of the tonsil proper not infrequently accounts for a septic nasopharyngitis or even laryngitis. Thorough removal is essential whether it be by punch forceps, curet or galvanocautery; simply cutting off a small projecting tonsil is of little or no benefit. A number of sittings may be required.

Diseased Conditions of the Pharyngeal Mucous Membrane.—An acute or chronic inflammation of the mucous membrane with various degrees of edema is frequently found and various causes may be at the bottom of this condition. Gastrointestinal mischief is a frequent accompaniment, and a rheumatic state occasionally. In these cases pigments of silver nitrate, iodin and carbolic acid, argyrol and protargol have been found of value. The vault must be thoroughly cleansed with an alkaline postnasal douche before using the pigment and correction of any vices and attention to the systemic state must be insisted upon. Occasionally scraping the nasopharynx with a dull curet will give good results. In those cases marked by a dry, glazed condition of the mucous membrane our resources are taxed to the utmost. This atrophic pharyngitis is usually associated with a similar condition of the nasal mucous membrane. The application of stimulating measures directed to increase the glandular activity of the nasopharynx is about all we can do, and amelioration of the symptoms is the best we can promise. Mucin and ichthyol appear to have given the best results.

Cases Depending on Altered Systemic Tone.—A few cases are found that present various degrees of nasopharyngitis associated with chronic gastrointestinal indigestion and are complained of most, after some indiscretion of diet. The treatment is obvious.

The last cause I will refer to is found among those of a neurotic type. A great deal is complained of and almost nothing found on examination. There may be some hyperesthesia of the mucous membrane which causes the patient to object to almost any secretion and to the manipulations necessary to make the examination. Usually, however, the symptoms are confined to women whose nervous stability is below par, some pallor from the associated anemia with marked anesthesia of the pharyngeal mucous membrane. Measures directed to improving the general condition are indicated and little or nothing should be done by way of local applications. Frequently informing the patients that there is nothing seriously wrong, will allay the fears they usually have. Sometimes the patients are immeasurably benefited by some imaginary operative measures, painful enough to prevent their wishing a repetition. This class of cases forms the most unsatisfactory part of the rhinologist's work.

THE COMPLICATIONS OF HYPERTROPHY OF THE PHARYNGEAL TONSIL.*

BY

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of Philadelphia.

In speaking concerning adenoids I know I am treading in old and firmly-beaten pathways, and I would have little excuse for this paper did I not believe that this subject is really worthy of a great deal of discussion. From the little mass of postnasal lymphoid tissue may develop quite a startling aggregation of ills. My intention is not to try to enumerate all of these ills, but rather to make clear the mechanism of their development, and to show why operative removal of an hypertrophied tonsil is strongly indicated.

First of all, it must be accepted that the pharyngeal tonsil is a distinct organ and not a mere transient accumulation of lymphoid cells. The first sign of its existence is found in embryos 6 cm. to 7 cm. in length, and it is then simply a groove-like sinking in of the epithelium in the median line of the vault of the pharynx. Lymphoid cells accumulate around this epithelial invagination until shape and size have been given to the organ.[1]

The pharyngeal tonsil is present to some extent in all children, and is subject to practically the same diseases as are the faucial tonsils. We may have an acute tonsillitis with swelling and excessive secretion giving rise to symptoms very similar to acute rhinitis, and only to be differentiated by direct inspection of the diseased tonsil. This will be readily understood when I recall the anatomic relations. The pharyngeal tonsil is situated in the vault of the pharynx, above the soft palate, immediately posterior to the choanæ or posterior nares. In children the distance between the soft palate

* Read before the Southern Branch of the Philadelphia County Medical Society, May 29, 1903.

and the body of the sphenoid is comparatively small, so that the nasopharynx is more readily obstructed than in adults, and secretion from the anterior part of the tonsil gains a ready exit through the nose. The spacious vault of adults permits the secretion to pass readily down the throat. Therefore, in children inflammation of the pharyngeal tonsil causes an anterior nasal discharge, while in adults the same lesion would give rise to "post-nasal dropping."

The essential anatomic characteristic of all the tonsillar tissue of the throat is lymphoid cells surrounding crypt-like invaginations of the epithelium. Scattered through the lymphoid tissue are numbers of ovoid or round bodies, the germ follicles of the tonsil. These follicles are constantly manufacturing lymphoid cells which pass either into the efferent lymph-vessels of the tonsil or out into the crypts through the epithelium. This manufacture of leukocytes is one of the two proved properties of the tonsil. The other property is the absorption of fluids and finely-divided solid particles from the crypts.[2] All other ideas concerning the function of the tonsillar tissues remain apparently unproved and are the result of ingenious theorizing, while the number of such suggested functions simply shows the versatility of the human



Fig. 1.—Section through the head of an adult man. From a specimen at the Wistar Institute of Anatomy, showing the opening of the eustachian tube almost on a level with the posterior end of the inferior turbinate; also the relatively large vault of the pharynx.

mind. The good function of the tonsil is the manufacture of lymphoid cells, *i. e.*, young leukocytes; and the bad function (if I may use the term) is the absorption of material from the buccal cavity. Whether living micro-organisms can pass through the epithelium of the crypts of a normal tonsil is at present a disputed question. I believe that the variance in opinion of different writers is the result of their having observed different bacteria which possess different ratios between their virulency and the vital resistance of the human body. E. Lexer[3] has carried out a series of experiments on rabbits, using some 40 in number, in which he established two important facts. (1) That the ordinary streptococci and staphylococci were not absorbed by the tonsils of rabbits; (2) that streptococci which were known to possess an especial virulency toward these animals would when painted on their tonsils be absorbed, and as a rule cause death within 2 days. When the animals did not die within 2 days, signs of a general infection developed, as manifested by the suppuration of fractures and the development of lymphatic abscesses.

A perfect parallel can be seen in man. Examination of the normal healthy tonsil will almost always reveal the presence of microorganisms in the crypts. These bacteria do not penetrate the cryptal epithelium, but are destroyed by the excretions of the tonsil. If, however, a virulent organism, capable of resisting the bactericidal influence of the tonsillar excretion, gains access to the crypt, one of two things happens: 1. The microorganisms may remain in the crypt and multiplying produce toxins which, being absorbed by the tonsillar parenchyma, give rise to an acute proliferative tonsillitis. 2. The organisms penetrating through the epithelium of the crypts, may either cause local abscesses in the follicles of the tonsil, or gaining an entrance to the efferent lymphatics, be carried to the neighboring lymph-glands, producing adenitis. If, however, the virulency of the microorganism is great enough, the lymph-gland is unable to destroy or kill it, and the germ may then pass on to systemic devastation.[4]

That the foregoing phenomena actually happen has been abundantly proved by clinical observations, and it would be interesting to go more deeply into this subject. The point I have desired to establish by this digression is, that the absorbing property of the tonsil is a bad property, and one which may lead to dire results. Now it follows that everything which increases the absorption is harmful. Thus, we can understand why an attack of tonsillitis in hypertrophied tonsils is a more serious affair than when occurring in the little stump of adenoid tissue left after a tonsillotomy. A large sponge will absorb more water than a small one.

Considering the manufacture of leukocytes by the tonsillar structure, I do not believe that the tonsils are of any more importance than an ordinary lymph-gland, and who would hesitate to remove an enlarged lymph nodule simply because of its value in the manufacture of leukocytes? The Delaware river would not cease to flow if we should scoop out a pailful of water. In hypertrophy of the tonsillar structure there may be a slight degree of leukocytosis, especially an increase of the lymphocytes. Lichtwitz and Sabrazes[5] state that in children suffering from the presence of adenoids there exists a slight degree of anemia and leukocytosis, which leukocytosis is characterized by an increase in large mononuclear cells, lymphocytes, and eosinophiles, with a decrease in the multinuclear leukocytes. In a few cases of tonsillar hyperplasia in which I have made blood counts there has been an increase in lymphoid cells, corresponding more or less closely with the amount of hypertrophy; also at times a slight increase in the multinuclear leukocytes. These findings are somewhat at variance with those of Lichtwitz, who states that the leukocytosis does not hold any important relation to the size of the tonsillar hypertrophy, the slightest enlargement causing leukocytosis as well as the greatest.

This statement of Lichtwitz does not seem rational for the following reasons: Hypertrophy of tonsillar tissues is simply an actual increase of all the normal structures of the tonsils. The follicles are larger and more numerous, and show increased cell multiplication; the crypts are deeper and the connective tissue trabeculæ longer. So that if we are to concede, and I think we must, that hypertrophy of the tonsils causes an increase in the manufacture of lymphoid cells, it is most reasonable to believe that the larger the tonsilar factory the greater the output of lymphoid cells.

Now, two propositions: first, even in most marked cases of hypertrophy the leukocytosis is only very slight; second, the ratio in size between a normal pharyngeal tonsil and one of those huge adenoid growths which block the whole of the vault is about 1 to 20. Therefore to me it seems demonstrated that the part played by a normal pharyngeal tonsil in the manufacture of leukocytes is a most insignificant one and not of any practical importance.

In this connection it is interesting to note that I have

never seen any ill results following the operative removal of the tonsillar structure of the throat which could be blamed to the absence of adenoid tissue, nor have I read or heard of any.

A possible exception to this statement is the local drying of the vault of the pharynx occasionally seen when the removal of the pharyngeal tonsil has been too extensive. The lack of secretion in these cases, however, is due more to the cicatricial tissue causing obstruction to the ducts of the mucous glands than it is to absence of lymphoid tissue.

I think I have made clear one important point, namely, that the bad physiologic property of the tonsils may do harm, while the good one is of little benefit, and may become deleterious; in other words, hypertrophy gives greater chances for absorption of poisons, while the increased manufacture of lymphoid cells will in some cases bring about even a pathologic condition of the blood.

Speaking now concerning the pharyngeal tonsil directly, I want to call attention to some of the symptoms which hypertrophy of this gland undoubtedly produces, and which may be removed by operative interference. The hypertrophy of the pharyngeal tonsil differs somewhat in form in different individuals. In some patients it exists as a rounded mass of adenoid tissue, occupying a median position in the vault of the pharynx. The extreme opposite to this form is a broad and extensive infiltration of lymphoid cells into nearly all of the mucosa of the pharyngeal vault, encroaching on the eustachian prominences and fossas of Rosenmüller. Between these 2 forms there may be almost any variation. Most frequently we see the hypertrophy existing as longitudinal folds of soft adenoid tissue, hanging downward from the nasopharynx.

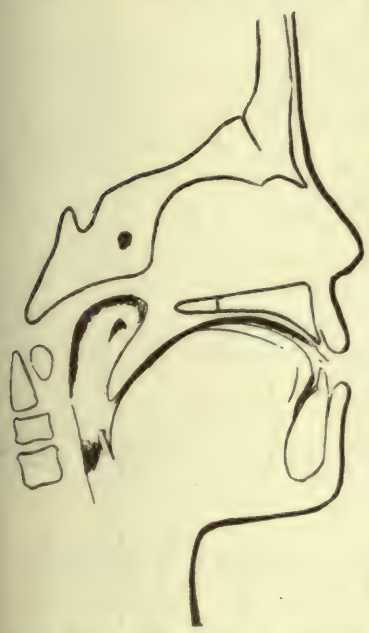


Fig. 2.—Scale same as Fig. 1. Section of the head of a boy aged 6. From "The Anatomy of a Child," by Symmington, showing opening of eustachian tube below the level of the hard palate, and the small distance between the hard palate and the sphenoid.

Theoretically we may divide the complications of hypertrophy of the pharyngeal tonsil into 2 groups, the mechanical and the infectious; but these 2 groups are generally more or less combined in the production of the clinical symptoms. Mouth-breathing is an almost purely mechanical complication, but it may produce conditions which make a ready soil for infection. The irritation of the mucous membranes, resulting from the inspiration of unmoistened and unfiltered air, may indirectly give rise to attacks of laryngitis, laryngeal spasms, trachitis, bronchitis, pneumonia, and, in fact, any of the diseases of the lower respiratory tract. Sometimes there develops a condition called aprosexia, which is an inability on the part of the patient to concentrate his mind for any length of time or to think with clearness. That nasal obstruction may produce this intellectual dulness has been abundantly proved by experimental and clinical research. Kafemann [6] has carried out a series of experiments directly demonstrating this fact. He obstructed the nasal fossas by means of more or less closely-fitting plugs, for varied lengths of time, and by ingenious tests demonstrated that during nasal obstruction the various mental faculties showed an appreciable decrease in activity. I attach especial importance to this condition because I believe that many children who appear backward in school are so because of adenoids.

Skeletal deformities, the most prominent of which are narrowing of the alveolar arch of the upper jaw and socalled "chicken breast," are frequently due to mouth-breathing. The larger part of the air current passing through the nasal fossas takes the following course; from the nostril upward and backward to the middle turbinal, thence posteriorly to the vault of the pharynx from whence it is deflected downward. Therefore, even a small growth in the vault may directly interfere with nasal respiration, even though the space below it, is greater in capacity than are the nostrils. It would seem at first thought that air would pass more readily through the open mouth than through the nasal fossas, but it has been shown by Larmoyez and Boulay [7] that inspiration and expiration are both greatly hindered by mouth-breathing, sometimes to an equal degree, but more often the expiration is more difficult. Mendel,[8] using what he terms a rhinometer, showed that the ratio of the air passing through the nose to that passing through the mouth was as 1.25 to 1.00. Mouth-breathing must therefore increase the vacuous pressure on the walls of the respiratory tract, and hence is responsible for the partial collapse of the chest wall, "chicken breast," so frequently seen in rachitic children who suffer from enlargement of the pharyngeal tonsil. I believe that a child has an inherited tendency to close the mouth, and only when the nasal obstruction is great enough to cause a slight though appreciable dyspnea, does the child resort to mouth-breathing, which, however, may in time become a habit. We see this tendency frequently in children who when awake instinctively keep the mouth shut, but during the relaxation of sleep breathe with more or less noise through the opened mouth. Hence snoring and sleeping with the mouth open becomes an important symptom of nasal obstruction.

The narrowing of the alveolar arch I believe is due more to poor nourishment and an insufficient oxidation of the blood than to any mechanical influence which may be exerted by the buccal muscles or the increased vacuous pressure of obstructed nasal respiration. Lack of proper oxidation of the blood, associated with insufficient nourishment, hinders ossification and the development of the deciduous teeth. It has been shown that the absence of teeth from the alveolar processes will not only prevent their development, but will cause an actual absorption. Thus, it may be seen how indirectly adenoids are responsible, by preventing nasal respiration and oxidation of the blood, for the lack of development of the alveolar arch.[9]

The most serious complications due to hypertrophy of the pharyngeal tonsil are the otitic disturbances. Fortunately in children the position of the opening of the eustachian tube is a low one as compared with its position in adults. According to Dwight [10] the rather patulous opening of the eustachian tube, which in the adult is on a level with the inferior turbinal, is at birth below the level of the hard palate. And were it not for this one fact I scarcely see how any child who had even a mild degree of adenoid enlargement could escape from some form of ear disease. We may have as the direct result of adenoid growths in the vault of the pharynx any lesion of the middle ear from simple obstruction of the eustachian tube to mastoid abscess with all its evil consequences. Probably the most frequent of all the complications of adenoids which lead the parent to bring the child to a specialist is disease of the ear, and I want to call your most earnest attention, as general practitioners, to the positive and many times verified fact that the large majority of cases of ear diseases in children is directly blamable to hypertrophy of the pharyngeal tonsil. I believe it almost malpractice, if in a case

of ear disease in childhood the condition of the pharyngeal vault is not thoroughly investigated. The reason for this may be easily shown; mechanically the pharyngeal tonsil by obstruction of the venous plexus of the vault, and by direct closure of the eustachian tube, produces both a congestion of the mucosa and prevents proper ventilation of the tympanic cavity. As a consequence of improper ventilation of the tympanic cavity we have retraction of the drum membrane and a secondary engorgement of the bloodvessels of its lining mucous membrane.

Permit me a moment's digression. It has been shown that the nasal and buccal secretion possesses a distinct bactericidal influence on almost all forms of germs. This action, however, is of a limited extent. For example, suppose 300 germs be brought into 1 cc. of secretion. These germs will be rapidly killed. But if 600 germs were placed in the same amount of secretion, what we might call the vital power, is used up in killing the first 300, and the secretion then becomes a culture medium in which the remaining 300 germs may grow and increase *ad infinitum*. Therefore, in order that the nasal mucus may exert its normal bactericidal influence it is essential that there shall be a continuous supply of fresh secretion and an easy exit for the "used-up" secretion. Now it can be easily understood how hypertrophy of the pharyngeal tonsil blocking back the secretion into the nasal fossas, and retaining the exhausted and decomposed mucus in its crypts, becomes a veritable incubator wherein germs may multiply and grow.

I consider that the pharyngeal tonsil, when hypertrophied, may be a constant source of infection to the whole of the upper respiratory tract, and to all the adnexa. Hence, in patients suffering from adenoids we have a host of local diseases due to infection from a stagnated secretion in the vault of the pharynx.

Concerning the ear, hypertrophy of the pharyngeal tonsil furnishes both the nidus and food as well as the infecting germ.

The stagnant and infectious secretions may in a similar way be responsible for the frequent attacks of rhinitis which occur in these cases, but as I have said before it is most difficult to distinguish between acute coryza and an inflammation of the pharyngeal tonsil. It is very likely that the two diseases are always more or less associated with each other. The various eye disturbances, such as conjunctivitis and blepharitis marginalis, are the result of the existing congestion of the nose and only indirectly blamable to the adenoid hypertrophy.

The almost incurable cough which is sometimes seen in these patients is usually caused by the irritation of the thick ropy secretion hanging down from the vault of the pharynx, and I have seen cases in which this was apparently the only symptom of a large mass of adenoids. In some cases the inspiration of the infected mucus into the larynx, trachea and even the bronchi may produce inflammation of these structures, especially as the mouth-breathing prepares a fertile soil.

The upper part of the pharynx is richly supplied with lymphatic vessels which drain into the deep lateral cervical glands, and through or by these to the superficial cervical.[11] There is also a small inconstant retropharyngeal gland, which when present is placed directly posterior to the pharynx against the vertebral column. The faucial tonsils drain into the posterior glands of the submaxillary group. Adenitis resulting from infection from the pharyngeal tonsil is limited to the deep lateral glands, and the inconstant retropharyngeal gland, while infection from the faucial tonsils causes enlargement of the glands at the angle of the jaw. If the adenitis following the absorption of bacteria from the pharyngeal tonsil goes on to suppuration, we have the development of a retropharyngeal abscess. This explains the comparatively frequent occurrence of these abscesses in children and infants.

Case number.	Marked hypertrophy.	Moderate hypertrophy.	Slight hypertrophy.	Age.	Male.	Female.	Nasal discharge.	Otorrhea.	Earache.	Deafness.	Nasal stenosis.	Headache.	Cough.	Defective speech.
1		1		2	1		1		1		1		1	
2		1		3		1	1				1			
3			1	11		1			1					
4		1		13		1	1						1	
5		1		7	1		1	1	1		1			1
6	1			7		1	1				1			1
7	1			8	1						1		1	1
8	1			4		1	1		1		1			
9		1		9		1			1					
10	1			6	1						1			
11		1		12	1		1		1				1	
12	1			3 mos.		1	1				1		1	
13		1		4		1					1		1	1
14		1		7		1		1	1	1			1	
15	1			10	1		1				1			1
16		1		4	1						1		1	
17	1			8		1					1		1	
18	1			8		1		1			1			
19		1		10	1						1			
20		1		10		1								
21		1		5	1		1	1	1		1		1	
22		1		12		1	1						1	
23			1	12		1	1					1		
24	1			6		1					1			
25		1		4		1					1		1	
26	1			5	1		1		1		1			
27		1		5		1	1				1		1	
28	1			3		1					1			
29	1			4		1	1				1			
30		1		4	1		1				1			
31		1		9		1					1			
32	1			6	1						1		1	
33		1		14		1					1			
34		1		5	1		1							
35		1		9		1			1					
36		1		3	1		1				1			
37	1			9	1				1				1	1
38		1		8		1	1				1		1	1
39		1		2	1						1		1	
40		1		3	1			1			1			
41	1			4	1		1		1		1		1	
42	1			5	1		1	1	1		1	1		
43			1	9							1			
44			1	8	1		1						1	
45	1			13	1		1							
46	1				1		1		1		1			
47		1		5	1		1				1			
48	1			3		1	1			1	1		1	
49		1		5		1	1				1		1	
50		1		13		1	1				1			
51	1			4	1		1				1			
52		1		10		1	1	1	1					
53		1		11	1		1				1	1	1	
54		1		6		1					1		1	
55	1			1		1					1		1	
56		1		4		1					1			
57	1			6	1		1			1	1			
58	1			12	1						1	1		
59	1			6	1						1			
60	1			10		1			1		1			
61		1		8	1		1							
62		1		6	1		1				1		1	
63	1			8	1		1		1		1	1		
64	1			4	1		1				1			
65	1			6	1		1	1	1	1	1	1		
66		1		7		1		1	1		1	1		
67			1	11		1		1	1	1		1	1	
68		1		6	1							1		
69		1		10		1					1	1		
70		1		12	1		1		1		1			
71	1			4		1	1				1		1	
72	1			6	1						1			1
73			1	9		1	1					1		
74		1		9	1						1	1	1	
75		1		8	1		1				1	1		
76	1			6		1					1	1		
77	1			6	1		1		1		1			
78		1		7		1	1				1		1	
79	1			7		1					1			
80		1		4		1	1		1		1			
81		1		7		1		1	1	1				
82		1		6	1		1	1	1					
83		1		8	1		1	1	1					
84		1		7	1		1		1		1			
85	1			6	1					1	1			
86		1		6		1					1	1		
87	1			5	1		1		1		1			
88		1		6		1	1						1	
89	1			3	1						1			
90		1		4	1		1				1	1		
91	1			11		1							1	
92	1			4	1				1		1		1	
93	1			3		1					1		1	
94	1			2	1						1			
95		1		7		1	1	1	1		1		1	
96		1		9		1	1	1			1	1		
97		1		12	1			1	1		1	1		
98	1			10	1		1					1	1	
99	1			10	1		1		1		1		1	
100		1		3 mos.	1		1				1			
101		1		7	1				1	1	1			
102	1			4	1				1		1			1
103	1			7		1			1	1	1	1		

Case number.	Marked hypertrophy.	Moderate hypertrophy.	Slight hypertrophy.	Age.	Male.	Female.	Nasal discharge.	Otorrhea.	Earache.	Deafness.	Nasal stenosis.	Headache.	Cough.	Defective speech.
104	1			8		1	1	1	1		1	1		
105		1		11	1		1				1		1	
106	1			6	1						1	1		1
107	1			8	1				1		1		1	
108		1		3	1		1		1		1			
109		1		10	1						1		1	
110		1		2	1						1		1	
111	1			3		1	1				1	1		
112	1			14		1					1	1		
113		1		3		1					1		1	
114		1		5	1				1		1			
115		1		7	1		1		1		1			
116		1		14	1		1				1			
117		1		2		1	1	1	1					
118		1		5	1		1		1		1			
119	1			6	1		1	1			1			
120		1		8	1									1
121		1		2	1		1				1		1	
122	1			1	1						1			
123		1		4	1									
124	1			2	1		1				1		1	
125			1	13	1				1				1	
126	1			7	1						1	1	1	
127	1			2	1		1			1	1		1	
128	1			9 mos.	1		1		1		1		1	
129		1		5	1			1			1			
130		1		7		1	1		1		1		1	
131		1		9		1	1				1		1	
132		1		10	1							1		1
133		1		9	1						1	1		
134			1	4 mos.	1				1				1	
135		1		9		1	1	1	1				1	
136	1			4	1		1		1		1			
137		1		6	1	1	1				1			
138		1		6		1		1	1	1	1			
139		1		4	1	1								1
140		1		6	1						1			
141		1		8	1				1		1			
142		1		7	1		1		1		1			
143			1	11		1	1							
144		1		4	1		1				1		1	
145	1			9 mos.	1		1				1			
146		1		6		1	1			1	1		1	
147		1		6	1						1		1	
148		1		10 mos.		1	1				1			
149		1		4	1						1		1	
Total	57	83	9		87	62	78	24	53	12	117	28	45	1 1
	149				149			63 cases showing some ear disturbance.						

Involution of the pharyngeal tonsil generally takes place some time between the ages of 10 and 20. But it is not uncommon for the growth to persist up to 30 years, and I have seen patients with quite a marked hypertrophy who were over 40. The disappearance of adenoid symptoms during puberty is due almost as much to the upward growth of the vault of the pharynx as it is to the involution of the tonsil. Generally the only symptom which an enlarged pharyngeal tonsil causes in adults is the disagreeable accumulation of the thick mucus in the vault, commonly called "postnasal catarrh." Sometimes, however, when the hypertrophy is very marked, we have mouth-breathing and nasal discharge. Anosmia is a symptom complained of only by patients of mature years. I remember a patient of about 18 from whom I removed a large mass. The day after the operation she complained of the peculiar odor which the scrupulously clean hospital bed had, and also rejoiced in the fragrance of a lot of roses sent her. Up to that time she had never known the joys and sorrows of a properly-working organ of olfaction. The extreme upper air current through the nasal fossas is the one most frequently obstructed by hypertrophy of the pharyngeal tonsil, and it is this current which carries the air to the olfactory membrane.

In closing, I desire to present briefly a few statistics from the dispensary records of the Children's Hospital. During the last 2 or 3 years 361 patients have presented themselves with some nose or throat complaint. Of these, 149 were sufferers from some degree of hypertrophy of the pharyngeal tonsil, and in all of these 149 cases, the adenoid hypertrophy was considered the chief source of the symptoms present. I have divided the cases into 3 classes: (1) Those of marked hypertrophy, in which the vault was over half filled with the growth, and of these there were 57 cases; (2) those of moderate hypertrophy, the vault being only one-third filled, 83 cases; (3) small hypertrophy, blocking one-fifth, 9 cases. Of course, the small hypertrophy is the most common among children at large, but it seldom produces symptoms.

In studying the tables it will be noticed that there are a number of patients with either marked or moderate hypertrophy, but in whom there are very few symptoms. In these you will notice that the child is fairly well advanced in years, and the increased size of the vault permits nasal respiration and also ventilation of the tympanic cavity. Of the 149 cases 87 were boys and 62 girls.

I have only tabulated the chief subjective symptoms, those upon which we can place more or less reliance in making a snap diagnosis.

Nasal discharge or recurrent attacks of coryza were present in 78 cases, about 52% of the 149 patients.

Some form of ear trouble was present 63 times, 42%. Otorrhea 24 times, earache 53 times, deafness 12 times. The majority of patients with ear trouble, as a consequence of adenoids, go to the ear dispensary, so we must consider that if 42% have ear complications as a secondary feature, the whole number of children with ear disease who suffer from hypertrophy of the pharyngeal tonsil must be enormous.

Symptoms of nasal obstruction were present in 117 of the cases, *i. e.*, 78%, so it will be seen what a very important diagnostic symptom this is.

Headache was present in 28 cases, 19%. Cough in 45 cases, 30%.

The symptoms just enumerated depend upon the adenoid hypertrophy, and will disappear after removal of the growth, and when a number of such symptoms are present I believe that a tentative diagnosis can be made in the majority of cases.

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SURGERY OF THE UPPER RIGHT QUADRANT OF THE BELLY.*

BY

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During the past decade or more very much attention has been paid to the lower half of the abdomen, and especially to the lower right quadrant. While the upper half of the abdomen has not been entirely neglected, yet its surgical importance has not been sufficiently recognized in our general medical societies. In this paper I beg to draw attention to that important surgical region, the right upper quadrant.

Roughly one may designate this region as a subsidiary cavity separated from the main peritoneal cavity by the transverse colon and its meson. It is bounded anteriorly and externally by the parietes, superiorly by the liver, inferiorly by the transverse mesocolon, duodenum, and partly by the pancreas; internally by the spine and stomach, and posteriorly by the parietes, kidneys, etc. This pouch can hold about 1 pint of fluid when the subject is recumbent.

The structures and organs of special importance in

* Read before the Arkansas State Medical Association, May, 1903.

this pouch or its boundaries hardly require mention—gallbladder and ducts, duodenum, pancreas, and part of stomach. Note, however, that at a point beside the lower half of the right kidney and external to it, the posterior abdominal wall may be perforated to permit of drainage and no important structure jeopardized.

Attention is most commonly drawn to the right upper quadrant of the abdomen by gallstone disease. The symptoms of gallstones in typical cases are unmistakable and so well known that it is unnecessary to speak of them. When the calculi are present in the common duct, jaundice is a generally marked symptom and the gallbladder is very often much atrophied; when, however, they are in the cystic duct or the bladder, jaundice if present is merely the evidence of a complication, viz., inflammatory swelling of the hepatic or common ducts. When the calculus is situated in the cystic duct but protrudes into the lumen of the common duct, then, according to the amount of obstruction which it causes, directly or indirectly, jaundice is present or absent. In one patient upon whom I operated there was a large stone protruding from the cystic into the common duct; the gallbladder was shrunken, and jaundice had existed for a year. In another case in which I removed 6 stones from the cystic duct, jaundice was slight and only made its appearance immediately after attacks of colic. In this case one of two factors probably induced the icterus—first, the pressing of a stone in the lower end of the cystic against or into the common duct, this pressure or movement being the cause of or coincident with the colic; or, second, from some accident limited cholangitis was set up, produced the colicky symptoms and swelling of the tubal mucosa sufficient to produce jaundice, but as the cholangitis quickly subsided, so the icterus was evanescent.

Everyone knows that a patient may possess a gallbladder full of stones and yet not suffer the slightest inconvenience therefrom, the calculi lying quiet; it is when the stones start to pass through the ducts that pain and symptoms arise, and more especially when the gallbladder and ducts irritated by the stones become infected from the duodenum, that serious trouble arises. Of themselves gallstones, except when escaping through the duct, are more or less innocuous, it is the cholecystitis and cholangitis to which they predispose and the complications therefrom which are dangerous and disabling. While cholelithiasis is the greatest predisposing factor in the production of cholangitis, yet it is no more a necessary factor than is a foreign body for the development of appendicitis. It is exceedingly easy for infection to pass up the choledochus from the duodenum and, given the necessary virulence of the infecting agent or a corresponding lowering of resistance in the ducts or bladder, a cholangitis necessarily results. The symptoms of cholangitis and cholecystitis may be absolutely identical with those of cholelithiasis, and this is not to be wondered at, since undoubtedly many of the symptoms considered classic for the latter infection are really those of cholangitis induced by the cholelithiasis.

The reasons why infection of the bile ducts is not more common seem to be: First, the protection afforded by an intact mucosa, and second, the constant outflow of bile. Anything which impedes the cleansing flow of bile permits the ingress of bacteria through the ampulla of Vater. Such impediments are calculi, tumors, chronic pancreatitis, etc. Pathologically the forms of inflammation found are the same as those found in other ducts and cavities lined with mucous membrane. Irritation produces swelling, increased secretion of mucus, proliferation and exfoliation of epithelial cells—in fact, catarrh. The inflammation may continue catarrhal or may spread to the other coats of the passages, and so to the peritoneum. According to circumstances we have acute, subacute, or chronic inflammation; in the last named there is generally very marked adhesive peritonitis, showing Nature's efforts to protect the peritoneal cavity. The varieties of infective cholangitis and cholecystitis are practically the same as those of appendicitis. The two diseases are much alike. The biliary disease, however, from anatomic reasons, is very much less likely to cause general peritonitis, but on the other hand the inflammation may spread upward into the minute hepatic radicals and cause capillary cholangitis with all its wellknown dangers, malignant icterus, hypertrophic cirrhosis, socalled, etc.

The symptoms of cholangitis vary much in different cases. It has been mentioned that they may be identical with those of cholelithiasis, but on the other hand when the infective agent is very active there may be a hypertoxic form of cholangitis or cholecystitis and then the symptoms may be almost identical with those of malaria. The periods of recurrence are not regular, malarial organisms are not found in the blood and quinin is without effect. J. L. Faure[1] gives an excellent description of this condition.

> The hypochondrium is sensitive, often painful, the liver is enlarged and extends below the false ribs where it is easily recognized by percussion or palpation. The fever which accompanies all infections presents here a special type, which is rarely found in other than hepatic infections. . . . It begins abruptly and runs its course absolutely like that of grave intermittent fever. The attack almost always begins in the evening or during the night with a severe chill which shakes the patient from head to foot. During this rigor, which may last even 2 or 3 hours, and in which the temperature may reach 104°–106° F., the patient has an intense sensation of peripheral coldness. The teeth chatter, the skin is of goose-breast character, the lips are cyanosed. A stage of heat succeeds the chill; the skin becomes dry and burning, respirations rapid, pulse hard and vibrating; next comes the third stage, that of perspiration, and the attack ends with profuse sweats and a sensation of true comfort.

The name intermittent bilioseptic fever has been given to this condition. The attacks are irregular, and there may be several in one day. While intermittent bilioseptic fever often occurs in atypic form, yet the stage of sweat is rarely absent in an attack.

> When the upper bile passages are involved and the intoxication becomes greater the attacks may become lessened, but the apyretic periods disappear. Here the height of the fever is less, but it never becomes normal, and owing to the progress of the infection the intermittent bilioseptic fever is rapidly changed into a continuous fever, an indication of a permanent and profound intoxication.

When the gallbladder is inflamed it is of course the rule to find pain and tenderness near the ribs at the outer border of the right rectus muscle and one may or may not be able to palpate a tumor consisting of the gallbladder. But it is necessary to remember that empyema of the gallbladder may exist, and pain, tenderness and tumor be conspicuous only *through their absence*. When the inflammatory process has spread to the peritoneum and a pericystitis is present then pain can hardly be absent. In a case of cholecystitis in which I operated, the walls of the gallbladder were very much thickened, there was no evident pericystitis, there were innumerable caviar-like calculi and 5 large stones, several of them being in the cystic duct, one apparently impinging on the junction of the common and cystic ducts, and yet there was no history of jaundice, and when I saw the patient there was neither pain nor tenderness. In this case there was a clear and long history of biliary colic, there had been slight tenderness over the gallbladder and there was typical intermittent bilioseptic fever. Had it not been for the story of repeated attacks of biliary colic, a positive diagnosis would have been almost impossible although the patient was evidently a very sick man.

It is important to remember that the common bile duct on its way to empty itself into the second segment of the duodenum, passes behind the first segment of the duodenum, then along a canal or groove on the posterior surfaces of the head of the pancreas where it joins the great duct of that organ and together they form the ampulla or diverticulum of Vater. When gallstones pass into or through the lower parts of the common duct

they are liable to injure the delicate tissue of the neighboring pancreas and also liable to cause obstruction to the outflow of the pancreatic juice. Thus we may easily have a lowering of resistance in this region. It is as easy, or easier, for infection to enter the pancreatic ducts as the bile ducts and under proper circumstances inflammation is the inevitable result.

Pancreatitis may be acute, subacute or chronic. I will not consider acute and subacute pancreatitis. Space will not permit giving them the attention their importance demands. Chronic pancreatitis is characterized pathologically by the presence of catarrh of the ducts and the formation of new tissues between or in the lobules. At first the inflamed organ is enlarged; later contraction takes place and cirrhosis results. Mayo Robson writes:

. . . . as clinically seen it probably usually arises by extension of the inflammation from a chronic catarrh of the pancreatic ducts extending from a gastroduodenal catarrh, though it is frequently associated with biliary or pancreatic lithiasis or with gastric, pyloric or duodenal ulcer. Its course varies. The onset may be quite gradual and painless or may be ushered in by severe pain in the epigastrium, followed by jaundice resembling a gallstone attack and associated with nausea and vomiting and perhaps followed by a feeling of chilliness or even a rigor. The pain, however, is not over the gallbladder and does not pass around the right side to the subscapular region but is central and passes backward to the midscapular region or around the left side, thus resembling stomach rather than gallbladder pain. The tender spot is usually an inch above the umbilicus in the middle line and not over the gallbladder as in cholelithiasis. When once jaundice has come on, it tends to deepen with each attack, until it becomes continuous and chronic. The paroxysms of pain may be repeated more or less frequently, or there may be no paroxysmal pain, merely a dull ache deeply seated, burning and boring in character.

The general symptoms are such as might be expected, emaciation, loss of strength, flatulent dyspepsia, etc. The value of glycosuria as a diagnostic sign is not very great from the surgical standpoint as it seems to occur only when the islands of Langerhans are affected, and that usually means very advanced disease.

Robson points out that jaundice resulting from chronic pancreatitis is, surgically, much more serious than that of hepatic origin, as in the former hemorrhage becomes much more menacing. To overcome the tendency to hemorrhage Robson puts his patients under heroic doses of calcium chlorid.

In a patient operated on by me there was a history of typical gallstone colic of 3 years' duration, calculi were found in the stools, there was jaundice for 1 year, and during the few weeks preceding operation the complaints as to colic were very frequent. The point of tenderness was not exactly over the gallbladder and the pain went to the midscapular region not around the right side. On account of the previous history, I did not give as much weight to the sign tenderness as I might have done, and operated in the sure conviction that I would add some gallstones to my collection. The gallbladder was *not* distended and no stones could be palpated. Posterior to the pyloric end of the stomach there was a hard lump the size of an egg, which proved to be the head of the pancreas. To the touch the mass felt like a cancer; there was no apparent lymphatic involvement. I then made the diagnosis of chronic pancreatitis and did a cholecystotomy. The gallbladder contained much tar-like bile. The patient recovered.

Robson, from experience, has found that many of the cases put down as carcinoma of the head of the pancreas are really cases of chronic inflammation, and in these a cure may be obtained by indirect drainage through the gallbladder.

Treatment.—It is at present the general belief that no remedies given by the stomach can aid the passage of gallstones into the intestine. Internal treatment during an attack of gallstone colic is of course directed toward alleviation of pain. The systemic treatment at other times is summed up in an endeavor by means of diet, alkalies, aperients, etc., to relieve gastroduodenal catarrh and thus improve the patency of the ampulla of Vater. Salol is supposed to be in part excreted by the bile in changed form and so may have some effect on cholangitis. For lithiasis, cholangitis, and cholecystitis, the true treatment is operative; any medicinal treatment of gallstones is an attempt to keep them from passing, to keep them at rest, and to stave off complications. Under some circumstances, especially in the case of the rich, who have leisure to nurse themselves at more or less frequent intervals, this temporizing method is justifiable if the facts have first been made clear to the patient. Kocher in the last edition of his "Operationslehre" makes some very true and caustic remarks:

Those surgeons fare by far the best who consider operations indicated in every case of cholelithiasis. Beautiful results are obtained, and there is no doubt that only in this way is it possible to remove quickly and certainly stones from the gallbladder, as is done from other organs. We would not, however, go so far as to say all gallstones belong to the surgeon. Primarily they belong to the patient, and if he chooses to retain them and drink Carlsbad water, it is well within his rights; a course taken, as is well known, when they themselves are afflicted, by surgeons full of the lust of operating. And if a patient desires to let gallstones pass *per vias naturales*, in spite of the pain and agony, that is his own affair. The surgeon, on the other hand, has most surely the right to tell the patients with gallstones that by operation they will be quickly and certainly cured of their complaint and more quickly and surely guarded against secondary dangers than by any other treatment.

So much for Kocher's opinion and few will deny its correctness.

When ought we to operate? In the majority of cases, especially in those seen fairly early, the phenomena of infection are not very threatening, *i. e.*, do not threaten grave immediate injury. Under such circumstances it is eminently proper to wait until the acute attack or acute exacerbation has subsided and operate during a period of quiescence. Owing to anatomic arrangements this delay does not compare in danger with delay in cases of appendicitis. Should the attack be long continued, or the evidences of infection of a menacing character, the surgeon who delays operation will be guilty of serious wrong. A long-continued attack, even if symptoms of infection are not marked, means, as a rule, the formation of numerous and dense adhesions and great difficulty and increased danger in operating. The presence of severe infective cholecystitis or cholangitis means danger of capillary cholangitis with all its sequels and urgently demands drainage through the abdominal wall. If the gallbladder is the seat of phlegmonous inflammation there is no doubt as to the propriety and urgency of removing it and obtaining drainage of the hepatic duct.

French writers consider that hypertrophic hepatic cirrhosis (socalled) is due to infection of the bile ducts, and consequently for this condition cholecystostomy has been practised as a means of treatment, and the operation dubbed "Delangénière's operation." Greenough has collected 17 cases of this procedure, with 2 deaths, 2 unimproved, and 13 recovered or improved. Of the 13 relieved, three had presented symptoms of ascites.

Talma, Morrison, and Drummond, the two latter working together, conceived the idea that in cases of hepatic cirrhosis complicated by ascites, the ascites might be relieved by suturing the omentum to the parietes, thus encouraging the formation of venous anastomosis between the portal and systemic circulation. In a fair proportion of cases Talma's operation has given much relief. Greenough,[2] in his excellent paper, mentions that Rautier, Hartmann, Delbet and others have reported cases of hypertrophic biliary cirrhosis in which recovery followed mere exploratory laparotomy. A few months ago I had the pleasure of assisting Dr. J. Block, of Kansas City, in an exploratory laparotomy.

The patient was intensely jaundiced, the liver was much enlarged, there was no ascites. On opening the belly the gallbladder was found hidden in a mass of adhesions and shrunken to the size of a large hazelnut. It was not incised. No gallstones could be felt. The omentum was pulled up to the anterior parietes and there sutured. The abdominal wound was closed. The after history of the case was very stormy, and double pneumonia developed, but the patient has apparently recovered.

In conclusion I may state that the object of the present paper is to draw the attention of some of our busy practitioners once more to the easily neglected fact that biliary lithiasis and empyema of the gallbladder are not the only affections of the right upper quadrant of the abdomen which are open to surgical relief, and that lithiasis does, in many cases, give rise to many grave complications, difficult to diagnose, but susceptible of great improvement or of cure by early surgical intervention.

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CHRONIC LEAD-POISONING.

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The sources of lead-poisoning are very numerous, but the most common are the occupations of white-lead workers, painters, plumbers, type handlers. Less frequently it occurs from contaminated food, drinking water, hair-dyes, thread, and lead wrapping paper. A patient was admitted to the wards of St. Agnes Hospital when I was a resident physician in that institution, suffering from saturnism, which was traced to a beer faucet. There is a report of a family which was poisoned from eating bread baked by painted wood; others by shot-cleaned bottles, snuff, etc.

Lead gains entrance to the system most commonly by the alimentary canal, inhalation, and by absorption locally. Lead is usually absorbed in very small quantities and the cause of its slow elimination from the body is probably its accumulation in the system as a fixed constituent of the tissues. Elimination takes place mostly through the kidneys, some through the bile, and possibly a small amount by the intestinal mucous membrane, but the lead in the system must be converted so far as possible into a soluble salt of lead, and this is best accomplished by the administration of potassium iodid, which converts the lead into lead iodid.

One of the earliest symptoms is "lead colic"—a paroxysmal pain felt about the umbilicus, accompanied by constipation and a pulse of increased tension. This is attributed to the effect of the lead on the nervous ganglions within the intestinal wall, on the sympathetic ganglions, especially the celiac and mesenteric plexuses, on the muscle-fibers, and even to the deposit of lead in the intestinal mucous membrane.

The "blue line" on the gums, which is pathognomonic, may or may not be present, depending on the state of the gums and care of the teeth. This is found in cases in which the gums are not apposed well against the teeth and particles of food are allowed to accumulate, which decompose and unite with the lead to form lead sulfid. It is not so liable to occur when the gums are firm against the teeth and kept thoroughly clean. The duration of this line depends on the length of time the poison has been accumulating in the system. In some cases it has disappeared in 3 months, in others it has remained for years after the cause had been removed.

The effect on the nervous system is both central and peripheral, causing paralysis and wasting in the various regions of the body, pains, cerebral disturbance, delirium, coma, convulsions and affections of the cranial nerves, loss of power, anemia, and the presence of lead in the urine. Wrist-drop is one of the most frequent conditions found in local muscular paralysis, and I believe the reason the extensor muscles of the forearm are more frequently involved than the flexor muscles is because of the greater local absorption which takes place on the dorsum of the hand as compared with the hard, calloused palm: the paralysis produced in this way by a local action or peripheral neuritis. The kidneys should be looked after and the urine examined for albumin and casts along with lead. The absence of albumin and casts does not exclude the presence of a nephritis. To examine the urine for lead a large quantity of urine is required on account of the small amount of lead eliminated in 24 hours. Therefore about 1 liter is necessary, kept in a clean, well-stoppered bottle and free from contamination. The first step is the destruction of all organic matter in the urine; this is done by adding sulfuric acid to drive off the nitric acid and leave the residue in the form of sulfate.

The following method (J. Bergen Ogden, "Clinical Examination of the Urine and Urinary Diagnosis," Textbook, 1900) is given to destroy the organic matter in the urine and for detection of lead:

Take 1 liter of urine in an evaporating dish; evaporate to dryness over a water-bath; add to this residue about 100 cc. of concentrated nitric acid (CP) and continue to heat until the acid has evaporated, when a yellow cake remains. Transfer yellow mass, nitrates and nitro compounds to a crucible by means of a porcelain spatula; heat with a Bunsen flame until the mass ignites and continue the heat until a white residue remains. Cool; add 10 cc. to 20 cc. of concentrated sulfuric acid (CP) and heat until all the nitric acid has been expelled; that is, until the red fumes disappear. Cool and then add from 25 cc. to 50 cc. of distilled water and filter. The precipitate on the filter is washed several times with distilled water in order to remove all soluble sulfates and the final residue on the filter reserved for lead test. To test for lead the residue on the filter paper, which consists of insoluble sulfates, including lead sulfate, is thoroughly extracted with dilute ammonium acetate, containing an excess of acetic acid, and then filtered; a current of sulfureted hydrogen is passed through the filtrate for about an hour, the lead acetate being precipitated as lead sulfid. Filter, dissolve the residue in hot dilute nitric acid, run into a watch glass, and evaporate to dryness over a water-bath. The residue on the watch glass is then dissolved in hot acetic acid and filtered; the filtrate which contains the lead in the form of an acetate is then treated with either a few drops of a saturated solution of potassium chromate or a few cubic centimeters of dilute sulfuric acid and allowed to stand 24 hours. The solution that contains the lead chromate or sulfate is then filtered and the precipitate, which is usually exceedingly slight, is washed a few times with distilled water. Sulfureted hydrogen water, which has been previously filtered, is allowed to pass through the filter paper holding the precipitate and the filter then carefully dried. If lead be present a slight black precipitate will be seen adhering to the surface of the filter paper near its center.

That the diagnosis of lead-poisoning is not at all times an easy matter is attested by several puzzling cases reported by M. Desplats.[1] One was that of a boy of 12, who had violent colic and constipation, but no other symptoms, and was suspected of simulating hysteria until his father came under treatment for the same trouble. Another case was that of a woman, which was traced to the wrapper on her snuff.

I have tabulated a few remarks here in reference to a case of especial interest on account of the region involved in the paralysis. I was called in consultation June 9, 1902, to see the patient with Dr. Thomas B. O'Reilly.

The patient was T. K., male, white, aged 60. Occupation, dye worker. He had worked in dyes for a number of years, and suffered several attacks of lead colic latterly, for which he was treated by his physician. For the past 3 months he has experienced difficulty in swallowing, while his appetite has been fair, a small amount seeming to satisfy him; but he became hungry again shortly afterward. There was also impairment of the sense of taste. Since June 5, 1902, he has not been able to swallow anything—not even a drop of water—he could not force food past the fauces, and if some did pass that point, it came out through the nares. He was emaciated, anemic, slightly jaundiced, weak, very nervous, and had a tottering gait. Pupils were normal. "Blue line" on gums was quite marked; tongue was coated, and bowels constipated. He had headache, insomnia, with paralysis of the levator palati, azygos uvulæ, palatoglossus, and palatopharyngeus muscles. The tongue was thick and sluggish with complete inability to swallow. The sense of taste, as well as common sensation in the mouth was very much impaired. Physical examination, negative. The urine contained about 2% albumin, tube-casts, and lead. The patient always took especial care in cleaning the hands and nails. Treatment consisted of 1 ounce of magnesium sulfate

[1] Journal des Sciences Médicales de Lille, January 27, 1901.

through stomach-tube once a day and 10 drops of a saturated solution of potassium iodid was dropped in the mouth three times daily; this was absorbed or trickled down the throat because he was unable to swallow. For the jaundice he was given calomel gr. $\frac{1}{10}$ when required. He was given predigested food consisting of a quart and a pint of sweet milk, and from 2 to 4 eggs daily, prepared with Fairchild's peptonizing tubes. There was little or no change noted until June 14, 1902, 5 days after the institution of treatment, when he felt a little better; he had some sleep the night previous, bowels were freely opened, and he swallowed 2 teaspoonfuls of cocoa. June 17, 1902: Continues to improve; can swallow a little better, and is now given strychnin sulfate (gr. $\frac{1}{30}$) 4 times a day in conjunction with the rest, but still has to be fed by the use of stomach-tube. June 20: Improving daily; better able to swallow. Patient continued to improve until July 2, when the stomach-tube was discontinued. Sensation had returned in a great measure, and July 1, 1903, he is working at his former position contrary to advice.

The object in reporting the details of this case is to give an idea of what might be looked for in the manner of improvement.

The general treatment consists practically as stated, with the addition of baths, massage, and electricity when practicable—the galvanic current is preferred.

SPECIAL ARTICLES

HOLIDAY REPAIR VERSUS CLIMACTERIC DECAY.

BY

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of Dublin, Ireland.

The holiday season is once more upon us. Everyone has been looking forward to its arrival, hoping for a share, greater or smaller, of its privileges and enjoyments. The wealthy and luxurious resident of the metropolis, whose absorbing problem in the pilgrimage of life is how and where to enjoy it to greatest advantage; the industrious and anxious politician, just set free from the hurry and turmoil of public debate and private party intrigue; the busy professional man, now pretty well exhausted by the cares and worries of his calling during the past year; the tradesman, tired by his exertions to "make money," and fettered within the limited radius of movement which a close attention to his calling requires; the office clerk, and the shop assistant—who have been each day nailed down in their places in the exercise of their respective functions—all are equally anxious to escape, for a short time at least, from the scenes of their daily toil, to try and lay up a fresh store of mental energy and physical vigor to enable them to bear their burdens for another year. All have to be congratulated on the arrival of the wished-for season of rest and change; it is hoped that all will be benefited by the enjoyment of its opportunities.

A brilliant literary man (Henry James), in pointing out to his readers the desirability of taking frequent holidays, has described them as "blessed little islands of comparative leisure—intervals of absence from good society." An appreciative American humorist (Josh Billings) thus describes his feelings and prospects during the enjoyment of his summer vacation: "I am as happy and as lazy as a yearling heifer. I have not a care on my mind nor an ache in my body. I haven't read a newspaper for a week, and wouldn't read one for a dollar. I shall stay here till my money gives out, and shall come back to the senseless crash of the city, with a tear in my eye, and holes in both of my boots." Ancient Greek and modern Briton have displayed corresponding enthusiasm in their references to the luxury of holiday enjoyment, and their denunciations of the slavery of continuous toil. Plato assured his readers that the institution of holidays was ordained by the gods—feeling compassion for the hard-worked race of men. In a wellknown sonnet, Charles Lamb wrote:

> "Who first invented work, and bound the free
> And holiday-rejoicing spirit down
> To the ever-haunting importunity
> Of business in the green fields and the town—
> . . . . . .
> Sabbathless Satan!"

The absolute necessity for the enjoyment of recurring periods of rest has been recognized by human beings in all climes and in all ages. The wear and tear of the animal economy can be well repaired only by utilizing such opportunities. How is this universal want related to the physical peculiarities of the human frame?

The idea of the existence of definite critical periods in the span of human life is a very venerable one indeed. It may be traced back at least as far as to the teaching of Pythagoras and his disciples. The classic writers of antiquity recognized such periods, and seem to have vied with one another in the coinage of fanciful epithets wherewith to denote them. Poets and philosophers referred to them as *hebdomadicea*, *scalares*, *gradarii*, *scansiles*, *genethliaci*, *natalitii*, *fatales*, *critici*, *decretorii*, *heroici*, *androdas*, *androcles*, etc. The doctrine concerning these numerical periods displayed a heterogeneous mixture of science and superstition. The power of numbers was regarded by the Pythagorean philosophers with an apparently fanatical reverence. The feeling of veneration was especially directed to the odd numbers—"*numero Deus impare gaudet.*" The apostles of religion and of science in those remote times differed, as might be expected, in their opinions as to the exact numbers to which most importance should be attached. *Three* was universally regarded as a number of much dignity and influence; *nine* was of still greater worth, representing, as it does, the square of three; the number *seven* was generally looked upon as the most sacred of all. The product of the two latter factors (7 x 9) *sixty-three* came in time to be estimated as a numerical power of so great importance that the year of life denoted by this number was regarded as the most critical in the course of human existence. Such was the origin of the idea of the "*grand climacteric.*"

The *sacredness* of the number *three* was sufficiently indicated in ancient and medieval history by the frequent use of such epithets as *numerus sacer*, *numerus potentissimus*, *numerus perfectionis*, etc. It was sanctified by the usages of the Christian Church—representing, as it did, the number of persons in the Holy Trinity; the Trisagion which was chanted in the liturgy, the triple immersion in baptism, the triple sign of the cross, and so on.

The importance of the number *seven* was represented by the day of rest after the creation of the world, the thrice seven days required for the incubation of the fowl's egg, the four times seven days of the lunar and the menstrual period, the seven-day period of the course of acute diseases, etc.

Accordingly, the Pythagorean philosophers, having regard to the relations of those potent numbers to the prominent physical phenomena of human life, divided its active cycle into *nine periods* of *seven years* each.

1. Seven years.—End of childhood.
2. Fourteen years.—Puberty. End of youth.
3. Twenty-one.—Growth of the beard. End of adolescence.
4. Twenty-eight years.—Cessation of general growth. End of early manhood.
5. Thirty-five years.—Time of highest vigor.
6. Forty-two years.—Commencement of decline. Critical age.
7. Forty-nine years.—Menopause.
8. Fifty-six years.—Commencement of old age.
9. Sixty-three years.—*Grand climacteric.*

This *hebdomadal* system of natural phenomena was adopted by the great "Father of Medicine" (Hippocrates) himself, who illustrated his adhesion to this view by many interesting examples. The number *seven* was designated by Pythagoras and his followers *vehiculum humanæ vitæ*, a phrase which forcibly illustrates the singular influence which they were disposed to attribute to it. They asserted that this mysterious number presided not only over the functions of the body, but also over those of the soul. Writers of date long subsequent to these have instanced cases which have fully conformed to climacteric rules:

Adam—who lived 930 years, and died in the course of his nine hundred and thirty-first year (7 x 133 = 931).
Cain—who lived 910 years (7 x 130).
Abraham—who lived 175 years (7 x 25).
Jacob—who lived 147 years (7 x 21).

The quaternary system of definition of the period of human life was adopted by Galen. It is simpler; and, as arranged by him, adapted itself more conveniently to everyday descriptive language. His four ages were: Infancy, youth, adult age, old age. They figured appropriately by the side of four elements, four qualities, four humors, etc., which occupied the nuclear positions in the development of medieval science and philosophy. Accordingly, an ingenious writer drew up the following concordance to illustrate the parallelisms between the four stages of human life, and the corresponding groups of elements, qualities, seasons, humors, and the allied types of disease:

1. Infancy: Air; hot and moist; spring; blood; hemic diseases.
2. Youth: Fire; hot and dry; summer; bile; biliary diseases.
3. Adult age: Earth; cold and dry; autumn; black bile; diathetic and cachetic diseases.
4. Old age: Water; cold and moist; winter; pituita; catarrhal diseases.

The discoveries of modern science have, however, ruthlessly swept away the philosophic cobwebs which had been so ingeniously, even if ignorantly, woven by their predecessors in the field of natural research. As the mutability of the constituent tissues of the animal frame gradually came to be a recognized fact, the idea was popularized, in the early decades of the present century, that the whole human body was completely regenerated in the course of seven years. The hypothesis was satisfying to those who still clung to the idea of the mystic importance of the climacteric period. On it was based the recommendation to revaccinate every seven years, when observation had demonstrated that Jenner's prophylactic was not an infallible preservative from all future smallpox. According to this view, when Nebuchadnezzar was permitted to resume his imperial functions after being obliged to exist by grazing with the oxen and asses for a period of forced retirement which lasted for seven years, not a single particle of the frame of the proud monarch of Babylon remained to bear witness to the misdeeds of his former rebellious life.

The illustrious Goethe, with the penetrating depth of view characteristic of a phenomenal genius, taught his scientific contemporaries that every constituent part of a tree was a modified leaf. The recent growth of histologic research has demonstrated that all the tissues of the living body, animal or vegetable, are built up of more or less modified cells. Physiologic chemistry has gone a long way to define not merely the nature and physical properties of the compounds of which such microscopic structures are formed, but the actual molecular arrangements by which the constituent elements of these compounds are held together. The higher organic compounds are specially characterized by (1) complexity of composition, and (2) instability of structure.

It is now well known to physiologists that the albuminous —and even other less complex—compounds which enter into the formation of the animal cell, are unceasingly changing their state. Some elements, or groups of elements, are continually breaking off from each molecular mass; while new ones take their place—from the general pabulum supplied by the plasma of the blood. All the animal tissues are kept in a continuous bath of the latter fluid, which is supplied by leakage through the porous walls of the capillary bloodvessels. If this supply of plasma is cut off, even for an instant, from the higher nerve-centers, the whole machinery of life is arrested in its action, and the stillness of death ensues. The molecular debris, thus continuously formed in the animal tissues, must be as continuously washed away through the channels of the lymphatic and nervous circulation. The nervous system presides over all the mechanisms which regulate these phenomena. Accordingly, when certain derangements of the nervous system exist, the tissue debris referred to is not removed with sufficient promptness from the interstitial spaces, and those products of chemic change, instead of being at once drained off by the excretory organs, are permitted to accumulate in certain localities, and the phenomena of gout are the direct consequences.

Muscle, which is popularly known as *lean meat*, is the principal source of heat in warm-blooded animals. All our voluntary movements are performed by means of this tissue. Its function is *to contract*. When over-exercised, its debris is necessarily thrown into the circulation greatly in excess of the normal amount, and of what can be removed in good time by the organs of excretion. The impurity of the blood-plasma, so induced, affects the nerve-centers in such a way that, figuratively speaking, their whole machinery is set a-creaking. The heat-regulating mechanism is unable to exercise its normal functions. Abnormally high temperature of the body (*fever*) is the direct result. The causes and phenomena of this "*fever of over-exertion*" were for the first time definitely formulated by me. It is a frequent case of premature decline and death in agricultural districts, in retreating armies, and in other vocations in life, when peculiar circumstances call forth severe and sustained physical exertion for which the individual happens to be in bad training.

But such evil effects are not confined to the consequences of excessive taxation of the powers of the muscular system. The eminent French physician, Dr. Peter, of Paris, has called the attention of the scientific world to the frequent occurrence of dangerous symptoms resulting from overstrain of the mental faculties. They are very usual among the pupils of the female schools of the French metropolis, where the results of too great intellectual competition often manifest themselves in the form of derangement of health of varying degrees of severity—the more serious cases presenting the clinical phenomena of typhoid fever, for which it had previously always been mistaken.

We have now seen that excessive continuous exertion, whether physical or mental, has the effect of introducing into the circulation and leaving behind in the tissues a quantity of impure waste material, which must be removed before health is restored. This process goes on with slower steps during the performance of the ordinary duties of busy life. Hence the fact that for overworked persons rest is absolutely necessary. We can now easily understand that during a period of rest the tissue-change is lessened, a small amount of waste is passed into the circulation, and there is a fair chance given to the emunctory organs to deal with the excess which has to be removed from the blood and tissues.

From what has been said, it will, I think, be easily understood that the existence of definite climacteric periods in the course of human life cannot be advocated in the light of the science of the present day. Many individuals live on to a good old age without having ever experienced any definite transition stage of health or activity. Others, with more fragile neuromuscular systems, really do seem to pass through definite phases in the orbit of life. And among many individuals of this latter class certain epochs of life appear to be specially trying to the constitution. Lord Beaconsfield used to talk of the "fatal age of 37." Witness, for instance, the cases of Burns and Byron. And it is a striking fact that very many individuals of highly-organized and over-taxed nervous systems have succumbed between the ages of 35 and 40. So that we have still good reason for saying that the speculations of our ill-informed ancestors, even when most purely imaginative, often pointed with a curious degree of ingenuity to the sources of many natural phenomena which still remain beyond the reach of scientific research. We now know that it is not necessary to postulate the existence of definitely recurring periods of regeneration of the component tissues of the human body. The change is continuous—and with a fair degree of uniformity during the continuance of health—from the moment of conception till death has closed the final scene. And it is the fact that the active exertions necessitated by the duties of life tend to hasten the change to an abnormal rate of speed, which makes it so desirable and so necessary that regularly recurring times of rest, both physical and mental, should give the system an opportunity of readjusting its wavering equilibrium. The enjoyment of a full holiday at the proper season not only means a distinct economic saving for the rest of the year, by enabling one to return to his calling with renewed intellectual clearness and physical energy to do better and more thorough work than he could have accomplished without such period of relaxation; but it is also one of the most important factors in securing the future enjoyment of the fruits of labors during the declining years of a hale and hearty old age.

THE WORLD'S LATEST LITERATURE

Journal of the American Medical Association.

September 26, 1903. [Vol. xli, No. 13.]

1. The Various Methods of Preserving and Mounting Gross Eye Preparations. Casey A. Wood.
2. Tumors of the Conjunctiva. Illustrated by the Present Exhibit of Morbid Growths. Edward Adams Shumway.
3. Paraffin Injected Subcutaneously for the Corrections of Nasal and Other Deformities. Harmon Smith.
4. The Subcutaneous Injection of Paraffin for the Correction of Deformities of the Nose. F. Gregory Connell. (Concluded.)
5. Multiple Periosteal Sarcomas of the Cranium, with Involvement of Retroperitoneal Lymph-Nodes and Attending Severe, Probably Pernicious Anemia. Walter L. Bierring.
6. Political and Professional Ethics. James D. Love.

1.—See *American Medicine*, Vol. V, No. 22, p. 864.
2.—See *American Medicine*, Vol. V, No. 23, p. 905.
3.—See *American Medicine*, Vol. V, No. 20, p. 779.
4.—See *American Medicine*, Vol. VI, No. 1, p. 10.
5.—See *American Medicine*, Vol. V, No. 20, p. 782.

6.—Political and Professional Ethics.—J. D. Love emphasizes the indebtedness of the physician to his profession, especially the young physician who through his membership in it inherits many social rights and privileges which by his own efforts he could hope to gain only after years of devotion to high moral principles. Therefore, if he gives himself exclusively to his patients and his own self-aggrandizement, no matter how conscientious his efforts, he is remiss in his professional obligations. There is a deep-rooted prejudice in the public mind against interference by the medical profession through its organizations. It is only in threatened epidemics that the public realizes its dependence and that the profession can dictate legislation, though no law has been passed at its instigation that is not of more benefit to the masses than to the physician. Civil and military authorities rely implicitly on our opinions, and a liberal spirit is manifested toward individual effort which renders it remarkable that our concerted political influence is so limited. Not until medical men can live together in harmony and learn to admit the good, and cover with charity the faults of their fellow workers, can they prove their worthiness of the trust of the laity in their altruism. [H.M.]

Boston Medical and Surgical Journal.

September 24, 1903. [Vol. cxlix, No. 13.]

1. The Ill-Health of Francis Parkman. George M. Gould.
2. Three Cases of Tumor of the Cerebellum. John Jenks Thomas.
3. Tuberculosis of the Spine: A Statistical Study of the Cases in the Orthopedic Department of the Carney Hospital. Joel E. Goldthwait.
4. A Note on the Association of a Rise in Systolic Blood-pressure, with the Onset of Perforative Peritonitis in Typhoid Fever. John Bradford Briggs.

2.—Tumor of the Cerebellum.—J. J. Thomas reports 3 cases. The first was that of a young woman of 20, who presented an array of symptoms among which were persistent headache, vomiting, choked discs and unsteadiness of position and gait. While in this condition she returned to England, her native country, grew progressively worse and died. A report of the necropsy by Mark Farrant showed a tumor the size of a walnut in the posterior and biventral lobe of the cerebellum. It was easily shelled out, and a microscopic examination was diagnosed fibrosarcoma. The second patient was a boy of 5. At his birth labor was normal and aside from some digestive disturbances and a few convulsions previous to his third year the child had been well. His most pronounced symptoms were vomiting, headache, staggering, absent knee-jerks, and an array of eye symptoms. Coma supervened, and the skull was opened in the occipital region, death following. A partial necropsy showed a glioma of the middle lobe of the cerebellum. The third patient was a child of 3 years, and though the diagnosis was not confirmed by necropsy the author is convinced that the condition was one of tumor of the cerebellum. A history of the case together with a discussion of symptoms is given in detail. [A.B.C.]

3.—Tuberculosis of the Spine: A Statistical Study.—J. E. Goldthwait gives a statistical analysis of all the cases of tuberculosis of the spine which have appeared at the orthopedic department of the Carney Hospital during the 8 years previous to 1902. No patients under 12 years of age were treated. In all there are 108 patients, of which 62 reported more or less regularly for treatment. Of this number (62) 41 were under 30, and in 21 the disease had existed for from 6 to 20 years. In 20 cases there was abscess. Of this number 8 died and 4 are at present in poor condition. In 11 cases there was paraplegia, and of this number 2 died. Of the 62 patients, 11 died, and in nearly all death was due to the extension of the disease locally or to some other part of the body, the average time between the onset of the disease and the time of death being 4 years. Attention is called to the fact that the cases studied were entirely hospital patients, living for the most part under poor hygienic conditions. A similar number of private cases studied would probably show more favorable results, [A.B.C.]

4.—Rise in Blood-pressure with the Onset of Perforative Peritonitis in Typhoid Fever.—J. B. Briggs reports the result in 2 cases of original research with reference to blood-pressure in perforative peritonitis in typhoid fever. The first patient was a young man, admitted at the end of the second week of a typical attack of enteric fever. For 10 days the blood-pressure was taken from 10 to 200 times daily, and it ranged from 98 mm. to 115 mm. Hg., and never rose to 120 mm., except within an hour after the administration of strychnia hypodermically. At 8 p.m. on the eventful day, the blood-pressure registered 106 mm., and at midnight 144 mm., the patient's condition otherwise indicating no evidence of abdominal mischief. At 4 a.m. following, the patient cried out with severe abdominal pain, and showed all the signs of a perforative peritonitis. Blood-pressure remained high, and at operation 5 hours after the onset of symptoms, laparotomy showed 2 perforations in the ileum. The second patient was a young woman, in an attack of typhoid, whose blood-pressure carefully taken for 6 weeks ranged from 104 mm. to 125 mm. Hg. She had had several hemorrhages from the bowel, had passed through one relapse, and was at the end of a week following another. On the fifty-sixth day from the beginning of attack she began to complain of severe abdominal pain, there was marked tympany, which could not be relieved by turpentine by mouth, locally, or by enema; the leukocytes rose from 7,000 to 17,000. The blood-pressure, however, did not rise above 125 mm. Hg. Exploratory laparotomy was done, but no perforation found. The writer's conclusions are: (1) That patients with general or rapidly spreading peritonitis have constantly, at least in the early period, abnormally high blood-pressures; (2) that in perforative peritonitis a sharp rise in blood-pressure may precede the onset of other symptoms; (3) that in doubtful cases, like the second one, where perforative peritonitis is suspected, and the general previous blood-pressure level is known, the course of the blood-pressure after the onset of grave symptoms should receive consideration in determining the propriety of operation. [A.B.C.]

Medical Record.

September 26, 1903. [Vol. 64, No. 13.]

1. Some Aspects of the Old and the New: A Plea for Conservatism in Medicine and Surgery. Beverley Robinson.
2. Abnormal Frequency of Urination Treated with Epidural Injections. Ferd. C. Valentine and Terry M. Townsend.
3. Nitrous Oxid in the Production of Surgical Anesthesia. Irving A. Meeker.
4. The Treatment of the Pedicle in Ovariotomy and Salpingooophorectomy. L. H. Dunning.
5. Postgraduate Work in Budapest. Willard J. Stone.
6. A Case of Venereal Warts. A. P. Stoner.
7. Circumcision in Infancy. Wm. B. Harlow.

1.—Conservatism in Medicine and Surgery.—Beverley Robinson quotes with approval the expressed opinions of Fitz that many surgical operations are performed unnecessarily, especially wherein the latter says, "Operations are undertaken which are followed by the immediate death of the patient; others prove to be wholly unnecessary; and still others leave the patient in a condition of helpless invalidism, often making life worse than death." The author refers approvingly to the conservative position of Treves, especially in regard to the operative treatment of appendicitis. He disapproves of many of the present more or less experimental operations, naming particularly operations for brain tumor, and renal decapsula-

tion for chronic nephritis. He views with pleasure the growing conservatism of gynecologists. In internal medicine the advent of many new drugs which but poorly if at all take the place of the old and tried ones, is looked upon with disfavor. Those who regard the present open-air and hygienic treatment of tuberculosis as new should refer to Austin Flint, who long ago showed, after a careful study of 670 cases, that in 1 person in every 15 the disease is self-limited even under moderate attention to personal hygiene. The paper is a plea for rational conservatism in all things medical. [A.B.C.]

2.—Abnormal Frequency of Urination Treated by Epidural Injections.—Valentine and Townsend report their results in treating 8 women afflicted with urinary incontinence and frequency of urination. The patients were insane hospital inmates. The solution used was a sterilized decinormal salt solution, the instrument a hypodermic syringe, capacity 5 cc., and the site of injection the sacral canal between the periosteum of the vertebras and the dura (hiatus sacralis). Injections were given once a week. The report is but preliminary to a more extensive one in the future. Their conclusions are as follows: (1) Epidural injections with decinormal salt solution offer the most promising results in abnormalities of urination due to faulty vesical innervation; (2) incontinence of urine, enuresis, excessive frequency of urination (unless due to other pathologic conditions) can at least be ameliorated by epidural injections; (3) cautiously performed, epidural injections are in no wise dangerous to the patient; (4) they are no more painful than any hypodermic injection with a mild solution; (5) they can be performed by anyone who follows the technic outlined, and is alert to those anatomic variations which are so frequent in the region; (6) the immediate effects of epidural injections are very rarely even disagreeable. [A.B.C.]

3.—Nitrous Oxid for Surgical Anesthesia. — Irving Meeker speaks highly of the advantages of this agent for general anesthesia, especially for operations of short duration. The profound cyanosis which it produces is alarming to the uninitiated, but it is the safest of all anesthetics, Colton having reported 100,000 cases without a single death. Its advantages are its rapid effect; the brief duration of anesthesia after administration ceases; its nonirritant action on the kidneys, stomach, etc. It is contraindicated if there is any impediment to free breathing. If an operation of more than 30 minutes in duration is to be performed the gas should be combined with oxygen. One of its best uses is to induce anesthesia preliminary to the administration of ether. Chloroform should not follow the gas immediately without opportunity for cyanosis to clear up, as the former is a respiratory depressant. While it is said to be contraindicated in children, the author has never seen any ill results follow its use, even among infants. [A.B.C.]

4.—Treatment of the Pedicle in Ovariotomy and Salpingooophorectomy.—L. H. Dunning gives a brief history of various methods of stump treatment from the time of McDowell, in 1809. In dealing with the pedicle in ovariotomy and salpingooophorectomy, there are 3 dangers to be avoided: Hemorrhage, infection, and adhesions, and the technic least likely to be followed by these is the one to be employed. In regard to this, operators vary in opinion, but Dunning himself prefers catgut ligatures, and describes in detail his method of using them. He uses a single thread, No. 3 or 4. If the pedicle is small, it is transfixed in the middle by a single thread, tied around the first half, then reversed and tied around the whole pedicle, 3 knots being tied; both threads are then cut 1 cm. ($\frac{2}{3}$ in.) from the last knot. The pedicle is then severed between the ligature and tumor, far enough away to leave a long button. An effort is then made to hollow out the center of the button so that the edges of the raw surface may be brought together with fine catgut sutures. Before the sutures are applied, however, the arteries of the pedicle are found in the free surface of the button, seized with pressure forceps, and ligated below the bite of the forceps with catgut. Now the raw surface of the button is covered with peritoneum. The same principle must be applied in the treatment of the pedicle in salpingooophorectomy, though owing to different conditions the method differs somewhat. Sometimes he buries the stump by using a puckering-string suture, which when drawn up covers the stump completely. [W.K.]

5.—Postgraduate Work in Budapest.—W. J. Stone gives a general synopsis of the opportunities offered for postgraduate work in that city, and states that while the opportunities in a purely surgical line are not superior, for those who desire special training in gynecology, pathology, obstetrics, and diseases of the ear, nose, and throat, Budapest has much to offer. Three of the largest hospitals have a total of 2,300 beds, hence there is much clinical material. Special opportunities are offered in pathology, and in the pathologic institute connected with the Central Clinics the autopsies number more than 1,000 yearly. [A.B.C.]

6.—Venereal Warts.—A. P. Stoner reports the case of a girl of 18 who complained of a warty growth on the genitalia. She was suffering from gonorrhea, the discharge being profuse. After antiseptic douching the warts were removed under local anesthesia and their bases cauterized. They promptly returned. A further examination revealed the labia, vaginal walls, and cervix studded with the warts. They were removed under ether. He quotes Unna as saying that condylomas should be distinguished from true papillomas, since there is no independent growth of the papilla in condylomas but an increase of their size from infiltration with leukocytes. The infolding of the epithelium upon the papilla produces the increase in number of the latter; thus the papilla are secondarily altered by proliferating epithelium. When condylomas appear upon the mucous membrane of the vulva they usually extend by serpiginous process, or they may appear discretely upon the adjacent integument. It is unusual for them to extend internally within the neighboring organs, but cases are reported of the involvement of the rectum, urethra, vagina, etc., rendering their destruction necessary before a cure can be accomplished. [A.B.C.]

7.—Circumcision in Infants.—W. B. Harlow takes strong grounds against the practise of circumcising infants. He says the delicate surface of the corona of the glans is provided with innumerable nerve papillas of exquisite sensitiveness. Nature has provided a careful protection to this surface—the double flap of foreskin which is common to male animals of the higher as well as the lower species. There are rare instances, it is contended, in which phimosis or inability to move the foreskin at will might in adults cause inconvenience and also tend to produce epithelioma or surface cancer. Yet it is known to be the case that connection has been complete when this temporary removal of the foreskin does not take place. Circumcision produces an ugly mutilation of the penis, of which one arrived at man's estate, unless he were a Hebrew, might feel greatly ashamed. It is cruel to inflict unnecessarily such a mutilation upon a helpless child. Let the operation be performed only upon adults, with their own consent, and when it is a necessity. [A.B.C.]

New York Medical Journal.

September 19, 1903. [Vol. LXXVIII, No. 12.]

1. The Pathology and Treatment of Rheumatoid Arthritis. Edward M. Merrins.
2. Birth Palsies. M. H. Bochroch.
3. The Results of Brain Surgery in Epilepsy and Congenital Mental Defect. William P. Spratling.
4. Some Anatomic Varieties of Inguinal Hernia. George R. White.
5. The Etiology and Treatment of Subacute and Chronic Catarrhal Affections of the Upper Air Passages in Children. James Allen Patterson.
6. Observations Upon 100 Cases of Gastrointestinal Disease Treated at French Lick Springs. George D. Kahlo.

1.—Rheumatoid Arthritis.—E. M. Merrins says that the disease occurs in patients with an arthritic diathesis, or whose nervous system has been impaired by physical injury, shock, sorrow or anxiety. Its history and the general clinical aspect of the disease point to some form of chronic poisoning as being most concerned in its production, rather than to the direct action of a specific germ. This chronic poisoning depends on the elaboration in the system of certain toxins, which apparently may be the product of any general infection or local morbid condition. These toxins exert a peculiar and selective action upon the tissues of the joints and nervous system concurrently, and so produce the characteristic nervous phenomena and arthritis of the disease. There is a small residue of cases closely resembling rheumatoid disease, if not identical with it,

which seem to depend wholly and directly upon some functional or organic disorder of the nervous system, as so far they have not been or perhaps cannot be, traced to any source of infection. The treatment must be conducted on the following lines: 1. Discovery and removal of the source of toxic infection. 2. Elimination of poisons from the system. 3. The repair of ravages of disease. 4. The relief of pain. [C.A.O.]

2.—Birth Palsies.—M. H. Bochroch concludes with Fieux and Shoemaker as follows: 1. In a spontaneous labor, one should not (in making traction upon the head) be in too great haste to deliver the trunk. The latter should be left to nature, or should be helped by means of expression. Only in cases of necessity should traction upon the head be made, and even then the head should be flexed laterally only so much as is absolutely necessary to conform to the necessity in the case. 2. During extraction by means of forceps, expression should be used as an assisting factor, presupposing that the shoulders meet with an obstacle at the entrance of the pelvis. One should remember Walcher's hanging position, and bring the forceps not far outside of the direction of the axis of the body. Danger only arises when there is a deviation from 30°, but a slight pendulum movement is not prohibited. 3. During extraction by means of the feet, the arms should be quickly attended to, in case they are interfering, by means of Mauriceau's procedure, *i. e.*, by placing the finger in the mouth of the child and using the arm to assist in the traction, resorting in grave cases to expression, and, if necessary, to Walcher's position. The treatment of brachial palsies may be both surgical and medical. In some of these cases nerve strands may be torn. In such case, nerve suturing would be indicated. [C.A.O.]

4.—Varieties of Inguinal Hernia.—Acquired hernia, congenital hernia, congenital funicular hernia, and infantile or encysted hernia are the varieties discussed by G. R. White. Three cases are reported in full, 1 of congenital hernia, another of funicular inguinal hernia, and a third of hydrocele of the cord which developed from a cured infantile hernia. [C.A.O.]

5.—Catarrhal Affections of the Upper Air Passages in Children.—J. A. Patterson says that subacute and chronic affections of the pharynx, and often of the larynx and trachea, when not dependent upon diseases in the chest, are largely of nasal causation, and that the nose consequently requires our attention first. The anatomic features are of importance, for it is essential that nasal respiration be performed normally for perfect physiologic results. The author believes that nasal respiration is absolutely necessary for the perfect development of the nasal cavity. Heredity plays some part. Alteration in the function of the secretions of the nostrils result from improper nasal respiration with the consequent bad results. Early attention to any increase in the size of the pharyngeal tonsil may prevent the manifold operative features later so necessary from this neglect. [C.A.O.]

6.—Gastrointestinal Diseases.—G. D. Kahlo gives some observations upon 100 cases of gastrointestinal diseases treated at French Lick Springs in Orange county, Ind. The principal springs are 3 in number, all of them natural, containing a clear, colorless water at a temperature of 55° F., classified chemically as sulfo-saline-alkaline. Quantitative analyses of these springs are appended. The best results were obtained in cases of chronic gastritis with an attendant deficient secretion and excessive mucus, especially in those in which constipation, scanty urine, and the evidences of a disturbed metabolism were associated. These results were observed, also, in cases complicating hepatic cirrhosis and nephritis. In hypersthenic gastritis the results were not so good, although 2 cases showed decided improvement. Unless employed with caution cases of hyperchlorhydria were not benefited by the treatment; and in the case of gastric ulcer and that of carcinoma, the symptoms were aggravated. Myasthenia of considerable degree afforded another contraindication. A majority of the purely nervous cases were benefited. Cases of colitis of mild type, especially those in which constipation was a symptom, all showed considerable improvement. The cases of constipation due to atony were markedly benefited. [C.A.O.]

Medical News.

September 26, 1903. [Vol. 83, No. 13.]

1. Concerning Some Points in the Treatment of Typhoid Fever. Glentworth R. Butler.
2. Note on Typhoid Fever and Scarlet Fever with Special Reference to the Diagnostic Value of Blood Cultures. Ludvig Hektoen.
3. Typhoid Fever in Infancy and Childhood. J. P. Crozer Griffith.
4. Nourishment, Medication, Hydrotherapy, and General Management of Typhoid Fever Cases. W. T. Baker.
5. The Etiology and Chemic Pathology of Gallstones. C. A. Herter.
6. The Pathology and Treatment of Tardy Postoperative Intestinal Obstruction with Report of Cases. Ellsworth Eliot, Jr.

1.—Treatment of Typhoid Fever.—G. R. Butler believes milk the best article of diet. The administration may be varied by giving milk with mineral water, buttermilk, koumyss, oyster and clam soup made with milk, flavoring with coffee, whisky, brandy, rum, or red pepper. If there are curds the milk should be diluted or peptonized. Accustomed beverages as coffee, tea, or cocoa need not be prohibited. Lemon, orange, and grape juice should be given unless there is diarrhea. Albumin water, or the white of egg beaten in milk, barley gruel, plain ice cream, water ices and jellies are generally unobjectionable. Milk sugar, two or more ounces daily is a valuable force producer. Gastric discomfort or tympanites is a signal for an altered schedule. Some cases do well on water alone for several days. Six to 12 ounces should be given every 2 hours, thus accomplishing elimination of toxins. Solid food should not be allowed until after 3 days of normal temperature and no meat for 10 days. Lowering of temperature by baths is of secondary importance to the tonic effect of cold with friction. This may be accomplished by the cold mitten rubs, the towel bath of Bamch, the ice rub, or tubbing. The author gives the technic and indications for the several methods. In hemorrhage calcium chlorid 1 gm. to 2 gms. (15 grs. to 30 grs.) every 2 or 4 hours, and a pint of 10% gelatin solution in the 24 hours' increase the coagulability of the blood, while .3 gm. (5 grs.) of desiccated suprarenal every 4 hours constricts the bloodvessels. [H.M.]

2.—Diagnostic Value of Blood Cultures in Typhoid and Scarlet Fevers.—L. Hektoen calls attention to the possibility of mistaking typhoid for scarlet fever on account of early rash and angina, and the coincident occurrence of the 2 diseases in the early stages and the height of typhoid and paratyphoid; the bacilli are readily demonstrable by culture methods many days before the appearance of specific agglutinins. He reports a case in which scarlet fever and typhoid developed very nearly at the same time, and two which were probably instances of early angina and erythema in typhoid. [H.M.]

3.—Typhoid in Infancy and Childhood.—J. P. C. Griffith refers to previous reports made by him on congenital typhoid. He believes the disease is far less rare in infancy and early childhood than is supposed, infection occurring through drinking water. The chief characteristics are the less typical onset and course, and the tendency of nervous symptoms to overbalance the intestinal ones. The disease is liable to be atypical in most particulars. In later childhood the symptoms approach those of the adult. The onset is frequently more insidious and slower than in adults, though sometimes remarkably sudden. Initial vomiting is comparatively common; epistaxis not so frequent. The frequent diarrhea of infantile typhoid is probably due to the tendency at this age to diarrhea in slight congestive conditions. In early childhood its infrequency is attributable to the fact that ulceration is far less marked than later. Great tympanitic distress is unusual. Rose spots are generally present, also enlargement of the spleen. Coma, subsultus, brown tongue, and muttering delirium are less often seen than in adults. An initial mild delirium occurs oftener than in later life. The temperature rises and falls rapidly, with little variation between morning and evening. In some cases the fall is almost critical. When ulceration occurs it is superficial. Diagnosis is difficult. The Widal reaction is inestimable. Aphasia occurs oftener than in adults. Perforation is rare. The prognosis is good, but the disease is distinctly dangerous. Children, as a rule, do not tolerate the cold bath. Sponging is often sufficient; if not, a bath of 90° cooled down to 80° should be given. A bath of 95° to 100° often gives excellent results. [H.M.]

5.—See *American Medicine*, Vol. V, No. 23, p. 894.

6.—Tardy Postoperative Intestinal Obstruction.—E. Eliot says acute intestinal obstruction following operation is usually due to paresis of the gut causing arrest of peristalsis. It occurs most frequently in septic cases. "Tardy" intestinal obstruction has reference to that postoperative form in which an interval of weeks, months, or even years elapse, during which the patient enjoys good health, before the symptoms of obstruction develop. Here the cause is always mechanical, the lumen of the gut being narrowed by a contracting cicatrix within its wall, by bands, kinking of the gut resulting from the contraction of adhesions, etc. Two or more of these conditions may be associated. While operation may be necessary to relieve the condition, prophylaxis at the time of operation is most essential. This consists in excluding mechanical, thermal and chemic irritants from the abdominal cavity. Ligations within the cavity should be done with catgut; raw surfaces should be covered with peritoneum or omentum when possible, when not we should use thin rubber tissue or Cargyle membrane; and drainage material when used should be wrapped about with rubber tissue. Immediate postoperative treatment should be directed to the reestablishment of normal or preferably exaggerated peristaltic action within the first 24 hours. This is accomplished by the use of lavage of the stomach if there is nausea, and rectal injection of warm saline solution, combined or not with turpentine. So soon as nausea ceases small doses of calomel and salts are indicated. Seven cases are reported as illustrating the conditions discussed by the author. [A.B.C.]

CLINICAL MEDICINE

DAVID RIESMAN A. O. J. KELLY

REVIEW OF LITERATURE

An Undescribed Symptom of Rickets.—Neurath[1] describes a symptom of rickets, which when present, he believes points with certainty to this disease. It consists of a peculiar change in the shape of the fingers in which an apparent sinking of the joints gives the proximal, middle, and terminal phalanges a spindle-shaped appearance. When holding the hand against the light the outline gives the appearance of a string of pearls. More rarely the proximal and middle phalanges are conical in shape, while the terminal phalanx in the region of the nails appears thickened, giving the appearance of a nine-pin. Still more rarely is the terminal phalanx thickened in a dorsopalmar direction, giving the fingers a typical drumstick appearance. Thickening of the toes is rare. The thickening is probably due to an infiltration of the periosteum. The condition is found only in rachitic children, and especially in those under 1 year. In older children the disease is more severe. The condition is always associated with enlargement of the epiphysis and ends of the ribs. [J.H.W.R.]

The Effects upon Streptococci of Blood-serum from Cases of Scarlatina.—G. H. Weaver and G. F. Ruediger[2] report a series of investigations regarding the bacteriolytic properties of the serum of scarlatinal patients. The cases studied were of the ordinary type, and usually free from severe complications. Streptococci were introduced into the serum about 15 hours after the blood was drawn, and plates made at once, and after intervals of 3, 5, and 24 hours. A series of parallel observations was made upon serum from healthy persons. In every case the streptococci multiplied in the scarlatinal serum in the same manner as in the normal serum. The writers conclude that neither normal nor scarlatinal blood-serum possesses, in vitro, any appreciable bacteriolytic effect upon streptococci. Further, since normal blood-serum exhibits no destructive action upon streptococci it is illogical to ascribe terminal and other streptococcemias to a reduction in such action. [A.G.E.]

Poisoning by Fruit of Ricinis Communis.—W. N. Bispham[3] reports 4 cases. They are particularly interesting as showing a marked difference in individual susceptibility to the poisonous principle contained in the beans. One of the patients was severely ill from eating 4 of the beans. A fifth person ate over 100 of the beans and suffered only from a slight abdominal cramping. Another ate a handful with no effect other than slight diarrhea. [A.G.E.]

A Fatty Ferment in the Intestinal Juice.—The secretion and functions of the intestinal juice form an obscure chapter of digestive physiology in spite of numerous researches devoted to the subject. Especially the question of a fatty ferment in the intestinal juice has been repeatedly discussed and most authorities are inclined to deny the presence of such a ferment. W. N. Boldiren,[1] on the contrary, has conclusively demonstrated on animals that the natural fats, especially when emulsified, are split up by the intestinal juice in a short time. This action of the juice disappears after boiling, and, furthermore, it cannot be accounted for by the presence of microorganisms or alkalies or albumin; hence the inference that a specific fatty ferment is present in the intestinal juice. The author has taken particular care to show the fertility of seeking an explanation of the fat-splitting property of the juice in any other postulate than that of a special ferment, and his conclusion, therefore, appears to be warranted by facts. [L.J.]

Respiratory Disturbances in Basedow's Disease.—L. Hofbauer[2] has studied the respiratory curves in several cases of exophthalmic goiter which showed marked disturbances of respiration. Some of these disturbances are of a secondary nature, being due to cardiac complications, pressure on the trachea, bronchitis, etc. But in other cases the respiratory changes cannot be attributed to these causes, being directly due to the perverted function of the thyroid gland. The changes may be more or less permanent, and are characterized by flattening of the respiratory curve, lengthening of inspiration and expiration, and irregularities in the height and form of the curve. Accidental disturbances may occur in the form of deepened respirations, rapid inspirations and expirations, and respiratory pauses. [B.K.]

An Outbreak of Pseudodiphtheria.—J. Priestley[3] gives the details of an outbreak of sore throats in a boarding-school in Lambeth. Cultures made from 38 throats showed the presence of the pseudobacilli of Hofmann, 5 the Klebs-Löffler bacillus, and 6 staphylococci and streptococci only. The pseudo cases were treated as infectious and isolated until all traces of pseudobacilli were gone. The outbreak was controlled by returning these patients to the school only after disinfection of their clothes, as well as their throats, had been carried out. The writer says that the outbreak showed that the pseudobacilli are communicable from person to person and that notification, isolation, and disinfection of these cases is necessary. Patients thus affected should not be placed in the same wards with patients suffering from true diphtheria. Infectious hospitals should be provided with separate wards for pseudodiphtheria patients. [A.G.E.]

Peculiar Hemorrhagic Syphilid of the Skin.—P. Thimm[4] observed in a man, who had infected himself during a visit to Brazil 5 months previously, an eruption of large papules distributed over trunk and thigh; a few days later, round light-red, slightly elevated macules the size of a dollar appeared among them; a few days later they changed to vesicles containing dark red blood. They ruptured in time, became crusted and changed to a typical syphilitic rupia, which gradually yielded to injections of corrosive sublimate in normal salt solution. Thimm considers the hemorrhagic character of the eruption, which is of very unusual occurrence, to be due to injury of peripheral vessels through the syphilitic virus. [E.L.]

Etiology of Disease of the Left Heart in Childhood.—L. Concetti[5] has studied this question closely and comes to the conclusion that acute polyarticular rheumatism is the principal cause of the acquired cardiopathies, being a factor in nearly all the cases arising after birth; it is, however, not so important a factor as in adult life. The greater number of leftsided cardiac diseases are congenital, probably due to some arrest of develop-

[1] Wiener klinische Wochenschrift, 1903, No. 23, p. 668.
[2] Medicine, July, 1903.
[3] American Journal of Medical Sciences, August, 1903.

[1] Russki Vratch, June 21, 1903.
[2] Mittheil. aus d. Grenzgeb. d. Med. and Chirurg., Bd. xi, Heft 4, p. 531.
[3] Public Health, July, 1903.
[4] Deutsche medicinische Wochenschrift, April 2, 1903.
[5] Riforma Medica, 1903, Vol. xix, p. 255.

ment or deviation from the normal formation; it may not be apparent at birth, but manifests itself only during the first year of life. [E.L.]

Ferrous Sulfate; Its Inefficiency as an Antiseptic and Germicide.—Ferrous sulfate has been popular among the laity because of its cheapness and ease of application as a disinfectant and deodorant. The literature upon the subject being scanty and contradictory, A. J. McLaughlin[1] made experiments to determine its antiseptic and germicidal powers. The results of the detailed experiments show that ferrous sulfate exercises no restraining influence over the development of putrefactive changes unless it constitutes more than 2% of the mixture and at least 5% is needed to permanently restrain these changes. As a germicide it has little or no action. Tested upon feces it failed to disinfect after 3 days. McLaughlin concludes that ferrous sulfate has no real value as a disinfectant. The disinfectant action of the strongest solution is so slow and uncertain that its demonstration might be a matter of interest but certainly could not be of practical value. [A.G.E.]

The Recent Outbreak of Tetanus, with Considerations on the Treatment.—During July 10 and 11, 1903, 7 cases of tetanus, the histories of which are reported by N. P. Dandridge,[2] were admitted to the Cincinnati Hospital, four of them being due to shots from blank cartridges received July 4. In all of these the wad was recovered from the wound after the onset of the tetanus. In these 4 patients and in a fifth who had run a stick into his neck on July 4, causing a slight wound, the tetanus developed on the sixth day, and in all death occurred in from 24 to 64 hours. The sixth patient had an injury 6 months old, which began again to suppurate on July 6, so that the tetanus set in on the fourth or fifth day. The seventh patient ran a nail into his foot June 26; his tetanus began July 3, or on the seventh day. All the patients died, despite active treatment, both surgical and medicinal. Antitetanic serum was used in 6, carbolic acid injections in 2, together with large doses of chloral and other sedatives. [D.R.]

Marked Ascites in Thrombosis of the Portal Vein.—O. Schulz and L. R. Müller[3] report a case of ascites in which puncture had to be made every 10 to 14 days. In spite of this apparent drain on the system, the patient remained in practically the same state of nutrition and strength for many months. At autopsy the portal vein was found to be almost completely closed by a firmly organized thrombus, the cause for which could not be discovered. The bile secreting function of the liver was not at all impaired. The thrombosis led to diminution in the size of the liver. The hepatic cells were not changed, but there was an increase of connective tissue. The high degree of ascites in such cases is due to the lack of sufficient anastomoses between the branches of the portal vein and those of the inferior vena cava. The absence of progressive emaciation and weakness is due to the increased power of absorption in the parietal peritoneum, permitting the abundant absorption of nutritive elements from the ascitic fluid. This increased resorptive power is due to a subperitoneal connective tissue formation, rich in large, thin-walled veins and lymph follicles. The percentage of nitrogenous elements in the ascitic fluid was in direct proportion to the amount of nitrogen in the food. Nitrogenous extractives were found in the fluid, but urea, albumoses, and peptones were wanting. Carbohydrate metabolism was not disturbed by the thrombosis, and very little sugar was found in the fluid. The ascitic secretion was not influenced by the tension or fulness of the abdomen; it could be lessened by diminishing the ingestion of fluids; it varied inversely with the amount of proteids in the food. [B.K.]

Sterilization of Water without Affecting its Potability.—V. B. Nesfield[4] speaks of the difficulty of boiling water for the use of soldiers while marching or in the field. A chemic method of sterilization to be of value must (1) be certain of effect; (2) leave the water tasteless; (3) leave the water free from any noxious chemic substance; (4) be in a form suitable for foreign travel. Experiments lead Nesfield to believe that chlorin answers these requirements. He has found that 100 gm. (3.5 oz.) of chlorin will sterilize 176 gallons of water and requires 177 gm. (6 oz.) of sodium sulfite to neutralize it. The gas may be rendered portable by liquefying it. For sterilizing small quantities of water it may be put in tablet form. Nesfield is now experimenting with a double tablet so arranged that the chlorinating portion will act 10 minutes before the sodium sulfite is liberated. Sterilization by the method indicated is accomplished in 5 minutes, but for absolute safety 10 minutes should be allowed. Neutralization of the chlorin takes place in 5 minutes. [A.G.E.]

Chemistry of the Oxygen-chloroform Narcosis.—The assertion made by several authors that chloroform is decomposed when oxygen is passed through it while in the Roth-Dräger apparatus is disproved by Roth,[1] who publishes the results of extensive and exhaustive investigations concerning it. [E.L.]

Nutritive Value of Subcutaneous Fat Injections.—H. Winternitz[2] has experimented as to the power of the animal organism to absorb fats when subcutaneously injected. He finds that the fat is indeed completely absorbed and used in the metabolic processes, but that the absorption is very slow. If 500 gm. of oil be injected over a period of 5 days, the absorption in most favorable cases never exceeds 2 gm. to 3 gm. a day; and months elapse before the 500 gm. are completely absorbed. The amount of force added to the organism never exceeds 20 calories to 25 calories per day. It is thus evident that fats are not suitable for subcutaneous nutrition. [B.K.]

Suppurative Parotitis Complicating Pneumonia.—C. J. March[3] reports a case of this condition occurring in a woman of 57, who had a severe attack of lobar pneumonia. The disease ran a tardy course and 3 days after resolution began the right parotid gland became swollen and very painful. Some days later the gland was incised and a small quantity of thick pus evacuated, a counteropening at the lower end of the gland finally being necessary. The affected lung and gland were both on the same side. The patient had a tedious convalescence but finally made a good recovery. [A.G.E.]

GENERAL SURGERY

Martin B. Tinker

A. B. Craig C. A. Orr

EDITORIAL COMMENT

The Treatment of Intussusception.—In a study of 103 cases, F. H. Wiggin[4] found that treatment of intussusception by inflation or injection, or both, carried out in 71 instances failed in 75% of the cases. Laparotomy performed on 64 patients, a number of whom had been subjected to unsuccessful treatment by hydrostatic means, showed a recovery rate of but 33%. But as the average hour from the onset to the operation was the forty-fourth, the high mortality rate was doubtless much augmented by long delay in many instances. He states if only those operative cases in his series are counted which are recorded since 1889 the mortality rate is but 22%, which is placed at a fair estimate of the present risk if operation is performed within the first 48 hours. In his series 50% occurred before the sixth month and 75% were among male children. A paper by Pitts[5] presents 115 cases of intussusception treated at St. Thomas' Hospital from 1875 to 1900 inclusive, all but ten cases being in children under 12 years of age. There were but 36 recoveries; and of these, 13 survived under manipulation and inflation treatment, and 23 recovered after laparotomy. During the last three years of the period the treatment of this condition at the hospital in question was solely by laparotomy, with 27 deaths and 21 recoveries. In his suggestions as to treatment, Pitts says we should try inflation only when the case is seen within a

[1] Bull. No. 15, Hyg. Lab., U. S. Public Health and Marine-Hospital Service.
[2] Cincinnati Lancet Clinic, August 29, 1903.
[3] Deut. Archiv für klin. Med., 1903, Bd. lxxvi, p. 543.
[4] Public Health, July, 1903.

[1] Deutsche medicinische Wochenschrift, March 5, 1903.
[2] Zeit. für klin. Med., Bd. l, p. 80.
[3] Interstate Medical Journal, July, 1903.
[4] Lancet, August 28, 1897.
[5] British Medical Journal, September 7, 1901.

few hours after the onset; in the great majority of hospital patients, however, he holds it better to open the abdomen at once. Inflation, he says, may be tried in certain other cases for the purpose of reducing the main portion of the intussusception and enabling the incision to be made over the cecum. Such men as Powers, Eccles, Tubby, and others in discussing Pitts' paper were unanimous in their opposition to the use of hydrostatics. The main points adduced by them were that injection or inflation is rarely successful; that it is frequently accompanied by an illusory or partial reduction, and that it is haphazard and unscientific. The fact was brought out, that of 24 cases treated in the London Hospital not one was cured by this method alone, 18 being subsequently operated upon with successful reduction in 14 instances. In a series of 12 cases reported by Erdman[1] the mortality rate in ten cases operated upon was 50%, but in the fatal cases the time of operation varied from two and a half to seven days after the onset of symptoms, and three were moribund when operated upon. Only one patient recovered under the injection treatment alone. While he asserts that reduction, under anesthesia, by means of injecting warm water or oil into the bowel may be tried early, Clubbe[2] holds that should this fail, the abdomen should be opened at once. During seven years he had operated in 49 instances, with a mortality of 45.5%; operation performed within the first 24 hours, giving much greater hope of success. According to Rigby,[3] during a period of nine days seven cases of intussusception came under his care in the London Hospital. One case was moribund and died within a few hours. The remaining six were operated upon with five recoveries. Vaughan[4] holds that laparotomy is the rational treatment for intussusception, and that if performed within the first 12 hours, under proper surgical technic, the mortality rate would probably not exceed 5%. Hydrostatics should be tried, if at all, only during the first 12 hours. From the foregoing it will appear that the treatment of intussusception by means of inflation and injection is successful in but a comparatively small percentage of cases, and that it is rapidly falling into disfavor. Not the least of its dangers is that of rupturing the intestine. Curtis has shown, that while the normal infantile intestine will stand hydrostatic pressure to the extent of six pounds to the square inch, no such resistance can be counted upon in the pathologic state. Hydrostatic pressure is wholly uncertain, unscientific, and dangerous, and if employed at all, it should be only early in the case; and the reservoir containing the liquid should not be elevated more than three feet above the child's buttocks. Should this fail, operation should be performed at once. Hydrostatic treatment of intussusception has been correctly likened by high authority to the taxis treatment for strangulated hernia, the correct treatment of which is, of course, herniotomy; but this may without harm be preceded by a gentle attempt at reduction by taxis. The surgical treatment of intussusception is, on the other hand, scientific, the exact condition is ascertained and corrected, and the mortality rate is strikingly less than under the other form of treatment, though higher still than it should be. The rational conclusion is, that celiotomy is the treatment par excellence for this condition, and that it should be performed early, within the first 24 hours, if possible.

REVIEW OF LITERATURE

Fractures of the Patella.—Miller[5] believes they are produced more frequently by indirect force than by direct. The statements of the patients are not always reliable; for instance, in a sudden spring the patient may land upon the knee, yet the fracture is produced by the sudden contraction of the quadriceps, while the patient attributes it to the blow upon the knee. Thirteen of his fractures of the patella were transverse, one crucial, and one irregular. From personal observations he concludes that wiring prolongs the time of recovery and diminishes the functionating capacity of the joints. [A.B.C.]

Hypernephroma.—E. Böhler[1] collected 39 cases of malignant hypernephroma. Most of the cases were in patients in advanced life. In 36 in which the age was determined only four were under 40, five were between 40 and 50, 24 between 50 and 70, and three were over 70. The disease occurred 19 times in men, and 18 times in women. The right kidney was affected in 16 cases, and the left in 20. Hematuria is a frequent and prominent symptom. Of 31 patients, 21 had this symptom, which is not rarely an alarming one. Metastasis occurs in bones, brain, and lungs. Of the 13 cases of metastasis in the 37 cases collected, 12 were to the lungs. The clinical picture of the disease is in no way characteristic, as the same symptoms may be presented by other malignant tumors. Illustrating the difficulties of diagnosis, Böhler reports a case of malignant disease of the kidney which was diagnosed clinically as hydronephroma, but shown by microscopic study to be a sarcoma of the right kidney, with metastasis to the left kidney. [J.H.W.R.]

Hepatic Duct Stones.—R. C. Turck[2] says that stones in the hepatic duct are very rare, and still more rare in the small divisions of the hepatic duct and in the liver substance. In Mayo's series of 326 operations for gallstones, in but 5 instances were calculi found in the hepatic duct; in Ochsner's 48 cases the latter condition is not mentioned; in Mayo Robson's 305 cases there were but 4 instances of stone in the hepatic duct. In Kerr's 547 operations for gallstone disease he makes specific mention of but 3 instances of stone in the hepatic duct, although he repeatedly employed hepatic drainage. The author reports a case occurring in a woman of 41 who was operated upon for gallstone. The gallbladder was 6 inches in length and much distended. Two stones were in the viscus and one in the common duct. A concretion the size of a pigeon's egg was felt high up under the liver in the gastrohepatic omentum. This proved to be a stone in the hepatic duct, lying with its lower extremity ½ inch above the junction of the cystic and hepatic duct. The stone was not faceted, hard, weighed 250 grams, measuring in length 1¾ inches and in circumference 3¼ inches. The patient made an uneventful recovery. The author found a similar condition in a cadaver. [A.B.C.]

Indications for Operation on the Thyroid Gland in Graves' Disease.—L. W. Bacon, Jr.,[3] endeavors to establish points in symptomatology by which it is possible to classify cases of exophthalmic goiter according to their probable pathogenesis, and suggests this division: (1) Cases of the thyroid type due to mere excess of secretion; (2) cases of the thyroid type due to perversion of secretion; (3) cases of the sympathetic type. The differential diagnosis of these types is considered in detail. Operation on the thyroid promises most in the first classes of cases, less in the second, and still less in the third. In the last, sympathectomy had probably better be employed. In cases of goiter secondarily exophthalmic, the indications for thyroid operation are strong. In general, the more typical and regular the case of Graves' disease, the more likely it is to be benefited by operation upon the thyroid gland. [A.G.E.]

Purulent Cerebrospinal Meningitis.—J. Donath[4] reports 2 cases of purulent meningitis, the first of which occurred in a woman of 26, who for 2 weeks before applying for treatment complained of pain in the head and neck, and later of stiffness of the neck with occasional double vision. For 2 years previous there had been a discharge from the left ear. Two weeks later the cerebrospinal fluid showed the presence of streptococci and *Bacillus proteus vulgaris*. A radical operation was performed. The diploë of the mastoid process was absent, and elsewhere the bone was diseased. The dura felt soft, but was of the normal color. The brain and cerebellum were punctured in 2 places, but with negative results. In 2 weeks' time the patient had improved greatly in all ways, including a return of the

[1] Medical Record, July 25, 1902.
[2] British Medical Journal, March 23, 1903.
[3] Lancet, February 7, 1903.
[4] Medical News, May 9, 1903.
[5] Arch. für klin. Chir., Heft 3, Bd. lxx, 1903.

[1] Wien. klin. Woch., 1903, Nos. 19 and 20.
[2] Annals of Surgery, April, 1903.
[3] Yale Medical Journal, June, 1903.
[4] Wiener klinische Wochenschrift, 1903, No. 26, p. 759.

knee-jerks. She died 2 months later. Autopsy revealed the presence of purulent meningitis involving the base of the brain and the spinal cord. The case is remarkable for the fact that the patient had practically recovered after the operation, and the duration of the disease was only 2 weeks, that the knee-jerks returned completely during the remission, that Trousseau's and Kernig's signs were absent, and that the streptococcus and *Bacillus proteus vulgaris* were not found until after the second lumbar puncture, showing that previous sterile puncture in no way proved the absence of infection. The failure to find pus at the trephining was due to the fact that the pus had not yet extended beyond the base of the brain. Donath reports a second case in a man of 25, recovery following the encapsulation of the abscess. He believes that this occurred in his first case, and that subsequently the abscess ruptured and caused general infection by the spread of the pus. [J.H.W.R.]

Diagnosis of Intestinal Injury Following Abdominal Contusion.—R. G. Le Conte[1] discusses the symptomatology and other facts in relation to this condition, and reports 13 cases. His conclusions are, in brief, that we should wait for some definite symptoms indicative of intestinal injury before operating. In a series of 100 consecutive abdominal contusions as they enter a hospital probably about 30 would be grave enough to demand operation. In the presence of shock a diagnosis of intestinal injury cannot be made, though we may diagnose hemorrhage, which would, of course, require operation. No one symptom is pathognomonic, but the two most reliable are, gradually increasing rigidity and facial expression. In the next group he would place deep and perhaps radiating abdominal pain, thoracic respiration, vomiting after shock, distention, increasing pulse-rate, and secondary falling temperature. A suspected case demands the most careful and constant watching and at the earliest sign the operation should be done, otherwise it would be too late. In other words, the writer assumes a position midway between the extremist, who would operate on every severe case of abdominal injury, and him who would delay operation until the symptoms were absolutely conclusive, and hence, the condition almost necessarily fatal. [A.B.C.]

A Case of Tetanus Successfully Treated with Antitetanic Serum.—The patient whose case is reported by C. B. Mallory[2] was a machinist of 35, in whom the symptoms of tetanus developed on the eighth day after stepping on a nail. Three days later the use of serum was begun in 20 cc. and 40 cc. doses. In all, 400 cc. of the serum was used—injected indiscriminately under the skin of the arms, legs, chest, and abdomen. Disappearance of symptoms was complete in 20 days. [A.G.E.]

GYNECOLOGY AND OBSTETRICS

Wilmer Krusen Frank C. Hammond

EDITORIAL COMMENT

Anterior Colporrhaphy.—Cystocele is a condition which is frequently found in childbearing women, and this prolapse of the anterior vaginal wall with the associated hernia of the bladder frequently produces very marked symptoms. It is rarely found in the virgin except as a result of prolapse of the uterus, which occasionally occurs, that organ dragging down the anterior vaginal wall. The most common causes of this condition are laceration of the pelvic floor, arrested involution of the vagina, relaxation of the vaginal walls from overdistention, and lack of muscular tone. Appropriate methods of treatment most be directed to malposition of the uterus and laceration of the pelvic floor as well as to the cystocele. The best method of performing anterior colporrhaphy is yet to be determined. For many years the operations of Sims, Emmet, or Stoltz have been advocated. They differ in detail as to the line of denudation, but not in principle, since they have a common result in view, and all advise a denudation of the mucous membrane. It has been found by experiment, however, that those cases in which there is simply a denudation of the mucous membrane with suture, that there is apt to be a recurrence of the cystocele. In order to avoid such recurrence the most effective procedure is to cut through the entire thickness of the vaginal wall, push off the bladder by blunt dissection until a sufficient amount of tissue is separated, and cut away the superfluous wall. The redundant vesical wall can be folded or retracted by catgut sutures; and if care is exercised there is no danger of injury to the bladder or ureters. The vaginal wall may then be united by sutures, thus restoring the fascia so that the anterior segment of the pelvic floor is subsequently maintained. The essential step in the operation is the removal of the oval piece of tissue large enough to reduce the vesical hernia and to support the base of the bladder without encroaching upon the proposed field of operation upon the pelvic floor. There is no doubt but that this vaginal wall resection, because of its superiority, will supersede those procedures in which mucous membrane denudation alone is employed.

[1] Annals of Surgery, April 1, 1903.
[2] Albany Medical Annals, June, 1903.

REVIEW OF LITERATURE

Uterine Sarcoma.—W. Evelt[1] reports 3 cases of uterine sarcoma because of the great rarity of the disease and the difficulty of clinical diagnosis. Indeed, in these cases the diagnosis could be determined only by means of the microscope. In cases I and II the sarcoma occurred between 40 and 50 years of age, but in the third the patient was only 30. In the first case the growth, thought to be a myoma, had been of 10 years' standing when total extirpation of the uterus was performed and its true nature recognized; and she died 8 months afterward from extensive metastases. The second was a case of primary melanosarcoma, and when a year after the first operation, laparotomy was performed for ventral hernia, no traces of metastases could be seen or felt in any of the organs or lymph glands. The third case was too recent to judge of the permanency of the cure. [W.K.]

The Function of the Corpus Luteum.—The discovery of the theory that the corpus luteum is a gland possessing an internal secretion, and that its function is to guide the attachment of the fecundated ovum and to attend to its development during the first few weeks after fertilization must be credited to the embryologist Born. L. Fraenkel[2] has taken up this theory, broadened and proved it. He has found, among other things, that the absence of corpora lutea prevents impregnation. There is no actual difference between true and false corpora lutea. This periodically regenerated ovarian gland gives the uterus a cyclic nutritional impulse, preparing it for the implantation of the ovum or produces menstruation, whenever the ovum is not fertilized. They control the nutrition of the uterus from climacterium to menopause. Among animals only those possessing a uterine insertion for their ova have well-developed corpora lutea. The indications for oophorectomy during pregnancy are discussed; he thinks operation should not be performed, if at all possible, until after the fourth month and the yellow body should always be preserved. He recommends "lutein," the dried extract of corpora lutea of cows, as a promptly acting agent against the symptoms of early menopause and suppressed menstruation. He has used it in a number of cases with good result. He has performed a large number (114) of experiments on rabbits, upon which he bases his statements. He describes the experiments fully in his paper. [E.L.]

A Case of Anterior Vaginal Hysterotomy.—W. Ruhl[3] reports the case of Frau K., aged 25, primipara who in the third month of pregnancy was bedridden for weeks with a peculiar phlegmon of the hand, inducing high temperature and general illness which made necessary 2 operations under anesthesia. The pregnancy, however, continued uninterrupted to term, when labor pains set in as usual; no enlargement of the os resulted. Examination showed a small, undeveloped vulva and vagina, corresponding to that of a maid of 12 or 13, and there was complete rigidity of the cervix. The vulva and vagina showed no

[1] Münchener medicinische Wochenschrift, August 18, 1903.
[2] Archiv für Gynäkologie, 1903, lxviii, 438.
[3] Zentralblatt für Gynäkologie, August 22, 1903.

changes due to pregnancy, and the distention of the cervix beyond the size of a finger was impossible by blunt dilation without very great force. The rigidity may have been due partly to congenital and partly to the previous septic condition of the patient. Because of these conditions an anterior vaginal hysterotomy was performed and a living child was delivered; but this was followed by such profuse hemorrhage that the woman immediately collapsed. The placenta was at once removed, the uterus forcibly grasped, so that it contracted well. The hemorrhage not ceasing, its cause was found to be a large tear in the left lower uterine segment. This was seized with forceps, a spurting artery ligated, the wound sutured, and bleeding controlled. Recovery uneventful and complete. [W.K.]

Premature Separation of the Normally Situated Placenta.—J. S. Ross[1] has had 34 in 8,621 labor cases in the hospital during his tenure of office. The average age was 31; number of children, 7. Of the 2 primiparas, one had albuminuria and the other syphilis. Alcoholic influences were present in many cases. The trouble is often attributed to straining in household work, also to twins, hydramnios, shortness of the cord, nephritis, and toxemia. The prognosis for the mother is serious; two of the author's patients died. The symptoms are faintness, sensation of something giving way, vomiting, dull aching pain in the abdomen, and generally some external hemorrhage. The uterus feels stretched and boggy, and is tender. There is acute anemia and a large element of shock. When the pains are good the safest treatment is puncture of the membranes, but otherwise the bleeding is not arrested and the support of the bag of waters is lost. In rapid dilation of the cervix and the employment of forceps or version, or even embryotomy, there is great shock and the tendency to postpartum hemorrhage is greater, the less uterine action there is at the time of delivery. The alternative is gradual dilation. This method is on trial, but the results of the author and others have been encouraging. The favorite means in England and Scotland is the dilating bag of Champetier de Ribes. The means associated with the Rotunda school is the vaginal tampon. Every cubic inch of the vagina must be wedged tight with gauze or cotton wool. The first tail of a many tailed bandage should be brought above the fundus of the uterus and the perineal band be used to press a large pad of cotton wool against the perineum and thus support the packing. In neither of the writer's fatal cases had the tampon been used. [H.M.]

Diagnosis and Treatment of Local Puerperal Affections.—B. Achsharumoff[2] makes a strong plea for the use of the speculum in examining puerperal patients. The chief indication for this instrument is fever. The procedure causes the patient some pain and annoyance, but a little persuasion will overcome all objections. The patient is placed upon a table, thoroughly disinfected externally, and a vaginal douche given, and the speculum introduced, exposing the cervix. Often a small abrasion or fissure is at once noticed, covered with a gangrenous membrane, *i. e.*, a local focus of infection is discovered. The next step is to obtain the lochial discharge direct from the uterus and test its color, clearness, odor. When the lochia are turbid and fetid, an endometritis may be diagnosed with great certainty, in which case the author recommends uterine douches with 40% alcohol. The discovery of a local infection gives us plain indications for treatment, while without the use of a speculum we are often necessarily left in the dark as to the origin of the fever. [L.J.]

The Prophylaxis and Therapy of Puerperal Fever.—H. Fehling,[3] after reviewing statistics and results from different methods of treatment in puerperal fever, concludes that the chief point in the warfare against this enemy of humankind is and remains to be prophylaxis. Next to prophylaxis as taught by Semmelweiss, we today place disinfection as a fundamental rule; the best possible cleansing of the hands from any infectious material, *i. e.*, use of rubber gloves, in every kind of vaginal and rectal examination, and clean hands in all operative treatment. In the spread of this knowledge lies the advance in obstetrics. [W.K.]

[1] Scottish Medical and Surgical Journal, May, 1903.
[2] Journal Akousherstwa, April, 1903.
[3] Münchener medicinische Wochenschrift, August 18, 1903.

Normal Birth after Abdominovaginal Suture of a Violent Complete Rupture of the Uterus.—K. Kamann[1] reports the case of a woman who during the birth of her eleventh child suffered a long uterocervical tear. The abdomen was opened and the uterine tear closed with catgut; the cervical tear was repaired through the vagina. The patient recovered. Three months later she conceived again, and in due time was delivered of a healthy girl without injury to herself. This goes to show that conservative treatment of tears is perfectly proper; in fact it is contraindicated only when infection exists or is feared, when the wound edges are badly lacerated, or the uterus injured beyond repair. [E.L.]

Uterine Fibromyomas Complicating Pregnancy and Labor.—W. Stolipinsky[2] reports a series of interesting obstetric cases which justify the following inferences: 1. Myomas are more frequently encountered in gynecologic than in obstetric practice. 2. During pregnancy myomas rapidly increase in size, and may lead to a displacement of the uterus, to abnormal attachment of the ovum, or even to premature interruption of pregnancy. 3. The influence of myomas on labor is twofold—they weaken uterine activity and act as mechanical obstructions. 4. After labor, myomas may cause retention of the placenta, hemorrhage, or subinvolution of the uterus. 5. The regressive puerperal process of the sexual organs often results in shrinking, or even complete disappearance of myomas. 6. The most rational treatment of myoma offering an absolute obstruction of the obstetric canal consists in extirpation during pregnancy, or in cesarean section during labor. When the obstruction is partial, and the growth movable, its displacement upward should be attempted. [L.J.]

Ruptured Interstitial Pregnancy.—Moriz v. Statzer[3] reports a case of interstitial pregnancy in a woman aged 25, ruptured in the second month. When the abdomen was opened, after removal of the blood clots, there was found on the right uterine horn, medial to the tubal opening, a transversely oval, empty, gaping cavity about the size of a plumstone, with ragged edges, the bottom being reddish-brown fatty tissue. This was removed by a keel-formed incision, three gaping vessels were ligated, and a small opening into the uterus sutured, and the abdomen closed. The patient recovered, and about 4 months after was in good health, menses regular, uterus freely movable, and adnexa free. [W.K.]

TREATMENT

SOLOMON SOLIS COHEN
H. C. WOOD, JR. L. F. APPLEMAN

REVIEW OF LITERATURE

Treatment of Pneumonia.—In treating patients suffering from any ailment, J. H. Musser[4] plans the management of the case in accordance with the indications which he classifies under 5 major divisions: 1. Indications derived directly from the diagnosis. 2. Those based upon the conception of the morbid process. 3. Those based upon symptoms. 4. Results of examination of organs and structures of the body not related to the disease. 5. Facts derived from the social, family and previous medical history. Following this scheme in the treatment of pneumonia, some of the points made are: 1. Antipneumococcic serum is not recommended. 2. Dry-cups are used early and from one to three times; a calomel purge is given, water is used freely both internally and externally; salt solution is given by the rectum and subcutaneously; and alcohol, in the form of champagne, is exhibited if necessary. 3. Pain is harmful and if not relieved by cupping and the use of ice, morphin hypodermically should be employed. 4. If serous meningitis ensues, spinal puncture is indicated. If the kidneys are affected they need even more attention than does the lung. Dyspnea with right-sided dilation of the heart, either before or after the crisis, calls for venesection or leeching. 5. The habits of the patient furnish various indications. Finally, in probably

[1] Wiener klinische Rundschau, 1903, xvii, 277.
[2] Journal Akousherstwa, April, 1903.
[3] Wiener klinische Wochenschrift, July 2, 1903.
[4] Canada Lancet, July, 1903.

60% of all cases of pneumonia only careful nursing is needed; in 40% there is a great deal to be done by the physician. [A.G.E.]

Neurasthenic Insanity.—F. X. Dercum (System of Physiologic Therapeutics, Vol. viii) advises that cases of neurasthenic insanity are to be treated vigorously by physiologic methods. In given cases, full rest treatment is to be employed, and everything possible is to be done to force up the nutrition and the general health of the patient. While this is being done, it is necessary, of course, that the patient should have assigned to him a nurse who is not only experienced in rest methods, but is possessed of intelligence and of sufficient force to be able to influence the patient. The nurse should tactfully endeavor to break up the absurd associations upon which special fears or other obsessions depend; thus, she should combat, when present, the tendency of the patient to count or be dominated by certain numbers; she should oppose indecision by a persistent method of retraining; and in cases of deficient will, the will of the patient should be reinforced by that of the nurse. After a course of treatment by rest, an elaborate method of physical exercise and mental training should be instituted, which should extend over many months. In young persons and in comparatively recent cases, such a course of treatment is often followed by gratifying results. In older patients, in whom the fears or obsessions have been long established and in whom the neuropathtic factor is dominant, treatment is of little avail, even when carried out elaborately. This fact should not, however, discourage us from making the attempt, especially in young individuals in whom there is marked impairment of the general health.

Physostigmin in Postoperative Meteorism.—Ludwig Moszkowicz[1] used this drug in 5 cases. The first was in a man of 59 years, who suffered from cancer of the rectum. An operation for an artificial anus was done. Two weeks later there developed an intense type of meteorism, for which physostigmin salicylate was given hypodermically. There was some improvement in the symptoms, but the patient died in a few days. The autopsy showed acute peritonitis and perforation of the rectum into the abdominal cavity. In 2 cases, one of purulent typhlitis, the other of appendicitis, the meteorism was greatly relieved by the administration of this drug in doses of ½ mg. to 1 mg. In a patient operated upon for carcinoma of the gallbladder, the results were good, and in a case of cancer of the vaginal wall in which meteorism developed after laparotomy, the injection of physostigmin salicylate seemed to stimulate the heart as well as to alleviate the meteorism. Moszkowicz states that the drug in doses of .001 gm. was well borne in three very weak patients. In these, beside two others who had taken doses of half this size at two different times at long intervals, an extreme type of extension of the intestines was promptly relieved. In 2 cases the effect was of a life-saving character. No disagreeable effects upon any other organs were observed. Blood-pressure was distinctly elevated after injection of the drug. He believes it should be used in postoperative paralysis of the intestines, which he terms pseudoileus. [J.H.W.R.]

Treatment of Chronic Heart Weakness by Baths and Exercises in Family Practice.—As soon as excessive arterial tension and excessive pulse-rate develop, N. Wood[2] believes baths and exercises become beneficial; when compensation begins to fail they are preeminently valuable; when cardiac enfeeblement has reached a serious degree they are useless. In arterial tension baths at 96° to 93° produce moderate dilation, slowing of the pulse, and slight stimulation of the heart muscle. Baths from 92° to 88° cause contraction of the vessels, greater slowing of the pulse and cardiac stimulation. Baths from 88° to 85° produce considerable contraction and great increase in the force of the ventricular systole. The greater the proportional addition of sodium and calcium chlorid and CO_2 the more marked the stimulation, and CO_2 prevents overcontraction of the surface vessels and consequent chill. The duration of the bath is prolonged when sedative action is desired. To 50 gallons of water 5 pounds of common salt and 5 ounces of calcium chlorid, with half the contents of Sandow's box of chemicals liberating CO_2 is added in cases of high tension, the bath lasting 5 to 15 minutes. The salines may be gradually increased according to indications to as high as 8%. Exercises should last from 15 minutes to 1 hour. After 3 minutes have elapsed the pulse-rate should be below that before the exercises were begun. Breathing should be even and continuous. [H.M.]

History of Iron in Chlorosis.—H. A. Christian[1] gives an interesting sketch of the history of the treatment of chlorosis with iron from Greek and Roman times to the day of Blaud.

Kefir and its Therapeutic Applications.—Hallion[2] states that kefir is produced by a special fermentation of milk caused by a ferment, *Saccharomyces kefir*, and a bacteria, *Bacillus caucasicus;* the association of these germs is absolutely necessary to give rise to kefir; neither of them alone is capable of causing the chemic changes which characterize this drink. Kefiric fermentation is caused by 3 distinct fermentations, giving rise respectively to lactic acid and a little alcohol, on the one part at the expense of sugar-of-milk or lactose, and on the other part to peptones, at the expense of the albuminoid materials of the milk. The action on the albuminoid materials is the most important from a practical standpoint. In equal quantities, kefir is more digestible and more nourishing than milk. Three varieties of kefir are distinguished, Nos. 1, 2, and 3. Each of these is one day older than the preceding. No. 1 is slightly laxative while No. 3 is slightly constipating. No. 2 is generally employed except in particular instances. Kefir is used not as a medicine, but as a food. It is given in as large quantities as possible, usually beginning with small amounts and increasing to 2 quarts daily. Kefir is employed with the greatest benefit in cases of tuberculosis. In tuberculosis associated with diarrhea it is especially useful. Even vomiting associated with tuberculosis sometimes ceases as by magic after the administration of kefir. It is also very useful in dyspepsia associated with gastric hypoacidity. On the contrary, it is badly borne in dyspepsia associated with gastric hyperacidity. In the treatment of acute and chronic enteritis and persistent diarrhea, kefir No. 2 and No. 3 have given excellent results. In all cachectic conditions associated with cancer or extreme feebleness and in convalescence it is very useful. [L.F.A.]

[It is often stated that kefir differs from kumyss only in that the latter is made with mare's milk and the former with cow's milk, and that all socalled kumyss sold in Europe and America is really kefir. As a matter of fact, there are several varieties of fermented milk, differing not only in respect to the source of the base, but also in respect to the special fermentation. Occidental nomenclature is imperfect and incorrect. What we call kumyss is neither made from mare's milk nor with the ferment used by the Tartars; it is therefore not true kumyss, and being made with ordinary "yeast" (*Saccharomyces cerevisiæ*) is not kefir. Doubtless the food value and therapeutic usefulness of the various preparations is quite similar; but the few differences may be useful in individual cases. S.S.C.]

Venesection in Uremia.—M. Jacrisch[3] reports the case of a girl of 17, who after 15 hours of dancing, during which she drank 11 bottles of lemonade, developed symptoms of acute nephritis (general edema, abdominal distention, girdle sensation, scant dark urine, albumin 11 parts in 1,000, casts, blood-cells). Absolute rest and diuretics produced improvement up to the eighth day, when after vomiting and violent headache she suddenly became blind, and shortly afterward delirious and unconscious; almost total anuria. Convulsions and gradual weakening of the heart followed. No kind of treatment seemed to avail until the next day, when on account of profuse hemorrhagic extravasation, venesection was performed in spite of the wretched pulse, which could not be felt; 800 ccm. was withdrawn at 2 different times, followed by salt injection. Immediate improvement was noted, the kidney began to act, the patient recovered consciousness, and was perfectly well 2 months later. [E.L.]

Treatment of Tumors by the Röntgen Ray.—Alfred Exner[4] reports 3 cases of inoperable carcinoma of the breast,

[1] Wiener klinische Wochenschrift, 1903, No. 22, p. 647.
[2] West London Medical Journal, April, 1903.

[1] Med. Lib'y and Hist. Jour., July, 1903.
[2] Journal des Praticiens, Vol. xvii, No. 26, 1903, p. 402.
[3] Deutsche medicinische Wochenschrift, March 26, 1903.
[4] Wiener klinische Wochenschrift, 1903, No. 25, p. 730.

and 1 case of melanosarcoma with numerous metastatic foci. He advocates the use of large amounts of the Röntgen rays and employs leaden plates 0.5 mm. thick to protect the surrounding healthy parts. He uses Holzknecht's "chromoradiometer" to regulate the dosage. He gives the rays in sufficient amounts to bring about a powerful reaction in the superficial parts. After the application of the rays he advises a period of rest of from 7 to 10 days, unless the patient should return in the meantime because of some adverse symptoms. In the first case after 6 weeks' treatment there appeared in the place of a foul ulcer, a clean granulating surface. Fifty days after the last application of the rays (treatment being discontinued on account of metastatic symptoms) the ulcer had again become foul in character. There was no change in the size of the tumor or of the ulcer. In the second case clean granulations appeared 11 days after the first treatment. The patient died, however, before a cure could be effected. This was also true of the first case. In the third case, mammary carcinoma, the result was more favorable. The tumor, as big as a fist, disappeared entirely within 3 months. Clean granulations showed themselves 15 days after the first treatment. Exner was able repeatedly to bring about the entire disappearance of the metastatic tumors in the skin in a case of melanosarcoma. The dosage in this case was from 6 H to 12 H. In the other cases 15 H to 52 H were employed. [J.H.W.R.]

THE PUBLIC SERVICE

Health Reports.—The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended September 25, 1903:

	SMALLPOX—UNITED STATES.		Cases	Deaths
Alabama:	Mobile	Sept. 12-19	2	
California:	Los Angeles	Sept. 5-12	6	
	San Francisco	Sept. 6-13	2	
Colorado:	Denver	Aug. 22-29	1	
Illinois:	Belleville	Sept. 12-19	3	
	Chicago	Sept. 12-19	7	
Maine:	Brewer	Sept. 17	Present.	
Massachusetts:	Fall River	Sept. 12-19	3	
Michigan:	Port Huron	Sept. 12-19	2	
Mississippi:	Natchez	Sept. 5-12	2	
Missouri:	St. Louis	Sept. 12-19	1	
New York:	New York City	Sept. 12-19	1	
Ohio:	Lorain	Sept. 12-19	1	
Pennsylvania:	Carbondale	Sept. 14-21	1	
South Carolina:	Charleston	Sept. 12-19	1	
Washington:	20 counties	Aug. 1-31	34	2
Wisconsin:	Milwaukee	Sept. 12-19	2	
	SMALLPOX—FOREIGN.			
Belgium:	Liege	Aug. 29-Sept. 3		1
Brazil:	Pernambuco	July 17-31		6
	Rio de Janeiro	Aug. 2-23	128	62
China:	Shanghai	Aug. 1-8		2
France:	Marseilles	Aug. 1-31		11
	Paris	Aug. 22-29		2
Great Britain:	Birmingham	Aug. 24-Sept. 12	5	
	Dublin	Aug. 29-Sept. 12	1	
	Leeds	Sept. 5-12	11	
	Liverpool	Aug. 24-Sept. 12	10	3
	Manchester	Aug. 29-Sept. 5	2	
	Newcastle-on-Tyne	Aug. 22-Sept. 5	12	1
	South Shields	Aug. 2-Sept. 5	5	1
India:	Bombay	Aug. 11-25		7
Mexico:	City of Mexico	Aug. 30-Sept. 13	5	5
Netherlands:	Amsterdam	Aug. 29-Sept. 12	4	
	YELLOW FEVER—UNITED STATES.			
Texas:	Laredo	Sept. 24-25	2	2
	YELLOW FEVER—FOREIGN.			
Brazil:	Rio de Janeiro	Aug. 8-23	8	1
Colombia:	Panama	Sept. 7-14	4	1
Mexico:	Citaz	Aug. 30-Sept. 5	24	3
	Merida	Aug. 30-Sept. 5	11	
	Motul	Aug. 30-Sept. 5	1	
	Monterey	Sept. 23	Present.	
	Nuevo Laredo	Sept. 17	1	
	Progreso	Aug. 30-Sept. 5	1	1
	Tampico	Aug. 30-Sept. 5	7	3
	Tehuantepec	Aug. 30-Sept. 5		2
	Salina Cruz	Aug. 30-Sept. 5	4	2
	Vera Cruz	Sept. 5-12	44	14
	CHOLERA.			
China:	Amoy	July 15	Present.	
	Shanghai	Aug. 1-8		1
Straits Settlements:	Singapore	July 25-Aug. 1		5
Turkey:	Syria	Aug. 17	472	428
	PLAGUE—INSULAR.			
Hawaii:	Hilo	Sept. 15		1
	Honolulu	Sept. 11-12	2	
	PLAGUE—FOREIGN.			
Brazil:	Rio de Janeiro	Aug. 8-23	31	22
Chile:	Concepcion	July 11	Present.	
	Iquique	July 14-Aug. 8	53	34
	Pisaqua	July 11	Present.	
	Valparaiso	July 11	Present.	
China:	Fuchau	Aug. 12	Present.	
	Hong Kong	Aug. 1-22	13	12
Egypt:	Alexandria	Aug. 15-21	8	4
	Damiette	Aug. 15-21	3	1
India:	Bombay	Aug. 11-25		165

Changes in the Medical Corps of the U. S. Army for the week ended September 26, 1903:

FULLER, Captain LEIGH A., assistant surgeon, is granted leave for fourteen days.

AMADOR, R. A., contract surgeon, is granted leave for one month, and he is granted permission to apply for an extension of fifteen days.

AMADOR, R. A., contract surgeon, will proceed upon the expiration of the leave granted him to his home, New York City, N. Y., for annulment of contract.

The commanding officer, Fort Schuyler, will grant Sergeant First Class WILLIAM BOCK a furlough for six months with permission to leave the United States.

FFOULKES, BRUCE E., contract surgeon, will proceed to Camp W. H. Osborne, American Lake, Wash., for duty.

WEBBER, Captain HENRY A., assistant surgeon, is granted leave for one month, with permission to visit China and Japan.

SLATER, ERNEST F., contract surgeon, is granted leave for two months, with permission to visit the United States.

RICHARD, Major CHARLES, surgeon, is relieved from duty in the department of Mindanao, and will proceed from Zamboanga, Mindanao, P. I., to Manila, P. I., reporting to the chief surgeon of the division, for duty in his office.

LIPPINCOTT, Col. HENRY, assistant surgeon-general, retirement from active service, September 22, 1903, by operation of law, under the provisions of the act of Congress approved June 30, 1882, is announced. Col. Lippincott will proceed to his home.

GORGAS, Colonel WILLIAM C., assistant surgeon-general, now on temporary duty as chief surgeon, department of the East, will report for permanent duty as chief surgeon.

KENDALL, Major WILLIAM P., surgeon, is granted leave for ten days, from about September 14.

So much of orders of August 20, as assign Major HARRY O. PERLEY, surgeon, to duty at Fort Riley, is amended so as to direct Major Perley upon the expiration of his present leave to proceed to Fort Logan for duty.

TORNEY, Lieutenant-Colonel GEORGE H., deputy surgeon-general, now on sick leave at San Francisco, Cal., is relieved from further duty in the division of the Philippines, and will assume charge of the medical supply depot at San Francisco, relieving Lieutenant-Colonel Louis M. Maus, deputy surgeon-general. Lieutenant-Colonel Maus will proceed to Fort Riley for duty.

DARNALL, Captain CARL R., assistant surgeon, is relieved from duty in the office of the surgeon-general of the Army and will assume charge of the field medical supply depot in Washington, D. C., in addition to his duties in connection with the Army Medical School and as recorder of the Army Medical Examining Board.

WELLS, Major GEORGE M., surgeon, is relieved from duty at Fort Bayard, to take effect upon the arrival at that place of Captain Leigh A. Fuller, assistant surgeon, and will then proceed to San Francisco, Cal., and report for transportation to the Philippine Islands.

RICH, First Lieutenant EDWIN W., assistant surgeon, upon his relief from duty at Honolulu, H. T, will proceed to Manila, P. I.

FULLER, Captain LEIGH A., assistant surgeon, upon the expiration of his present leave, will proceed to Fort Bayard and report at the United States General Hospital for duty.

GRAY, Major WILLIAM W., surgeon, is detailed to represent the medical department of the Army at the annual meeting of the Tri-State Medical Society of Alabama, Georgia, and Tennessee, to be held at Atlanta, Ga., October 13 to 15, 1903.

KULP, Captain JOHN S., assistant surgeon, is granted leave for four months, from about October 15.

Changes in the Medical Corps of the U. S. Navy for the week ended September 26, 1903:

CURL, H. C., passed assistant surgeon, detached from the New York and ordered to the Boston—September 18.

TAYLOR, J. S., passed assistant surgeon, detached from the Bureau of Medicine and Surgery, Navy Department, and ordered to the Naval Hospital, New York, N. Y.—September 18.

STITT, E. R., surgeon, detached from duty as a member and recorder of the naval and medical examining boards, Washington, D. C., and ordered to resume usual duties—September 22.

STOKES, C. F., surgeon, detached from the Bureau of Medicine and Surgery, Navy Department, and ordered to the Naval Museum of Hygiene and Medical School, Washington, D. C.—September 22.

STUART, A., assistant surgeon, ordered to the Naval Hospital, Naval Home, Philadelphia, Pa.—September 22.

TAYLOR, J. L., acting assistant surgeon, appointed acting assistant surgeon from September 16, 1903—September 23.

TYREE, F. W., acting assistant surgeon, detached from the Naval Hospital, Port Royal, S. C., and ordered home to wait orders—September 23.

STEELE, J. M., surgeon, ordered to the Naval Hospital, Port Royal, S. C.—September 24.

American Medicine

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PUBLISHED WEEKLY AT 1321 WALNUT STREET PHILADELPHIA BY THE AMERICAN-MEDICINE PUBLISHING COMPANY

VOL. VI, No. 15. OCTOBER 10, 1903. $5.00 YEARLY.

A new method in medical congresses, and one which seems certain to revolutionize the present plan, has been inaugurated by the International Congress of Ophthalmology. At present, as is well known, the programs of large medical societies are overloaded, and the reading of the papers wastes the time of the members, because the articles soon appear in the journals and can be read with more understanding than listened to. The most important criticism of the usual custom is that the time for discussion is lost in that used for the reading of papers. To avoid these errors the ophthalmologists have adopted the following plan: The papers must be forwarded to the committee sufficiently in advance to be grouped according to their contents, and immediately printed. They will form the first part of the printed report of the congress, and will be sent to each member, together with his admission ticket, at least two weeks before the time appointed for the opening of the congress. In this way each member will know the subjects to be considered, and will be able to prepare himself for serious discussion. The reading of the papers is thus dispensed with. The authors will be called upon by the president to make known in a few words the conclusions at which they have arrived, after which the discussion will at once begin. The opinions of men who have not the time to write and publish their experiences and opinions may thus be heard. The discussions will be printed and will form the second part of the official report, which will be sent to each member after the close of the congress. The plan should receive the serious consideration of the officers and members of our national and state medical societies.

Perverse Factors of Sexual Conditions.—The development and consequent requirements of modern life, both business and social, and especially of the better and best classes, are responsible for the creation of factors which seem preeminently calculated to eat a poisonous inroad into the fundamental conditions of our well-being. The moral and normal exercise of the sexual organs, with the effective family life that is dependent thereon, is undoubtedly the keystone of biologic and social health, the pivot around which the individual and composite organism turns; but while the zenith of power in the male may be placed between the ages of 18 and 30, the conditions of modern life rarely allow him, as he thinks, to indulge in the luxury of marriage within that period. Women, naturally, are under the same necessity. Think of the consequences! The sexual desire in a healthy individual, which is stronger than the cravings of hunger and thirst, demands satisfaction in some way or other, but is repressed, or supposed to be, by men and women living "decently"! But the desire is not and cannot be suppressed, and we are at once confronted with various alternatives which vie with each other in their far-reaching power of pernicious influence. From the schoolboy's point of view there was a seeming justification in his answer, "Indecent is when people see it!"

Sexual Incitement in Cities.—Certain concomitant factors render these conditions more intolerable still. In great cities the number of social occasions, literally teeming with almost unavoidable excitants of sexual desire, are legion. The low-cut gowns of our society ladies, the sexually exciting pleasure of dancing, the large quantities of alcoholic stimulants consumed, the living example in enormous numbers of cohabiting couples, the suggestive, if not positively indecent theatrical plays that form the principal intellectual food of our *jeunesse dorée*; ballet and circus, organized or sporadic prostitution, and a thousand other things tend to prove that much of our modern life appears cynically calculated to engender hypertrophic excitation and merciless contamination of the true moral instinct. They positively drive our young men and women into the snares of profligacy and indecency. Thus, man will enter the state of marriage oversatiated by all the artifices of diseased imagination to which he has paid homage and tribute for the best part of a decade, that decade in which his manly vigor, destined by nature for the highest moral purpose—the perpetuation of the race—was in its full power. Small wonder if such trees do not bear healthy fruit, and—"by their fruits ye shall know them."

The Moral Education of Our Daughters.—So far as the young women are concerned, there can be no doubt that the prudish and hypocritic way in which so many are educated from their very earliest childhood is to a high degree responsible for the undue and early development of the sexual desire. Instead of permitting and even encouraging unrestrained jollity of body and

soul, making the girl as she grows up gradually acquainted with household duties and the exalted requirements that nature will demand of the wife and mother, she is introduced while yet in her tenderest years to dancing parties, to plays, concerts, and society, fatally driving the young mind in a wrong direction. While the absence of sufficient physical and mental occupation induces the sexual instinct to manifest itself earlier and more powerfully than nature intended to be the case, the child grows older and the stimulated sexual avidity with it. Under such lamentably irritating conditions enforced abstinence positively produces the danger of moral lapses, or of a neurasthenic nervous condition. Mere moralists may perceive in these facts but a deplorable degradation of our general morality; medical research, however, is inclined to hold the moral education of our daughters in the first instance frequently responsible for their neuropathic manifestations.

"The Necessary Evil."—Among the evil consequences, both physical and moral, of this condition of affairs may be mentioned—apart from the unspeakable vices—the cultivation of some phase of prostitution. Moralists will seek to eradicate it, while others will tolerate it as a necessary evil, and a third party may see in it more of a necessity than an evil. So long, however, as our present social conditions and the methods of our moral education prevail, prostitution will continue. The definition of the term "prostitution" is easy enough when looked at in the right light. There is no question about the "professional," who from pleasure or necessity, or both, has adopted that mode of "earning" a livelihood. But under the circumstances, what of the woman who "lives with a man" without going through the more or less perfunctory ceremony of marriage? There can be no doubt the custom is growing. Then there is the lax married woman, and the growing ease and practice of divorce. But those who have studied the question, jurists and moralists, know that this ease of divorce, deplorable, *per se*, as it may seem, is necessary to prevent a still greater evil. In view of the habits of society and the custom of belated or permanently renounced marriage, the diminishing birthrate, etc., it has even been contended that legalized prostitution should be recognized as the best way of avoiding a worse abomination, the utter ruin of monogamy and the family life by a lesser one. It is at least certain that profligacy, engendered by the perverse social and sexual conditions, is likely to do the most harm by conducing to the multiplication of prostitutes. From whatever point of view we look at the subject, we therefore find that the education of the youth is the only hope of remedying the evil.

The Cult of Secrecy.—One of the most perverse and disturbing elements in the education of both sexes lies in the observance of secrecy in *rebus naturalibus*. The more innocent a husband may find his newly-married wife, the prouder her parents will be of the fact. No doubt a proper feeling of decency should at all times prevail, but to enforce that feeling artificially by keeping the young woman in ignorance of what she is required to know, is equivalent to sacrificing the interests of the family and of humanity on the altar of prudery and sophistry. By all means keep that chapter in the moral education of our children back until the proper time arrives; but let us be sure of forestalling the demon of voluptuousness and depravity, which is only too prone to seize upon the young victims unawares. Let them know the real and whole truth, let proper light into their minds properly and there will be prevented harmful experimenting on their own account. For, let us be honest; most of our young men and women have acquired their knowledge of sexual phenomena on the slippery path of vice, and the reason why sexual matters appear to them in a seductive light is the veil which we draw over them and which they, in their natural curiosity, are morbidly trying to lift. That veil is the curse of our moral education, is at best transparent, and it is being badly torn.

Naturalia Nunquam Turpida.—Nature is never unclean and the recognition of its functions is salutary. It is neither due to reflection, nor conviction, nor any true feeling of shame, nor a desire of keeping their children in ignorance that parents are actuated in their negative course; it is their own corrupt feeling which has been implanted in them by the prudish education they themselves have received and which debars them from seeing clean things clean. And this state of affairs should be changed. No longer should it be tolerated that the noblest instinct planted in men and women—the desire to perpetuate their race—is looked at through spectacles smirched with the dirt of sin. And if parents are too weak to perform this labor of love it is a part of our professional function to urge that the knowledge scientificly and morally given will effectually keep them from the pursuit of immoral researches. Let growing youth know the truth, for lies are the root of all evil!

Youth Fifty Years Ago and Now.—The baneful influence of modern educational tactics, so far as sexual relations are concerned, can be observed by comparing present conditions with those that yet prevailed some 50 years ago. At that period it was still possible for young men to enjoy harmless social companionship with young women of their acquaintance, to take a walk together, to have some music together, and so forth, without compromising them or creating a suspicion of being in love with them, or worse. Any such harmless intercourse is becoming more and more impossible at the present time. Even the most superficial conversation has to be jealously guarded, lest no syllable escape, which, in prurient minds, might be misinterpreted. The talk may be of the races, the theater, the weather; but a sedate interchange of thoughts on serious topics is out of the question. Our social busybodies would immediately conclude that there was something wrong. Again, it is permissible to speak of sexual relations of plants and to a certain extent even of animals; free mention may be made of fructification, of semen, eggs, milk, etc., and it is quite an interesting topic to discuss mamma rhinoceros at the Zoo and the incidents that occurred at the birth of the baby; but to mention any

of these things in connection with a human being would be considered highly offensive. Among themselves, however, young women are not so prudish. If the walls of boarding schools for young ladies could speak of what they have seen and heard in that direction they would have much to say of the precociousness of our young women. These establishments are often the breeding places of immoral conversation, and the same young women who, among themselves, know of no restraint, affect horror of the man who would dare to breathe the sacred subject of a petticoat in their presence. But if the conversation takes place with a married woman, the birth and development of a child in all its bearings may be a favorite subject to dwell upon; with an unmarried woman it is considered indecent and looked upon as a capital crime. Where is the difference? In the sophistry of modern education, in the inability of modern youth to see clean things clean, or in other words, in our totally perverse moral education. Thus, if we consider the direct consequences of present customs one finds that the desired higher degree of morality is not by any means attained. The fact of having to weigh carefully every sentence and every word with a view to eliminating or circumscribing any expression, truthful and correct though it may be, which might possibly give rise to offence—all this breeds sexual morbidness.

Harmless Social Intercourse a Preventive of Sexual Morbidity.—It is a psychologic fact that an innocent exchange of ideas and a harmless intercourse between young people of opposite sex is a powerful incentive to noble thoughts and noble actions, and that the genuine and profound respect for the eternal feminine, exercises a soothing and ennobling influence in toning down man's animal proclivities. Young men living among women—sisters, their women friends, or female relatives—are, as a rule, totally ignorant of the torturing neurotic strain to which both young men and women are subjected by our present social ways. There is no surer remedy for secret indecency and prurient thoughts, than simple frankness, rightmindedness, and openmindedness, in word and deed. Much "indecency" is artificially made by the forced training of thoughts in an indecent direction. For this very reason prudery and sophistry are unpardonably objectionable to a really chaste person, because without them no thought of impropriety in connection with sexual matters would enter into otherwise harmless conversations or utterances; and it is the task of educators to devise ways and means to prevent these objectionable characteristics from taking root in the minds of the young by introducing a sound, sane, moral, and natural system of education.

The Report of the Illinois State Board of Health, for 1903, illustrates what may be done by State officials for the benefit of the local profession. The advantage to the profession in general is hardly less striking. The report is made up of about 540 pages. The Illinois medical practice acts are given in full, together with all the information concerning practice in the State, which may be desired by practitioners. There follow abstracts of the decisions of the courts,

A TABULAR OUTLINE OF THE STATE AND TERRITORIAL LAWS IN FORCE MAY 1, 1903.

Admit to practise on presentation of a recognized diploma.	Require an examination.		Examine non-graduates in medicine.	Empowered to accept licenses of other States or countries in lieu of a diploma.	Empowered to recognize certificates of other boards.	License graduates of colleges within State without examination.	Permit practice of physicians from other States in consultation.
	With diploma.	Without dipl'ma.					
Alaska.[1]	Alabama.[4]	Alabama.[5]	Alabama.[5]	California.	California.	Indiana.	California.
Arkansas.[9]	California.	Arizona.	Arizona.	Kansas.[16]	Delaware.	Missouri.	Connecticut.
Colorado.	Connecticut.	Hawaii.	Arkansas.	Maryland.	Dist. of Columbia.	New Hampshire.	Delaware.
Indiana.[12]	Delaware.	Indian Territory.[2]	Colorado.	Nevada.	Illinois.[8]	Ohio.	Dist. of Columbia.
Indian Territory.[2]	Dist. of Columbia.	Kansas.[11]	Hawaii.	New H'mpshire.[20]	Indiana.	South Carolina.	Georgia.
Kansas.[3]	Florida.	Maryland.[12]	Indian Territory.[2]	North Carolina.	Kansas.	Wisconsin.	Idaho.
Kentucky.	Georgia.	Massachusetts.	Kansas.[11]	Ohio.[6 20]	Maine.		Indiana.[17]
Michigan.	Idaho.	Mississippi.	Maryland.[12]	Pennsylvania.[6 20]	Maryland.		Kansas.
Missouri.[12]	Illinois.	Missouri.	Massachusetts.	Virginia.[16]	Michigan.		Kentucky.
Nebraska.	Indian Territory.[2]	New H'mpshire.[20]	Michigan.	Wisconsin.[16 22]	Montana.		Louisiana.
Nevada.	Indiana.	New Mexico.	Mississippi.		New Hampshire.		Maine.
New H'mpshire.[12]	Iowa.	North Dakota.[11]	Missouri.		New Jersey.		Maryland.
New Mexico.[21]	Louisiana.	Oklahoma.[14]	Nevada.[14]		New York.		Massachusetts.
Ohio.[12]	Maine.	Oregon.	New H'mpshire.[20]		Ohio.		Michigan.
Philippines.[12]	Maryland.	Pennsylvania.[20]	New Mexico.		Pennsylvania.		Minnesota.
South Carolina.[12]	Minnesota.	Philippines.[12]	North Dakota.[11]		Puerto Rico.		Mississippi.
Virginia.[3]	Montana.	Rhode Island.	Oklahoma.[14]		South Dakota.		Montana.
Wisconsin.[3 12 22]	Nevada.[6]	Tennessee.	Oregon.		Texas.		New Hampshire.
Wyoming.	New Hampshire.	Texas.	Philippines.[12]		Virginia.		New Jersey.
	New Jersey.	West Virginia.	Pennsylvania.[20]		Vermont.		New York.
	New Mexico.[12]		Rhode Island.[15]		Washington.		North Carolina.
	New York.		Tennessee.		Wisconsin.		North Dakota.
	North Carolina.		Texas.				Ohio.
	Ohio.		Vermont.[7]				Pennsylvania.
	Oklahoma.		Virginia.[12]				Philippines.
	Pennsylvania.		West Virginia.				Puerto Rico.
	Philippines.		Wyoming.[11]				Rhode Island.
	Puerto Rico.						South Carolina.
	South Carolina.						Tennessee.
	South Dakota.						Texas.
	Utah.						Utah.
	Vermont.						Virginia.
	Virginia.[13]						Vermont.[18]
	Washington.						Wisconsin.
	Wisconsin.[13]						Wyoming.

[1] No law.
[2] Each nation has its own laws.
[3] Discretionary with board.
[4] If examined by a county board.
[5] If examined by the State board.
[6] Foreign graduates.
[7] Non-residents only.
[8] By resolutions of board.
[9] Until May 17, 1903.
[10] If not a graduate of recognized college.
[11] Applicant must show evidence of college attendance.
[12] Certain persons only.
[13] If not eligible to a license without examination.
[14] Must have had ten years' continuous practice.
[15] If a reputable physician.
[16] In lieu of examination.
[17] Licensed physicians residing on border of a neighboring State permitted to attend bona fide calls in State.
[18] Physicians in Dominion of Canada.
[19] According to ruling of Attorney-General.
[20] If licensed to practise in some for'gn country.
[21] See resolution of board infra.
[22] Of adjoining States.

detailed lists of the 14 medical colleges of the State and of their faculties, of the State, County, District, and City Medical Societies, etc., and epitomes of the laws and conditions of practice in the United States, States, and Territories, and especially as to osteopathy, with the various laws and decisions that have been rendered. The report also summarizes the facts in reference to quarantine, the expense of smallpox patients, who may call themselves physicians, etc. A complete register of the legally qualified physicians of the States is appended. We give the tabular outline of the State and Territorial laws, corrected to September 14, 1903.

Sleepers.—From "the sunny land of France" there has recently arrived the report of the death of a subject of catalepsy—female, of course—who had previously lain for over 19 years without displaying any obvious evidence of life other than the beating of the heart. After recovering partial consciousness for a few days, she expired. She was, of course, in a state of extreme emaciation. It is interesting to observe the periodic recurrence of those phenomenal sleepers down through all the ages. Probably most of our readers are familiar with the case of the original Rip Van Winkle, the boy Epimenides, who, according to the elder Pliny, tired with heat and work, turned for some repose into a neighboring cave, shady and cool, where he slept uninterruptedly for a term of 57 years; who afterward found great difficulty in recognizing, or being recognized by his former acquaintances and playfellows, and who lived on, hale and hearty, to the venerable age of 175! Also, with the complex case of the "Seven Sleepers of Ephesus," who, in the heat of the anti-Christian persecution of the Emperor Decius, retired from prospective martyrdom to the depths of a cave in Mount Cælius, where they slept on in peace and quietness for a period of 196 years. But perhaps the strangest of all sleeping abnormalities is that published by Alexander Suagninus, of Verona, who in his "Description of Muscovy" informs his readers that:

> There is a people that inhabit *Lucomorico*, a country of the further *Larmatici*, who yearly upon the twenty-seventh day of the month of November, after the manner of swallows and frogs, by reason of the intenseness of the winter's cold, seem to dye. Upon the twenty-fourth day of April, they again awake and arise. These are said to have commerce with the *Grustentzians* and the *Sperponountzians*, people that border upon them, in this manner: When they find their approaching death or sleep ready to seize upon them, they then stow up their commodities in certain places, which the *Grustentzians* and *Sperponountzians* fetch away, leaving an equal value of their own behind them in their stead. The *Lucomorians*, upon their return to life, if they are pleased with the change, they keep them; if otherwise, they demand their own of their neighbors. By this means much strife and war doth arise amongst them.

Chickenpox a Notifiable Disease in Philadelphia.—The Department of Health of Philadelphia has placed chickenpox among the notifiable diseases, and even intends to quarantine against it while smallpox is epidemic. So many cases of smallpox have been erroneously diagnosed as chickenpox that this step has become a necessity. Several months ago *American Medicine* contended that chickenpox should be made a notifiable disease, at least while smallpox prevails; and it is gratifying to see that the Bureau of Health is in agreement with this view.

BOOK REVIEWS

Disease of the Pancreas: Its Cause and Nature.—By EUGENE L. OPIE, Associate in Pathology in the Johns Hopkins University; Fellow of the Rockefeller Institute of Medical Research. J. B. Lippincott Company, Philadelphia and London, 1903.

Seldom is the name of an investigator associated with so many phases of the pathology of a single organ as is that of Opie. While we link, in our consideration of the pancreas, the names of Bernard, Heidenhain, and Langerhans with its anatomy and physiology; those of Oser, Körte, Fitz, Balser, and Flexner with its pathology, symptomatology, and various experimental researches, the name of Opie will always be associated with our more intimate knowledge of the anatomy, physiology, and pathology of the islands of Langerhans and their relation to diabetes, with the demonstration of the connection which exists between disturbances of the bile passages and acute pancreatitis, and with the experimental investigation of fat necroses. That an investigator who has touched upon so many phases of the pathology of the pancreas, demonstrating truths where only doubt and conjecture existed, should correlate his researches with those of previous investigators and bring all together in the form of a comprehensive treatise is most gratifying, and in view of our previous vague and meager knowledge of the pathology of the organ, deserving of the appreciation and sincere thanks of the medical profession. The book is a distinct contribution to medicine and one of the most important by American writers. The scope and arrangement of the volume is excellent, as the author states in the preface "conditions peculiar to the organ have received most attention, and it has not been considered desirable to make an exhaustive study of those lesions which present no characteristic feature and bear no special relation to the peculiar physiology of the organ." Tuberculosis, newgrowths, cysts, and degeneration not peculiar to the organ are therefore not described. Three chapters are devoted to the anatomy of the pancreas, the histology of the islands of Langerhans and the relation of the bile-duct to the pancreatic duct receiving special attention. In Chapters III and IV acute pancreatitis and its etiology are discussed and the association of pancreatitis and cholelithiasis emphasized; while in Chapter V fat necrosis so commonly associated with acute pancreatitis is described. The following 6 chapters are closely related, dealing as they do with chronic interstitial pancreatitis, hyaline, degeneration of the islands of Langerhans, hemochromatosis, and the pathology of diabetes. These various conditions are thoroughly discussed, and the relation of pancreatic diabetes to changes in the islands is clearly demonstrated. The book closes with a consideration of the symptoms and treatment of pancreatic disease. A complete bibliography and an excellent index are appended. Of the 21 illustrations all but 5 are original. Eleven are devoted to important aspects of the normal anatomy, while the remainder depict the more striking pathologic conditions. The general appearance of the volume and the excellent reproduction of the illustrations must be gratifying to both author and publisher.

An American Textbook of Surgery.—Edited by W. W. KEEN, A.M., M.D., LL.D., F.R.C.S. (Hon.). Philadelphia: W. B. Saunders & Co.

The fourth edition of this work has appeared, revised and largely rewritten. Since the appearance of the first edition in 1892 this publication has occupied a unique place in the literature of American surgery. That the first 3 editions reached the phenomenal circulation of nearly 40,000 copies fully attests its popularity, and leaves little for comment by the reviewer, save to enumerate the important changes which appear in the fourth edition. The chapters on surgical bacteriology, tumors, the osseous system, orthopedic surgery, the surgery of the nerves, the joints, the head, the abdomen, etc., have been rewritten and brought fully abreast of the latest established facts in these branches. The late important contributions to the science and art of surgery have been epitomized in the present edition; particularly is this true in connection with the pancreas, the intestines, renal decapsulation, blood pressure,

the vascular system, nerves, etc. The more recent work in cosmetic surgery, particularly the use of subcutaneous injections of paraffin for the correction of deformities, has received due attention; as have likewise the newer general anesthetics and local analgesics. The most important change, however, in the new edition is the addition of 6 new chapters. In incorporating two of these—viz., military surgery, and naval surgery—the editors have duly appreciated the changed attitude of surgery to the incidents of warfare, occasioned mainly by the comparatively recent adoption of firearms and explosives radically different from those formerly in use. The experience recently gained in tropical diseases mainly by army and navy surgeons has been epitomized in a lucid and succinct chapter on tropical surgery. The other new chapters have to do with examinations of the blood; immunity, and the surgery of the pancreas. By the use of a better quality of paper the volume has not increased in weight, despite the fact that almost 100 pages have been added. Some new illustrations have been added and old ones have occasionally been withheld. On the whole, the present edition excels the former ones, and it will augment the popularity which they have formerly enjoyed.

Nervous and Mental Diseases.—By ARCHIBALD CHURCH, M.D., and FREDERICK PETERSON, M.D. W. B. Saunders & Co.

This work is a very comprehensive exposition of nervous and mental diseases for the specialist. Part I considers nervous diseases. Some discussion of the anatomy and physiology of the nervous system would better have prefaced a study of nervous diseases. Aside from this want, a very systematic review of nervous disorders is made. Examination of the patient is taken up in detail; the 8 chapters are devoted to a study of anamnesis, general physical examination, trophic and electric conditions; also the special senses. Diseases of the cerebral meninges and cranial nerves are next considered with care; then those of the spinal meninges and spinal nerves. We can see no just reason for classifying herpes zoster as other than a form of neuritis. The prompt recovery in most cases to full function distinctly places this neuritis associated with papules out of the category of cord diseases. Diseases of the cord proper, diseases of the general nervous system, with and those without known anatomic bases, are next considered, a clinical distinction much to be commended, since a large majority of nervous affections, though presenting organic signs (as in myxedema) do not show change in the central nervous system. Under symptomatic disorders the consideration of the disorders of sleep is well amplified. No part of neurology or psychiatry probably has more to do with awakening morbid signs and impulses in disease than does any interference with sleep. Dr. Peterson considers the subject of mental diseases in 13 well-written chapters. We have no criticism to make of his difficult task. The volume is well illustrated.

Uric Acid as a Factor in the Causation of Disease.—By ALEXANDER HAIG, M.A., M.D., OXON., F.R.C.P. Sixth edition, with 75 illustrations. Philadelphia: P. Blakiston's Son & Co., 1903.

Among the additions to the sixth edition of this wellknown work are the classification of uric acid diseases, a record of work with the uric acid filter, new work on the circulation, and details of many illustrative cases. The chapter on treatment has been rewritten. The lapse of time has resulted only in entrenching Haig more strongly in his former position as he says, "what 11 years ago in the first edition was little more than possibility or probability is now absolute certainty." His utter disregard of other observers and their investigations regarding metabolism which, to say the least, throw grave doubts upon many of his theories, is rightly subjecting Haig to much criticism. His book contains valuable data, but from premise to conclusion is nothing but uric acid. Diseases due to that substance are classed in 2 groups, gout and collemia. Under the latter is placed practically every ailment to which man is heir. Haig evidently believes with Dr. Clifford Allbutt that the abjuring of tea and all flesh is a dicipline for which most men do not yet feel fully ripe, as he states that in the thirtieth or fortieth century they may be a little more unanimous as to what is their best food.

BOOKS RECEIVED.

[Prompt acknowledgment of books received will be made in this column, and from time to time critical reviews will be made of those of interest to our readers.]

A Textbook of Operative Surgery: Covering the Surgical Anatomy and Operative Technic Involved in the Operations of General Surgery. Written for Students and Practitioners.—By WARREN STONE BICKHAM, PHAR.M., M.D., Assistant Instructor in Operative Surgery, College of Physicians and Surgeons, New York; Late Visiting Surgeon to Charity Hospital, New Orleans, etc. W. B. Saunders & Co., Philadelphia, New York and London, 1903. Cloth, $6.00 net; sheep or half morocco, $7.00 net. 984 pages, illustrated.

American Textbook of Surgery: For Practitioners and Students. —Edited by WILLIAM W. KEEN, M.D., LL.D., F.R.C.S. (HON.), Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Philadelphia; and J. WILLIAM WHITE, M.D., John Rhea Barton Professor of Surgery, University of Pennsylvania, Philadelphia. Fourth edition. 1,363 pages, illustrated. W. B. Saunders & Co., Philadelphia, New York and London, 1903. Cloth, $7.00 net; sheep or half morocco, $8.00 net.

A Textbook of Diseases of Women.—By BARTON COOKE HIRST, M.D., Professor of Obstetrics in the University of Pennsylvania; Gynecologist to the Howard, the Orthopedic, and the Philadelphia Hospitals. W. B. Saunders & Co., Philadelphia, New York and London, 1903. Cloth, $5.00 net; sheep or half morocco, $6.00, net. 675 pages, illustrated.

A Textbook of Pathology.—By ALFRED STENGEL, M.D., Professor of Clinical Medicine in the University of Pennsylvania. Philadelphia, New York, London: W. B. Saunders & Co., 1903. Cloth, $5.00 net; sheep or half morocco, $6.00 net. Pages, 933; illustrated.

The American Pocket Medical Dictionary.—Edited by W. A. NEWMAN DORLAND, M.D, Assistant Obstetrician to the Hospital of the University of Pennsylvania. Philadelphia, New York, London: W. B. Saunders & Co., 1903. Flexible leather, $1.00 net; with thumb index, $1.25 net; pages, 566.

The American Illustrated Medical Dictionary: For Practitioners and Students. A Complete Dictionary of the Terms Used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry, and the kindred branches, etc.—By W. A. NEWMAN DORLAND, A.M., M.D. Philadelphia, New York, London: W. B. Saunders & Co., 1903. Price, $4.50 net; with thumb index, $5.00 net; pages, 800.

A Textbook of the Practice of Medicine.—By JAMES M. ANDERS, M.D., Ph.D., LL.D., Professor of the Practice of Medicine and of Clinical Medicine, Medico-Chirurgical College, Philadelphia. Sixth edition. Philadelphia, New York, London: W. B. Saunders & Co., 1903. Cloth, $5.50 net; sheep or half morocco, $6.50 net; pages, 1300; illustrated.

A Textbook of Obstetrics. By BARTON COOKE HIRST, M.D, Professor of Obstetrics in the University of Pennsylvania. Philadelphia, New York, London: W. B. Saunders & Co., 1903. Cloth, $5 00 net; sheep or half morocco, $6 00 net; pages, 900; illustrated.

A Textbook of Obstetrics.—By J. CLARENCE WEBSTER, M.D. (Edin.), F.R.C.P.E, F.R.S.E., Professor of Obstetrics and Gynecology, Rush Medical College, in Affiliation with the University of Chicago; Obstetrician and Gynecologist to the Presbyterian Hospital, Chicago; Obstetrician to the Chicago Lying-in-Hospital and Dispensary Chicago, etc. Philadelphia, New York, London: W. B. Saunders & Co., 1903. Cloth, $5.00 net; sheep or half morocco, $6.00 net; pages, 767; illustrated.

Clinical Examination of the Urine and Urinary Diagnosis: A Clinical Guide for the Use of Practitioners and Students of Medicine and Surgery.—By J. BERGEN OGDEN, M.D., formerly Instructor in Chemistry, Harvard University Medical School, Boston; Assistant in Clinical Pathology, Boston City Hospital, etc. Second edition. Philadelphia, New York, London: W. B. Saunders & Co., 1903. Cloth, $3.00 net; pages, 418; illustrated.

Nervous and Mental Diseases.—By ARCHIBALD CHURCH, M.D., Professor of Nervous and Mental Diseases and Head of Neurological Department, Northwestern University Medical School; and FREDERICK PETERSON, M.D., President New York State Commission in Lunacy; Chief of Clinic, Department of Nervous Diseases, College of Physicians and Surgeons, New York. Fourth Edition. Philadelphia, New York, London: W. B. Saunders & Co., 1903. Cloth, $5.00 net; sheep or half morocco, $6.00 net; pages, 922; illustrated.

A Textbook Upon the Pathogenic Bacteria: For Students of Medicine and Physicians.—By JOSEPH MCFARLAND, M.D., Professor of Pathology and Bacteriology in the Medico-Chirurgical College, Philadelphia; Pathologist to the Philadelphia Hospital and to the Medico-Chirurgical Hospital, Philadelphia. Philadelphia, New York, London: W. B. Saunders & Co., 1903. Cloth, $3.50 net; pages, 629.

Diseases of the Eye.—By CHARLES H. MAY, M.D., Chief of Clinic and Instructor in Ophthalmology, College of Physicians and Surgeons, Medical Department, Columbia University; Ophthalmic Surgeon to French Hospital, New York, etc. Third edition. 12mo, 410 pages, with 275 original illustrations, and 16 plates with 36 colored figures. Wm. Wood & Co., New York. Price, $2.00 net.

A Handbook of Diseases of the Eye.—By HENRY R. SWANZY, A.M., M.B., F R.C.S.I., Surgeon to Royal Victoria Eye and Ear Hospital, and Ophthalmic Surgeon to the Adelaide Hospital, Dublin; ex-President of the Ophthalmological Society of the United Kingdom. Eighth edition. Illustrated. P. Blakiston's Son & Co., Philadelphia. 580 pages. Price, $2.50 net.

A Textbook of Clinical Anatomy: For Students and Practitioners.—By DANIEL N. EISENDRATH, A.B., M.D., Clinical Professor of Anatomy in the Medical Department of the University of Illinois (College of Physicians and Surgeons); Attending Surgeon to the Cook County Hospital, Chicago, etc. W. B. Saunders & Co., Philadelphia, New York and London, 1903. Cloth, $5.00 net; sheep or half morocco, $6.00 net. 515 pages; illustrated,

A Compend of Human Anatomy.—By SAMUEL O. L. POTTER, M.A., M.D., M.R.C.P. (LOND.), formerly Professor of the Principles and Practice of Medicine in the Cooper Medical College, of San Francisco, etc. Seventh edition. P. Blakiston's Son & Co., Philadelphia. 372 pages. Price, $0.80 net.

AMERICAN NEWS AND NOTES.

GENERAL.

Charitable Bequests.—CLEVELAND, OHIO: H. Melville Hanna has given $100,000 to the Western Reserve University, the income to be devoted to instruction and research in anatomy and kindred subjects. WILMINGTON, DEL.: By the will of Elizabeth W. Mendinhall, $7,000 was given to the Homeopathic Hospital, $7,000 to the Ferris Industrial School, $3,000 to the Menquad Home for Aged Couples, and $2,000 to the Woman's Benevolent Society of Wilmington. NEW HAVEN, CONN.: By the will of Bronson B. Tuttle, $10,000 was given to the Waterbury Hospital.

Does Intemperance Cause Cancer?—An inquiry by Dr. Alfred Wolff into the mysterious cause of cancer has yielded an unexpected conclusion which promises temperance advocates a new and powerful argument. Taking the widest possible survey of cancer areas throughout Europe and in the United States, Dr. Wolff discovers that all the districts of high cancer mortality are districts in which beer or cider is largely drunk. Bavaria, for instance, heads the list in Germany, and Salsburg in Austria—both great beer-drinking provinces. In France the statistics are still more striking. There is the most marked contrast between the high cancer mortality in beer-drinking departments and the low deathrate from cancer elsewhere. The increase in cancer in England during recent years, Dr. Wolff thinks, has probably a direct relation to the increased consumption of beer.

Cities Make Lunatics.—An exchange in speaking of the modern rush in city life says: "So complicated is the environment of those who live in the great towns, so many and so varied are the calls upon their self-control and upon their effort making powers, that their mental machinery is apt to become more complex, its parts require nicer construction and adjustment, and the whole machine is more apt to get out of gear and to suffer derangement than in the more primitive and less emotional life of even half a century ago. It is not overwork that is the determining cause of the disturbance of mental equilibrium, but carking care, worry, and anxiety. What is then the best remedy for the baneful and unnatural tension of the nervous system incurred as the inevitable price of the advantages of living in towns? How is the mind of man to be adjusted to his progressively complicated environment? These are questions which the medical fraternity has yet to solve.

Success in Stamping Out Foot-and-mouth Disease.—Secretary Wilson, of the United States Agricultural Department, has been quoted concerning the foot-and-mouth disease as follows: "No country before," he said, "has succeeded in stamping out such an extensive outbreak of this disease. The work was accomplished under great difficulties. The weather in New England last December was very inclement, and the inspectors and their assistants were obliged to work in the open country with the thermometer far below zero. Some of the men had their extremities frozen and were disabled. Notwithstanding these obstacles, the work went forward constantly and rapidly. It is difficult, even at this time, to understand how the pits were dug in the frozen ground for burying the carcasses, and how the disinfectants were applied when almost everything of a liquid nature became frozen in a short time after it was exposed to the atmosphere. But the work was so thorough that not in a single case where the disinfection was conducted by the department's representatives did the disease reoccur when fresh cattle were introduced. During this work 3,900 cattle and 590 hogs and sheep were slaughtered and paid for and over 200 premises were disinfected. The total cost of the work was less than $300,000. Since the last diseased herd was slaughtered all animals in the infected districts have been carefully examined 3 times without finding any traces of the disease."

EASTERN STATES.

The Value of a Finger-joint.—Five hundred dollars is the value placed on a man's finger-joint by a jury in a suit tried in the Circuit Court at Newark, N. J. Henry Klein, a hatter, formerly employed in the factory of Joseph Fisch, in Newark, was the plaintiff. It was shown that while at work on September 21, 1902, Klein's left hand was caught in a forming machine, and one finger was so badly crushed that it was necessary to amputate it at the first joint.

Soldiers Will Fast as an Experiment.—The detachment of 20 privates of the hospital corps of the army who are to assist Professor Chittenden, of Yale College, in his series of food experiments, have left Fort Meyer, Va., for New Haven, where they will be quartered in a house in the University grounds, and will be under the military command of Lieutenant Dewitt, an assistant surgeon in the army. Professor Chittenden believes that the average man eats entirely too much, and that by proper mastication and by gradually getting the stomach and body in proper shape, the amount of food necessary for the support of a man can be reduced more than one-half.

NEW YORK.

Takes State Board Examination at 64.—Francis M. French, aged 64, has taken the State medical examinations which are being held at Syracuse. He is thought to be the oldest candidate who has ever appeared in this city. Mr. French was 60 years old when he was graduated from the University of Denver.

No Tetanus in Rochester.—Dr. Goeber, health officer of Rochester, calls attention to the fact that although children and boys in that city on the Fourth of July received a number of wounds from blank cartridges, presumably as many in proportion to the population as other cities, in not a single instance did tetanus develop. This is believed by the doctors to have been due to the fact that the antitoxin of tetanus was kept ready and distributed free to physicians, who had been cautioned by the health officers to use the remedy as a prophylactic measure in all cases receiving blank cartridge wounds, or others likely to result in tetanus. This was carried out faithfully with the result above stated.

Medical Reconciliation.—A special meeting of the Council and Fellows of the New York State Medical Association was held October 1, at the Academy of Medicine, New York City. The following resolutions were unanimously adopted:

WHEREAS, The members of the New York State Medical Association desire a union of the medical profession in the State of New York, and

WHEREAS, It is deemed expedient for the attainment of this purpose to make further effort to bring together the New York State Medical Association and the Medical Society of the State of New York, under the name of "The Medical Society of the State of New York."

Resolved, That a committee of five be appointed by the chair, and said committee is hereby empowered to do whatever is necessary and expedient to bring about such a union in a just and equitable manner, and

Resolved, That the committee so empowered may confer, cooperate, and unite with a committee of the Medical Society of the State of New York for the purpose of forming said union of the two medical organizations, and

Resolved, That a copy of these resolutions be transmitted to the Secretary of the Medical Society of the State of New York, with a request that their conference committee be granted similar powers.

PHILADELPHIA, PENNSYLVANIA, ETC.

Is Bathing Injurious?—Suit has been instituted against the city of Philadelphia in behalf of a man and his wife for alleged damages to the wife, resulting from the fact that she was taken, under orders from the Board of Health, to the Municipal Hospital, and there given a cold bath from which it is claimed that illness developed.

Care for the Babies.—The Bureau of Health's census of babies in congested neighborhoods in Philadelphia has been completed, and it has been ascertained that the percentage of illness during the summer among infants was very small. The principal thing lacking was vaccination, and a great many children were inoculated with vaccine virus. Many valuable suggestions regarding the care of babies were given mothers by the visiting physicians.

The Woman's Medical College.—The Woman's Medical College of Pennsylvania, the oldest woman's college of medicine in the world, opened September 23 for the season of 1903-1904. Addresses were made by Dr. Clara Marshall, Dean of the College, and Dr. T. Turner Thomas. It was announced that, owing to the resignation of 2 members of the faculty, the vacant places in that body would be filled by Dr. Edith Warner Cadwalader, professor of obstetrics, and Dr. Ruth Webster Lathrop, professor of physiology and hygiene. The Chair of Anatomy, vacated by the death of Professor William H. Parrish, will not be filled this year.

New Site for the College of Physicians.—The College of Physicians of Philadelphia has purchased from the West End Trust Company the property at the southeast corner of Twenty-second and Ludlow streets for $80,000. On the site, 130 feet by 180 feet, it is the intention of the college, as soon as sufficient funds can be raised, to erect a handsome building. The purchase is the outcome of Andrew Carnegie's offer, about a year ago, of $50,000 to this college for a library if the physicians would raise another $50,000. The college succeeded in getting $54,000. That sum, together with Mr. Carnegie's gift, makes $104,000. The $80,000 for the building site came out of that sum, so that the treasurer now has $24,000.

SOUTHERN STATES.

Fever Situation at Laredo, Texas.—Under date of October 5, it is stated that the official bulletin shows 22 new cases of yellow fever, with no deaths. This makes the total 83, while the deaths have numbered 5. While today has shown a very large increase of cases, both Drs. Guiteras and Tabor concur in the opinion that there is no cause for alarm. No new cases or any deaths have been reported from Minera. Conditions in Nuevo Laredo are greatly improved. One more case of fever has appeared at Monterey.

The Medical and Chirurgical Faculty of Maryland.—The Medical and Chirurgical Faculty of Maryland held its semiannual meeting at the Blue Mountain House, September 24-25. Two sessions were held each day. The program for the opening session included an address by the president, Dr. Eugene F. Cordell: a paper by Dr. T. H. Brayshaw on "Climatic Influence on Disease;" an address by Dr. John S. Fulton, secretary of the State Board of Health, on "What the Country Physician Can Do to Prevent or Limit Epidemics of Typhoid Fever;" discussions of "The Best Means to Employ for the Early Diagnosis of Typhoid Fever," by Dr. William Osler and Dr. T. B. Fletcher. Dr. William H. Welch made an address on the "Principles of Ethics," and addresses were made by Drs. D. W. Cathell, Charles M. Ellis, and Samuel T. Earle. Dr. J. N. McCormack, of Bowling Green, Ky., spoke at the same session on "The Organization of State and County Medical Societies."

WESTERN STATES.

The American Confederation of Reciprocating Examining and Licensing Medical Boards.—A meeting of the Confederation will be held at the Southern Hotel, St. Louis, Mo., Tuesday, October 27 next, at 2 p.m. This meeting promises to be exceptionally well attended by representatives of State Boards desiring practical interstate reciprocity in medical licensures in the near future.

Basis for Reciprocal Medical Registration.—That for the purpose of establishing medical reciprocity among the States composing it, the American Confederation of Reciprocating Examining and Licensing Medical Boards does hereby agree to the following propositions as a basis of reciprocal medical registration.

(*a*)—That a prerequisite to reciprocal registration, the applicant therefor shall file in the office of the Board of the State of which he is a licentiate such evidence as will enable the said board to certify that he is of good moral and professional character.

Such certificate shall be filed with his application for reciprocal registration in another State.

Qualification No. I. (*b*)—That a certificate of registration showing that an examination has been made by the proper Board of any State, on which an average grade of not less than 75% was awarded, the holder thereof having been at the time of said examination, the legal possessor of a diploma from a medical college in good standing in the State where reciprocal registration is sought, may be accepted, in lieu of examination, as evidence of qualification. Provided, that in case the scope of the said examination was less than that prescribed by the State in which registration is sought, the applicant may be required to submit to a supplemental examination by the Board thereof in such subjects as have not been covered.

Qualification No. II. (*c*)—That a certificate of registration, or license issued by the proper Board of any State, may be accepted as evidence of qualification for reciprocal registration in any other State. Provided, that the holder thereof was, at the time of such registration, the legal possessor of a diploma issued by a medical college in good standing in the State in which reciprocal registration is sought, and that the date thereof was prior to the legal requirement of the examination test in such State.

FOREIGN NEWS AND NOTES

GENERAL.

Bubonic Plague in Rio Janeiro.—Under date of October 3, it is reported that some cases of bubonic plague have been discovered at Campos, State of Rio Janeiro. Campos is a town and railroad station on the right bank of the Rio Parahyba, 137 miles from Rio Janeiro. It has a population of 27,000.

Plague and Cholera Raging.—From Tien-Tsin, Northern China, under date of September 28, comes the following statement: Both the plague and cholera are raging at Peitang, a seaport 50 miles east of Tien-Tsin, where 2,000 deaths have occurred during the past 2 months. The towns of Neuber, Taku and Tien-Tsin are not affected.

Cholera in the Orient.—Advices received from Kabul, Afghanistan, under date of August 31, say that the cholera epidemic is abating. Several prominent persons were victims of the disease. Rigorous measures were adopted to check its spread. The troops at Kabul were all moved into camps outside the walls, and the population was forbidden to eat fruit or vegetables. Any infringement of the regulations was punishable by death.

Separate Medical Colleges for Women.—Dr. Helene Friedericke Stelzner expresses her disapproval, in the *Medicinische Wochenschrift*, of Munich, of Professor Stieda's proposal that there should be separate medical colleges for women. She believes that in such a case the women students would have to put up with inferior teachers, collections, and opportunities for clinical study and practice, with the result that people would refuse to engage women doctors.

Big Cities the Healthiest.—From Berlin comes the news that Dr. Karl Ballod recently read a paper before the International Statistical Conference on the mortality in large cities, contending that cities having a population of 1,000,000, in western Europe, were healthier than smaller cities, because the latter's sanitary precautions were far inferior to those of the larger cities. Berlin, he said, was the most healthful, and London and Vienna came next. Paris was the worst of all. Country populations were the least healthy, but country people going to the cities were healthier than town-bred persons.

Violet Rays Tried on Siberian Prisoners.—News from Berlin states that refugees from Russia state that political prisoners, confined in Schlussenberg fortress, are being subjected to torture in order that the effects of violet light upon their brains may be determined. It is said that the subject selected for scientific purposes is placed in a large many-windowed cell, into which the sunlight streams through violet panes, and by night from electric lights. The result is said to be a stupefaction of the prisoners, and it is asserted that permanent injury is done to the brain by this means. It is possible that much of this story exists in the imagination of the refugees rather than in fact.

OBITUARIES.

Basil B. Brashear, a retired army surgeon, October 2, at Upper Marlboro, Md., aged 81. He was born in 1820 and served as an army surgeon through the Civil war. After he was graduated from the College of Physicians and Surgeons (New York, in 1861), for a number of years was professor in the Cleveland Medical College. He was president of the Shakespeare Club of Atlantic, where he delivered lectures on hygiene. Of late years he had retired from practice and had devoted his time to historic work.

Andrew H. Kimbrough, at his home in Danville, Ill., September 17, after a long illness, aged 70. He was a graduate of the Jefferson Medical College, in 1858. He was a member of the Illinois State Medical Society and of Vermillion County Medical Society.

L. Martin Irwin, at his home, Lafayette, Ind., September 17, aged 48. He was a graduate of Rush Medical College, Chicago, in 1882. He was a member of the Indiana State Medical Society and the Tippecanoe County Medical Society.

William M. Cox, at his home in Mt. Sterling, September 14, aged 65. He was a graduate of the College of Physicians and Surgeons, at Keokuk, Ia., of the class of 1860, and was a member of the American Medical Association.

Robert Bruce Shaw, at the Montreal General Hospital, after an operation for appendicitis, September 13. He was a graduate of the McGill University, Montreal, in 1896. He was a practitioner in Charlottetown, P. E. I.

I. D. Morgan, at his home in Utah, Ala., September 17, aged 73. He was a graduate of the University of Pennsylvania, in 1858. He was a surgeon of the Confederate Army during the Civil war and a local railway surgeon.

Charles Gardiner, at his home in Emporia, Kan., September 24. He was a graduate of the Jefferson Medical College, of the class of 1879, and a member of the American Medical Association.

William D. Wood, at his home in Jamaica, N. Y., October 4, aged 82. He was graduated from Castleton Medical College, Castleton, Vt., in 1854, and was an army surgeon during the Civil war.

Clarence G. Bowers, killed by falling from a train which was running between New York and Philadelphia, September 29, aged 25; graduated from the Medico-Chirurgical College, 1903.

Benjamin G. Kimmel, at his home in Youngstown, Ohio, from fracture of the skull, September 19, aged 62. He was a graduate of Miami Medical College, Cincinnati, in 1870.

Joseph P. Oliver, of Boston, in Paris, September 11, the body being brought home for burial. He was a graduate of the Harvard Medical School, in 1871.

John K. Dick, at his home in Lincoln, Ill., September 20, from typhoid fever, aged 49. He was a graduate of the Rush Medical College, class of 1890.

James S. Hall, suddenly at Manville, Wyo., September 16. He was a graduate of the College of Physicians and Surgeons, Keokuk Ia., in 1875.

J. Walter Burch, at the Maryland University Hospital, October 2, aged 26; graduated from the Maryland University School of Medicine, 1903.

R. Howard Edmundson, at Kingston Avenue Hospital, Brooklyn, September 8, from diphtheria. He was a graduate of the University of Buffalo.

Wilson W. Stroup, by suicide at his home in Harrisburg, Pa., September 30, aged 55; graduated from the University of Pennsylvania, in 1874.

George W. Bowen, at his home in Philadelphia, September 30, aged 56. He was graduated from the University of Pennsylvania, in 1872.

John A. Draughon, at his home in Springfield, Tenn., September 18, aged 49. He was a graduate of the Bellevue Medical College, in 1875.

Austin Holden, at his home in Newton, Mass., September 30, aged 49.

SOCIETY REPORTS

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

Fifty-third Annual Meeting Held at York, September 22-24, 1903.

[Specially reported for *American Medicine.*]

[*Concluded from page 541.*]

FIFTH SESSION (CONCLUDED).

Result of One Year's Medical Treatment of Gastroptosis.—A. P. FRANCINE and J. D. STEELE (Philadelphia) said they had endeavored to answer 3 questions: (1) In what proportion of the cases of gastroptosis accompanied by symptoms are the symptoms due to the displacement of the stomach; (2) what is the effect of mechanical treatment; (3) what is the prognosis. The report is based on a study of 28 cases for 1 year or longer. The writers state that downward displacement of itself may be responsible for gastric symptoms, the answer to the first question being that in about a fifth of the cases symptoms are due to the position of the stomach. They have obtained good results from supportive treatment. The prognosis is good in the cases where displacement is the cause of symptoms. The symptoms in the remaining four-fifths of the cases are due to gastric motor insufficiency, neurasthenia, constipation, congestion, and other factors.

Discussion.—THEODORE DILLER (Pittsburg) mentioned the cases of 2 neurasthenic women who were greatly benefited by treatment of the displaced stomach. S. SOLIS COHEN (Philadelphia) took exception to that use of the term neurasthenia, classing it as a result of gastroptosis or movable kidney. Neurasthenia is a distinct disease and is not cured by operations upon the stomach. The best result obtained from bandages is to give relief. In high degrees of prolapse operation is necessary to give good correction. ERNEST LAPLACE (Philadelphia) said that malnutrition caused sagging of the organs. The entire condition is given the convenient name of neurasthenia. The point is that patients come for treatment. Medical measures and support do not suffice to cure. Surgery only can remove the cause of exacerbations and allow medical treatment to act. STEELE, in closing, said he considered gastroptosis to be a complication rather than a symptom of neurasthenia. He is not prepared to say that the surgeon is not needed, but a certain proportion of patients get well without operation.

Edebohls' Operation of Decapsulation of the Kidney.—JAMES TYSON (Philadelphia) said that this operation was foreshadowed by Reginald Harrison, but was first deliberately employed for the cure of nephritis by Edebohls. He mentioned the case of a girl of 10 which he had previously reported. She is now the picture of health, and he is certain that her life was saved by the operation. Tyson believes the operation to be a serviceable one when it has judicious application and that it has come to stay. A thorough trial of medical treatment should first be made, but operation should not be deferred until the patient is moribund. Cases of parenchymatous are more promising than those of interstitial nephritis. The operation is not so satisfactory when there are extensive cardiovascular changes. In persistent cases of socalled idiopathic hematuria operation should be performed.

Discussion.—S. SOLIS COHEN (Philadelphia) cited the case of a woman who had a floating kidney with presence of albumin and casts in the urine and persistent hematuria. Operation showed the kidney to be large and hard. The capsule was simply incised and the kidney anchored by Senn's method. Improvement was immediate. Albumin and casts finally disappeared, and the woman is now in good health 1½ years after operation, having gained 40 pounds. Hematuria is still occasionally present. The outcome points to the fact that operation goes far to relieve chronic inflammation. RAMON GUITERAS (New York) said it was a question if the new capsule in these cases would not produce the same or even greater effect than did the old. After a period of freedom following removal of the capsule there will be a longer period of contraction and the patient will die. Chronic Bright's disease may be relieved by nephropexy; here there is not the secondary thick capsule. If there is one movable kidney, only that one should be operated upon.

Cases of Penetrating Wounds of the Orbit.—A. R. CRAIG (Columbia) reported 5 cases and exhibited some of the patients. Two were gunshot wounds, 3 by pieces of steel. He advises noninterference when the penetrating particles are neither steel nor iron and are sterile. When iron or steel locate with x-ray and remove with a magnet.

Sarcoma of Maxillary Antrum and Orbit.—J. F. KLINEDINST (York) reported a case occurring in a boy of 14. The growth was at first believed to be a cyst, and was partially removed. There was recurrence in 2 weeks, and then radical removal was effected. No sign of secondary recurrence has appeared during 7 months.

Statistics of Refraction Work.—M. V. BALL (Warren) reported 1,135 cases seen in private practice. The results showed nothing striking, the findings of other observers being in the main corroborated.

Treatment of Suppurating Ulcers of the Cornea.—L. H. TAYLOR (Wilkesbarre) spoke of prophylaxis in the way of giving prompt attention to all wounds of the cornea. In large virulent ulcers one remedy is of superior value—the galvanocautery.

Affections of the Eye Associated with Disease of Contiguous Sinuses.—S. D. RISLEY (Philadelphia) spoke of the effect upon the eye of inflammation of the ethmoid and sphenoid sinuses, purulent collections at the roots of molar teeth, etc. Persistent asthenopia should direct attention to these sinuses.

Operative Treatment of Squint.—WENDELL REBER (Philadelphia) gave detailed indications for tenotomy and advancement, and described in full the technic of the latter procedure.

The Differential Diagnosis of Exophthalmus.—J. E. WILLETTS (Pittsburg) spoke principally of the diagnosis of meningocele from dermoid cyst, on aneurysm of the orbit and of Graves' disease.

Danger Signals of Intracranial Infection from the Pneumatic Cavities of the Ear and Face.—B. ALEXANDER RANDALL (Philadelphia) said that the first manifestations of infection were those generally called irritations. Recent discharges from the ear or nose and the presence of continued fever should direct attention to the cranium.

Use of Myelocene in Catarrhal Deafness.—W. B. WEIDLER (Lancaster) described the methods of preparation and use of this substance and reported 5 cases. Of these, 3 showed decided improvement. The 2 unimproved had a duration of 15 to 20 years.

The Upper Respiratory Tract.—J.C. MCALLISTER (Ridgeway) spoke of the functions of this region and the treatment of affections commonly met with.

The Syphilitic Nose and Throat.—C. P. GRAYSON (Philadelphia) considered in detail this question calling particular attention to the characteristic odor in the later stages. Thoroughness is the cardinal principle of treatment.

SIXTH SESSION.

Some of the more Unusual Results of Movable Kidneys.—CHARLES P. NOBLE (Philadelphia) said that local symptoms of movable kidney were considered to be comparatively rare but he has observed a number of illustrations of such condition. The 2 local symptoms most often present are (1) a sensation of dragging in the region of the kidney and (2) the presence of a movable tumor in the abdomen that is appreciated by the patient. He has never seen a case of chronic Bright's disease which he thought due to movable kidneys. When reflex symptoms from movable kidney do not warrant operation, however, it is necessary to keep in touch with the changes, if any, going on in the kidney by making frequent examinations of the urine.

Surgical Treatment of Facial Palsy.—CHARLES H. FRAZIER (Philadelphia) reported a case occurring in a young man in whom the facial nerve had been severed by a bullet. The distal portion of the facial was joined to the hypoglossal. The indications for and against operation were discussed at length. When the nerve is known to be severed operation should be done early. If there is doubt of its condition, time for possible recovery should be given. The relative desirability of using the hypoglossal or the spinal accessory was discussed at length. The technic of anastomosis was also described.

The Treatment of Puerperal Sepsis.—E. E. MONTGOMERY (Philadelphia). This paper will appear in *American Medicine.*

One Year's Work in Appendicitis.—J. B. DEAVER (Philadelphia). This paper will appear in a future issue of *American Medicine.*

The Difference between the Management of Appendicitis and Salpingitis.—GEORGE ERETY SHOEMAKER (Philadelphia) called attention to some important differences in the prognosis and hence in treatment of these affections. Points aiding in diagnosis are that menstrual disturbances are less apt in appendicitis, involvement of the gastrointestinal tract being more likely to occur. A mass, if formed, is lower in salpingitis. Cases having involvement of the tube alone, without involvement of the appendix, stand a much better chance, if operation be not performed, than if the latter organ is also implicated. Appendicitis is much more treacherous. Gangrene of the tube is rare. Operation should be done on all cases of appendicitis except the simple catarrhal and in these also, unless the symptoms diminish within 24 hours. In the second attack always operate. In inflammation of the tube urgency is not nearly so great and the formation of pus may be awaited.

The Management of the Pus-appendix.—G. W. GUTHRIE (Wilkesbarre) reported the results from pus cases operated upon at the Wilkesbarre hospital. During 1901 there were 51 cases, of which 25 contained pus. Among the latter were 2 deaths, a mortality of 8%. In 1902 there were 71 cases, 36 contained pus, of which 3 died, a mortality of 8⅓%. The technic in cases with localized abscess is primary incision wide of the abscess, walling off with gauze, slow evacuation of pus, sponging with gauze (no irrigation), counter opening into pus cavity, and insertion of drainage-tubes. Rectal injections in acute appendicitis are condemned.

The Value of the Leukocyte Count in Cases Simulating

Acute Appendicitis.—A. Barr Snively (Waynesboro) gave a lengthy summary of reported series of cases bearing on this important question.

Suppurative Appendicitis.—Ernest Laplace (Philadelphia) said that one of the most important points in appendicitis is the possible change in virulence of the germs present. This accounts largely for the uncertainty of the disease. In a few hours, comparatively speaking, the appendix may become gangrenous, this being practically hospital gangrene. A measure to be insisted upon in pus cases is general irrigation. This is kept up for a long time, while the patient is coming out of ether on the table.

Discussion.—J. B. Deaver said that the danger of intraperitoneal abscesses is that they are often accompanied by other collections of pus. He cited the case of a woman who had an abscess extending into the pelvis, and whose lesser peritoneum was also full of pus. He now follows the plan of not putting a stitch in pus cases, allowing the whole wound to remain open for drainage. G. E. Shoemaker said that he obtained very little help from the leukocyte count in abdominal cases. He always has a blood count made, but depends on other data for diagnosis. Ernest Laplace again emphasized the value of drainage in pus cases. He makes openings on both sides behind and in front, and keeps up continuous irrigation by means of through-and-through drainage-tubes.

Perforated Gastric and Duodenal Ulcers. Report of Three Cases.—John H. Gibbon (Philadelphia). Will appear in *American Medicine.*

Decapsulation Combined with Fixation of Every Movable Kidney to Prevent Bright's Disease.—R. H. Gibbons (Scranton) said that a movable kidney is a menace to health even if it is causing no symptoms. He recommends fixation in every case. When a pregnant woman has a movable kidney, with diminished urea, etc., operation should be performed in anticipation of impending trouble.

Discussion.—Ramon Guiteras (New York) said he saw no reason why decapsulation should not prove of benefit in cases of puerperal eclampsia if the patient can stand the operation, as there will be a period of greater activity of the kidney. A point to be remembered in these cases, however, is that while anuria is relieved in some instances, in others anuria has followed decapsulation in cases excreting a small amount of urine.

AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS.

Sixteenth Annual Meeting, Held in Chicago, Ill., September 22, 23, and 24, 1903.

[Specially reported for *American Medicine.*]

[*Continued from page 542.*]

Report of a Fourth Consecutive Successful Operation for Acute Perforated Gastric Ulcer, with General Infection of the Peritoneal Cavity.—H. Howitt (Guelph, Ontario) said that acute gastric ulcer perforation, as understood by him, referred to those cases in which nature failed to prevent the escape of gas, liquid, or other contents of the stomach by adhesion of the part to adjacent structures. Attention was called to the importance of early diagnosis and prompt action on the part of the surgeon. He believed that the diagnosis should be made without difficulty when the perforation occurred in a young, anemic girl, who had a previous history which indicated the presence of an ulcer, and that it should not be difficult in the majority of the other cases, for there was generally a history of after meals, gastric distress, and frequently other symptoms to indicate the trouble. With or without such previous history, the sudden onset of intense pain in the epigastric region, the pronounced shock, the rigidity of the abdominal wall and the thoracic character of the respiratory movements aided in arriving at a correct conclusion; and, if in addition to these, the initial pain radiated in a certain direction, and the position of greatest suffering changed and gradually took a downward course in the abdomen, the diagnosis might be made without delay. In the rare instances of rupture of the gallbladder or perforation of the duodenum, in which the symptoms closely resembled those of gastric perforation, the indications for prompt surgical treatment were practically the same. In perforation of the anterior wall to the left of the median line, the material, and consequently the pain, followed a course along the inner side of the descending colon. In all other situations along the descending colon toward the pelvis. He favored a large abdominal incision, collapse of distended intestines by temporary enterotomy, and evisceration, with proper provision to keep the exposed parts warm and moist. Distention of the bowels was the general rule in these cases. The administration of morphia in the early stage, before a diagnosis had been made, often prevented timely recognition and prompt action. It was the general practitioner who was first called, and until he became more familiar with the true import of the initial symptoms successful operations would not be common. The symptoms indicated the position of the ulcer in the stomach in a manner sufficiently definite for all practical requirements of the surgeon. Before perforation took place, when the ulcer approached the peritoneal coat, a local sensitive area of peritonitis was produced, and it was very sensitive to pressure or other form of irritation. Hence the posture of the patient was that which avoided pressure and kept the contents of the stomach away from the ulcer. For instance, when the ulcer was on the anterior wall, the patient was more comfortable when lying on the back, and so on, according to the position of it. When it was on the anterior wall, point pressure of a superficial character might by causing severe pain, indicate the exact position. Whether caused by pressure, food or otherwise, the pain, when severe, tended to radiate in certain directions, according to the position of the ulcer. Thus, if near the pylorus and on the anterior wall, to the right, or to the right and downward. On other parts of the anterior wall, to the left and to left and upward to shoulder. On posterior wall, to back immediately behind its situation and to right or left, according to whether it was right or left of spinal column, and upward to interscapular space. In acute perforation of the stomach wall with distention of the bowels, the organ was collapsed and crowded on to the ribs and diaphragm in such a manner as to render it impossible for any surgeon to deal with the trouble without exposing more or less of the intestines. A large incision, collapse of the distending coils of intestines by temporary enterotomy and evisceration rendered the work easy and more expeditious, and with less damage to the delicate parts than was possible by any other method. When the perforation was large, drains were used in each flank, and in the pelvis, not through a large incision, but through separate stabs. Besides a brief synopsis of each of his former operations already reported, the paper contained a report of his fourth case in which the perforation was on the anterior wall. It was closed with fine silk sutures. His method of sight inspection and flushing of all parts of the abdomen and pelvis with a large, forcible stream and drainage was carried out. The patient recovered and was well today.

Should the Uterus and Ovaries be Removed in Operating for Double Pyosalpinx?—C. C. Frederick (Buffalo, N. Y.) said: The history of operative procedures in this class of cases had passed through three well-defined periods. The operation, as first practised by Tait and his followers for several years, consisted in removing both the tube and ovary through the suprapubic incision, leaving the uterus. In making a pedicle common to both tube and ovary there was of necessity an incomplete removal of the tube, leaving in most cases a part of the proximal end. Many of them were cured and others were not cured, the failure being in many instances due to a continuance of the diseased process in that part of the tube remaining. Some of them who had undergone this incomplete operation were again operated, the uterus was removed, and in many cases a cure resulted. The natural inference was that the uterus was the offending organ, which prevented cure after the first operation; hence arose the teaching that the uterus should be removed with the diseased tubes, in order to insure success. Then came the resort of the French school to vaginal operation for pus tubes, and then every vestige of uterus, tube, and ovary was removed, whether it was necessary or not. Learning by observation, and being obliged to treat these poor sufferers, had gradually awakened in the minds of many operators a desire to prevent such results, and gynecologists should be gratified to see a return to abdominal section, with its possibilities of conservative surgery. After an experience of about 15 years with the various surgical procedures, and noting the effects of these operations, gynecologists were in a position to decide quite accurately the amount of pain, discomfort, and illness due to disease of the various anatomic parts of the woman's sexual apparatus. As a result of these observations and deductions, it was not necessary to sacrifice all of these organs when they were not all hopelessly diseased. In other words, gynecologists were justified in removing nothing but those organs which were distinctly diseased, and they were in duty bound to retain for the woman all that were not diseased. He believed it could be stated as a surgical principle which could not be questioned that the duty of the gynecologist, when consulted by a patient for operation, was to afford that patient the greatest possible relief from the symptoms complained of, with the least mutilation, and the preservation of every organ possible to enhance the most perfect performance of all bodily functions. The rule should be to save as much healthy ovarian tissue as possible, even if it be only the fourth or eighth part of an ovary. In some rare instances the uterus should be removed, but the occasion was rare. If the condition was known to be tuberculous, the uterus should certainly be removed. But even if both tubes and uterus were taken out, one should still preserve all the ovarian tissue possible. For the past 5 years he had been studying the results of leaving in healthy ovaries in those cases of fibroids needing hysterectomy. The results had been very satisfactory. He was thoroughly convinced that gynecologists had no right under any circumstances to sacrifice an ovary or any part of one which was not absolutely and incurably diseased. The uterus should not be removed if it could be retained. The surgeon should not remove any more ovarian tissue than necessary, but the tubes should be removed *in toto;* by so doing the surgeon would best fulfil his duty to his patient by making her a more perfect woman physically, mentally and physiologically.

The Indications and Technic of Vaginal Drainage for Suppuration in the Pelvis.—Albert Goldspohn (Chicago)

discussed the chief routes by which infection entered the female pelvis. He described the type of pathologic changes resulting from each route. While pelvic cellulitis was rare and of little significance in nonpuerperal infections, via the tubes, it was the leading or primary anatomic change in puerperal infections, via the lymphatics. When vaginal evacuation of the pus in pelvic suppuration needed to be followed by a more radical secondary operation, in many cases it enabled the inflammation in the associated uterus or tubes, or ovaries, to subside during the interval, so that they need not be removed as would have been deemed necessary if a radical operation had been performed in the first instance or during the acute stage. Vaginal drainage helped to save life in cases that had become too feeble for a radical procedure to be applied at once. Preliminary drainage improved their condition, so that they could stand a radical operation later, with no higher rate of mortality than obtained after abdominal section in other cases that were not so reduced. This operation should never be a puncture with a trocar, knife or scissors, but should always be a transverse incision into the posterior culdesac, preferably with the thermocautery. From this entrance, as a vestibule, laterally located purulent accumulations, if not yet opened, were best attacked by a finger assisted by a forceps. He mentioned the details of the after-treatment. Only a small proportion of the cases so treated by him had required another operation, except when the infection was from the vermiform appendix.

Shortening of the Round Ligaments by the Blunt Hook Method.—H. W. LONGYEAR (Detroit, Mich.) described this method as follows:

> The location of the internal ring is determined by finding the point of crossing of Poupart's ligament and femoral artery, as the ring is situated immediately back and above it. Beginning half an inch inside this point and cutting toward the pubic end parallel to Poupart's ligament, a 1-inch incision is made through skin, fat and superficial fascia. Eye retractors and blunt hooks are then used, the tissues separated down to the aponeurosis of the external oblique, which is thus laid bare to the eye, to the extent of about one square inch. A puncture is now made through this aponeurosis a quarter of an inch long, situated just above Poupart's ligament and to the back of the square inch of cleared aponeurosis, and through this the blunt hook is inserted and the ligament drawn out, usually with more or less of the fat of the canal along with it. The ligament is isolated and its fibrous attachments stripped back toward the internal ring with blunt pointed dressing forceps, the ligament drawn out to the necessary length, an aneurysm needle passed through the aponeurosis and the loop of ligament drawn through this, folded back on itself, and, with one stitch of kangaroo tendon, make fast, the suture embracing in its grasp the edges of the aponeurosis where the ligament first passes through it, half of the ligament at the same point, and half on each side of the loop that is folded back on it. The skin is then closed by a running catgut suture, and dressings applied. The operation is applicable only to cases of mobile uteri without diseased appendages, in which cases it is an ideal procedure, or to cases in which adhesions may have been previously broken up by abdominal section. A number of devices have been resorted to for the purpose of catching the ligaments and suturing them through the abdominal incision and thus avoiding the making of the secondary operations in the groins, but they cannot expect to equal the method which leaves the shortened ligament in exactly its normal position.

Total number of cases operated on by this method, 58; cases in which late examination had shown uterus to be in normal position, 48; cases which showed uterus in normal position 2 to 5 months after operation, and were then lost sight of, 6; partial failure, 1; complete failure, 2; uterus held in normal position when but 1 ligament was shortened (total number of such cases), 3; failure to find either ligament, 1; failure to find more than 1 ligament, 1; confinement after operation and uterus remaining normal afterward, 3; uterus retroverting late after operation, caused by new adhesions and relieved by breaking up adhesions through abdominal incision, 1. The total additional operations performed at the same time as the Alexander operation, were as follows: Perineorraphy, 24; trachelorrhaphy, 20; curetage, 53; abdominal section, 3; operation on hemorrhoids, 3; freeing of prepuce of clitoris, 2; amputation of cervix, 1; posterior colporrhaphy, 1; cautery of caruncles, 1; dilation of sphincter ani, 1. The interior of the uterus was examined with the curet in all cases that had not been previously, at a recent date, cureted; occasionally a curetage was not necessary, but usually the uterus which had remained in retroversion for some time would be found to contain more or less degenerated mucosa.

The Need for Study of the Symptoms of Perforation in Typhoid Fever, and the Life-saving Possibilities of Early Operation.—W. D. HAGGARD (Nashville, Tenn.) stated that only about 300 cases of operation for intestinal perforation in typhoid fever had been reported since the first case, in 1884. Granting that this represented only a half or a fourth, the number was pitifully meager when it was computed that 25,000 persons died yearly in the United States from perforation and peritonitis in typhoid fever. He made a plea for an early diagnosis and an attempt, at least, to save a part of this appalling number. On a basis of a possible 30% recovery, which was shown to have been attained in the reported cases, 7,500 lives might be preserved yearly by prompt operation. The difficulty lay in making an early diagnosis. The abdomen of typhoid cases should be exposed and carefully examined daily. No abdominal symptom or sign should be considered trivial. Pain was usually the first note of alarm—sudden, severe, colicky, and persistent. Collapse at the time of perforation occurred in only 6% or 7%. Fall in temperature, while not constant, was significant; but prompt rise in pulse was uniform and a symptom of the highest value. Tenderness, rigidity, and localization of pain commonly occurred in the order named. Continuance of pain would distinguish it from colic. Exploratory laparotomy, under cocain, if necessary, was earnestly urged as a diagnostic measure in suspicious, but doubtful cases. All cases do not present the typical symptom-grouping, and an analysis of the value of the various symptoms was detailed. Statistics of all the reported cases were presented as regards the greater frequency in men, the rarity in children, the predilection of occurrence in the second and third weeks, the preponderance of location in the ileum, the likelihood of finding the perforation single (84%), the relative locations in the various portions of the canal, and the uniformity of death without operation. He reported three consecutive successful operations for intestinal perforation, two of which were localized; one with abscess; one with localized peritonitis, simulating appendicitis, with 3 perforations, and one operated on 8½ hours after the onset of pain, on the twelfth day of a mild attack. Operation was performed at night in a farmhouse by lamplight. The technic was described and statistics presented showing a recovery rate of 36% in cases of perforation before the advent of peritonitis; of 47.3% in cases of localized peritonitis, and 21% in cases of generalized peritonitis. An earnest advocacy was made for a realization of the possibilities of life saving in this hopeless class of sufferers.

Memorial Address.—LEWIS S. MCMURTRY (Louisville, Ky.) delivered the Memorial Address on William E. B. Davis, of Birmingham, Ala. McMurtry gave an outline of the character of an earnest, honest, able, and intense man who, dying before the age of 40 years, had done the work usually encompassed in a long life. He was a leader among the members of the profession.

Some of the Sources of the Disappointments of the Surgeon: President's Address.—L. H. DUNNING (Indianapolis, Ind.) said it was not his purpose to present an address filled with pessimistic statements, gloomy forebodings or records of unhappy failures. He believed in surgery, and practised it because he had faith in its beneficent power, and had experienced some of the joy that came with a moderately successful endeavor. It could not be denied, however, that surgeons meet with their full share of disappointments. Judging from medical journal reports, one was led to believe that there were not a few of these disappoiments in the paralysis following the bloodless operation for the cure of congenital dislocation of the femur. The successful extraction of a cataract from the eye had given promise of restoration of sight to the organ operated upon, yet when a sufficient time had elapsed it was found that the patient must walk in total darkness the remainder of his days. A woman was racked by pain in the ovaries, which organs were prolapsed and inflamed. They were extirpated under the belief that such procedure would bring to the patient not only relief from suffering, but also restoration of health, so that she might again with joy take up and discharge the duties of life, was not infrequently a delusive hope. Former successes led the surgeon to promise himself and his patient restoration to health or relief from fear of recurrence of an ovarian cyst, if it were extirpated. Upon opening the abdomen a papillomatous cyst with secondary peritoneal involvement was found, and the surgeon knew that his hope must fall. After months of thorough study and experimentation, a surgeon brought forward a new procedure, the execution of which he believed would prove a means of lessening the mortality of some grave operation, or would diminish the risks of recurrence of some malignant lesion. The technic seemed scientific and its execution was accomplished with ease. The profession accepted it; its popularity grew so that in a few short months reports of cases were published in many countries and languages. After a time, when a great number of histories of cases had accumulated, it was found that less good had been accomplished by this means than by former long-used ones. One of the sources of disappointment related to the surgeon and his environments. The most nearly perfect surgeon was one who ordered his life with the utmost care. Nature must have been profuse in her gifts to him—a good constitution, excellent health, superior intellectual and temperamental endowments, an indomitable will, inflexible purposes and high moral susceptibilities. His training should be for the development of these faculties, together with the special training that would give him the requisite knowledge and skill to do high grade and special work. Add to this good judgment self-control and moderation in all things, and we had the essential elements of a successful surgeon.

[*To be continued.*]

The Mosquito and Acid Fruit.—It is known that the anopheles mosquito spreads malarial fever, but there are localities apparently favorable to the development of malaria where these mosquitos abound and yet they are exempt from malarial fever. Dr. Schoo, from experiment, finds that mosquitos are hard to infect with the malarial parasite as long as they are fed on acid fruit, and easily infected when it is withheld. The observation agrees with one of Professor Celli, who noted that one of the Italian areas immune to malaria was remarkable for the cultivation of the tomato, a food rich in vegetable acids and attractive to mosquitos.—[*London Globe.*]

ORIGINAL ARTICLES

CONSTRUCTION OF THE PROTEID MOLECULE.

BY

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The following is an attempt to set forth in a semipopular way the more recent ideas of the German school, as represented by Hofmeister, of Strasburg, with regard to the construction of the proteid molecule.

To the physiologic chemist, of course, these ideas are well known, but to the general run of the medical profession they are, for the most part, still a sealed book. They were so, at any rate, to me until I recently took a private course of instruction in Hofmeister's laboratory with Dr. Karl Spiro.

By a student with some previous knowledge of theoretic chemistry, coming fresh to the work, I have an impression that the theories can be more clearly explained than by one who has been familiar with the subject from its inception and therefore less able to appreciate the difficulties in the way of a right understanding at the start.

So much by way of apology for the attempt.

The endeavor to solve the mysteries of the proteid molecule by means of ultimate analysis has long been abandoned, but it has gradually come to be recognized that the molecule contains a number of definite nuclei, which can be split off, more or less intact, from the original molecule, and it is by a study of these nuclei and the manner in which they are combined that a solution of the problem may ultimately be attained.

The various nuclei can be obtained by hydrolysis of the original molecule, and hydrolysis can be effected by boiling with diluted acids, or better by digestion with proteolytic enzymes, more particularly trypsin. The point is to apply methods sufficiently drastic to resolve the proteid molecule into its component nuclei without injury to the latter.

For reasons which need not be entered into it is roughly estimated that the average molecular weight of a proteid may amount to about 15,000, and the average molecular weight of the individual nuclei, which can be split off, may be taken at about 120. Very roughly speaking, therefore, there would be about 120 nuclei in each molecule. The number of different nuclei known at present is about 20, and there may be, and probably are, others which await discovery. It is certain, however, that each molecule may contain more than one nucleus of the same kind, and some of the nuclei in much larger proportions than others. The leucin nucleus, for instance, is found in most proteids to occur much more numerously than any of the other nuclei and the monoamino acids in general more numerously than the diamino acids. Again, certain nuclei which are present in some proteids may be absent in others, but the monoamino acids are always represented.

The principal nuclei known are as follow:

I.—Monoamino Acids.
- *a. Monobasic.*
  1. Glycocoll (aminoacetic acid) $C_2H_5NO_2$
  2. Alanin (aminopropionic acid) $C_3H_7NO_2$
  3. Leucin (aminocaproic acid) $C_6H_{13}NO_2$
- *b. Dibasic.*
  1. Asparaginic acid, $C_4H_7NO_4$
  2. Glutaminic acid, $C_5H_9NO_4$

II.—Diamino Acids.
1. Ornithin (diaminovalerianic acid) $C_5H_{12}N_2O_2$
2. Lysin (diaminocaproic acid) $C_6H_{14}N_2O_2$

III.—Glucosamin, $C_6H_{13}NO_5$

IV.—Cystein (thioaminolactic acid) $C_3H_7NO_2S$

V.—Isocyclic Series.
1. Phenyl alanin, $C_9H_{11}NO_2$
2. Tyrosin (Oxyphenyl alanin) $C_9H_{11}NO_3$

VI.—Heterocyclic Series.
- *a. Indol Group.*
  1. Indol, C_8H_7N
  2. Skatol, C_9H_9N
  3. Tryptophan, $C_{11}H_{12}N_2O_2$
- *b. Pyrimidin Group.*
  1. Histidin, $C_6H_9N_3O_2$

Two points may here be noted:

1. The nuclei, with a few unimportant exceptions which need not be considered, contain nitrogen.

2. The NH_2 group in the monoamino acids is always in the alpha position, *i. e.*, attached to the C next to the acid group. In the diamino acids one of the NH_2 groups is always in this position. This fact is of importance for the theory with regard to the construction of the proteid molecule.

In considering the means by which the nuclei may be combined certain conditions must be complied with.

1. The nuclei must be linked together in such a way that they are capable of being separated by hydrolysis, since it is by hydrolysis that they are obtained.

2. They must be linked in such a way that the resulting molecule does not acquire very pronounced acid or basic characters. The proteid molecule, like the amino acids of which it is principally composed, has a Janus face. It is slightly acid on account of one, or not more than a few, COOH groups, and at the same time slightly basic on account of one, or not more than a few, NH_2 groups. The arrangement must be such that neither of these groups predominates over the other.

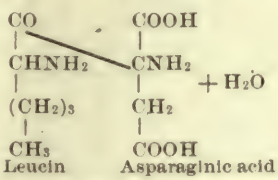
There are three principal ways in which the nuclei can be linked together:

(A) $\equiv C-C \equiv$ (B) $\equiv C-O-C \equiv$ (C) $\equiv C-NH-C \equiv$ $\equiv C-O-N \equiv$ may be thrown out at once, since $R-COOH + NH_2-R$ would always produce $R-\underset{|}{CO}-NH-R + H_2O$ so that O can never hold an intermediate position between C and N.

A. $\equiv C-C \equiv$. Two possible combinations.

EXAMPLES.

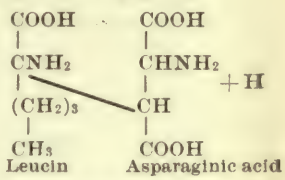
I.



POSSIBLE.

But implies numerous ketone groups and no enzymes are known which can split a ketone, so the combination is improbable. Although in this case there would be an excess of NH_2 groups their basic character would be neutralized.

II.



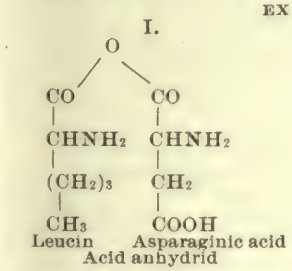
IMPOSSIBLE.

No hydrolysis is possible, so it does not comply with the first condition.

B. $\equiv C-O-C \equiv$. Two possible combinations.

EXAMPLES.

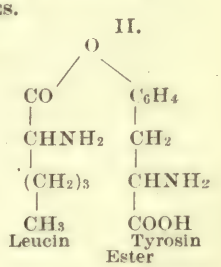
I.



IMPOSSIBLE.

A combination which would be unstable and lead to strongly basic characters, so does not comply with the second condition.

II.



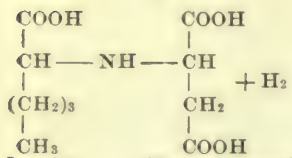
CONCEIVABLE.

But could only occur rarely, as except for tyrosin there are no alcoholgroups in the nuclei. If the tyrosin were combined in this way the proteid molecule would not give Millon's reaction which is due to a free OH group on an isocyclic ring.

C. $\equiv C-NH-C\equiv$. Two possible combinations:

EXAMPLES.

I.

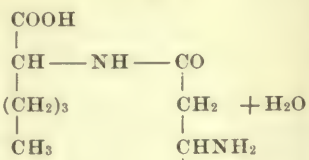


Leucin — Asparaginic acid

IMPOSSIBLE.

No hydrolysis possible and would lead to strongly acid characters, so complies with neither condition.

II.



Leucin — Asparaginic acid

THE BEST.

Stands the two conditions and is probable for other reasons.

Reasons for supposing the C,II combination to be the most probable:

I.—Action of nitrous acid on the proteid molecule

a. If NH_2 groups are treated with HNO_2 the result is:

$$R-C(-NHH)+HONO = R-COH+N_2+H_2O$$

There is a release of nitrogen.

b. If NH groups are treated with HNO_2 the result is:

$$R-C(=NH)+ONOH = R-C=N-N=O+H_2O$$

There is no release of nitrogen, but formation of nitroso combinations.

On treating proteids with HNO_2 there is very little release of nitrogen, implying a scarcity of NH_2 groups.

Paal found that on treating glutin peptone with HNO_2 nitrosamins were formed, implying the presence of NH groups.

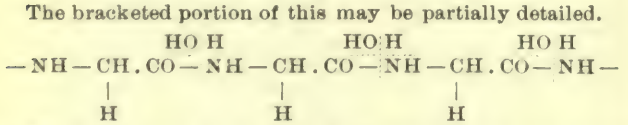
II.—*The Biuret Reaction.* For the biuret reaction certain special dispositions of the C groups with a free NH_2 group are required, and these are afforded by the C,II combination. The A,I combination would also give them, but in this case there would be such a large number of free NH_2 groups that there would be as many combinations in the original molecule to afford the reaction as in the intermediate albumoses and peptones. The reaction, however, goes on increasing in intensity so long as the latter are being formed, and this is exactly what would happen with the $\equiv C-NH-C\equiv$ combination, since there would be a constant accession of free NH_2 groups as hydrolysis progressed.

On treating proteid with HNO_2 the molecules are hardly affected as regards their total N content, but lose their power of affording the biuret reaction. This means that the NH_2 groups which are destroyed by the HNO_2 must be comparatively few in number.

III.—*Amino Acids have a Tendency toward Condensation in this Manner.* Curtius synthesized a base which gave the biuret reaction and could be hydrolysed by trypsin. The base was found to be an ethyl ester, containing 7 glycocoll nuclei joined by means of their COOH and NH_2 groups.

$$H_2N-(CH_2-NH-CO)_6CH_2.CO.O.C_2H_5$$

The bracketed portion of this may be partially detailed.



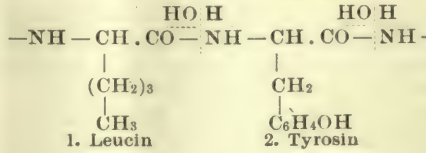
The dotted lines show where synthesis occurred and where splitting would occur on hydrolysis.

IV.—*Similar Syntheses Occur "in Vivo."* On feeding benzoic acid it combines with glycocoll and appears in the urine as hippuric acid.

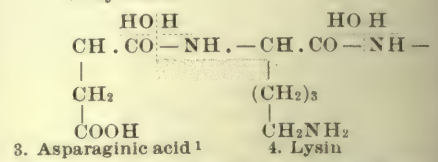
$$C_6H_5COOH+CH_2NH_2.COOH = C_6H_5.CO-NH.-CH_2.COOH+H_2O$$

In this case the combination occurs between the COOH and NH_2 groups.

It appears then more than probable that linkage of the various nuclei occurs by means of the N, and bearing in mind that in the amino acid nuclei the NH_2 group is always in the alpha position, we can construct a portion of a proteid molecule as follows, the dotted lines showing where hydrolysis can occur:

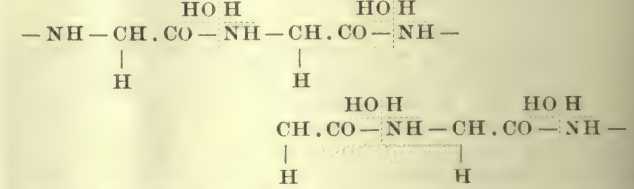


1. Leucin — 2. Tyrosin



3. Asparaginic acid[1] — 4. Lysin

There is then a main chain and a number of side chains. If the side chains are cut off and replaced by H the chain appears as follows:

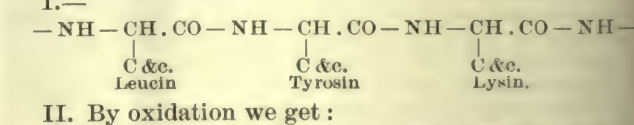


or the detailed portion of the Curtius base over again, and it becomes obvious that the whole thing may be regarded as a substituted glycocoll chain; the substituting side chains being in the case in point: 1. Butane. 2. Methyl paraoxybenzene. 3. Acetic acid. 4. Butylamin.

Surmising then that the molecule consists, for the most part at any rate, of a main glycocoll chain with a series of free swinging chains, none of which by the way is very long, it may be asked in what way is this of interest to the physiologist. There are certain inferences which can be drawn from the theory, which help to explain the processes of metabolism in the body.

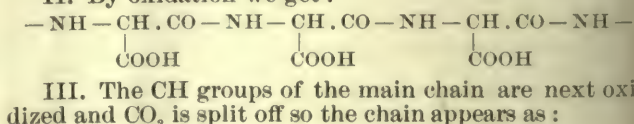
If proteids are treated with permanganate there is oxidation but no hydrolysis. In this case certain peroxyprotacids arise, complicated acids which give the biuret test. Such acids are very easily split up and afford ammonia, some glycocoll, but above all oxalic acid. There is here, according to the theory, no hydrolysis of the main chain, but the side chains are gradually whittled away by oxidation.

I.—



Leucin — Tyrosin — Lysin.

II. By oxidation we get:



III. The CH groups of the main chain are next oxidized and CO_2 is split off so the chain appears as:

$$-NH.CO.CO-NH-CO.CO-NH-CO.CO-NH-$$

IV. Such a combination would be unstable and would split up by hydrolysis of itself without any stimulus in the shape of a ferment and become

$$(CONH_2.COOH)n = \text{amino oxalic acid.}$$

V. Amino oxalic acid readily hydrolyses to oxalic acid.

$$CONH_2.COOH+H_2O = COOH.COOH+NH_3$$

[1] It will be understood that the tyrosin and asparaginic acid are linked together.

Such parts of the main chain as had not undergone the final oxidation would appear as glycocoll.

This scheme of grouping, therefore, explains the products of pure hydrolysis on the one hand and of pure oxidation by permanganate on the other.

In the body, hydrolysis and oxidation go on hand in hand, so that the main chain can be hydrolysed and the side chains oxidized to suit the needs of the organism, and glycocoll might be one of the chief products. It seems curious that neither glycocoll nor any other product intermediate between proteid and urea is ever found in fresh tissue or organs, but such products would, in any event, be present in very small amounts, and presumably when once a proteid molecule begins to break up, its remains are very speedily disposed of. That glycocoll is available when needed is shown by its attaching itself to benzoic acid to form hippuric acid.

Hofmeister shows how glycocoll may be made available. Taking Table II of the oxidation series we find:

$$\begin{array}{cccc} & HO\ H & HO\ H & HO\ H \\ -NH-CH.CO-NH-CH.CO-NH-CH.CO-NH- & & & \\ & | & | & | \\ & COOH & COOH & COOH \end{array}$$

If hydrolysis occurs at this point we have a number of amino malonic acid nuclei (COOH. $CHNH_2$. COOH), and amino malonic acid very easily, by slight warming even, splits into glycocoll and CO_2.

$$COOH.CHNH_2.COOH = COOH.CH_2NH_2 + CO_2$$

Glycocoll, according to Hofmeister, can readily be oxidized to urea, NH_3 being annexed at the same time. It is well known that NH_3 is being constantly liberated in certain organs, *e. g.*, the liver, although it does not leave the body as such, but as urea. Glycocoll and NH_3 are, therefore, constantly available, and what happens may be represented by the formula:

$$\underset{\text{Glycocoll}}{CH_2NH_2.COOH} + NH_3 + 3O = \underset{\text{Urea.}}{CO(NH_2)_2} + CO_2 + 2H_2O$$

Summarizing then we have as products:
In pure hydrolysis, amino acids.
In pure oxidation, oxalic acid.
In mixed hydrolysis and oxidation, glycocoll and finally urea.

It is not of course intended to imply that all combinations between the nuclei occur in this manner, but only, in all probability, the large majority of them. At least one exception is known, that of arginin which is a combination of guanidin and ornithin.

$$\underset{\text{Guanidin}}{HN=C(NH_2)_2} + \underset{\text{Ornithin.}}{CH_2NH_2.(CH_2)_2.CHNH_2.COOH}$$

$$= \underset{\text{Arginin.}}{HN=CNH_2-NH-CH_2.(CH_2)_2.CHNH_2.COOH} + NH_3$$

Here the synthesis occurs without loss of H_2O and consequently arginin is not split up by hydrolytic action. On hydrolysis ornithin and guanidin are not found as such among the final products but as arginin. It will be noticed however that this combination does not affect the glycocoll end of the molecule which could attach itself to the main chain in the ordinary way, the only difference being that in this case we have a binary compound swinging from the main chain instead of a single nucleus.

Such in brief is the theory; a theory which, however imperfect and capable of modification, does certainly appear to throw some light upon the construction of the proteid molecules and the way in which they may be utilized by the organism.

Condition in Linares, Mexico.—Information from Monterey, Mexico, under date of September 20, says: Dr. Roy Martin, quarantine inspector for the government, who recently returned from Linares, declares that the city is dead commercially and partly deserted on account of the prevalence of yellow fever. Although there are less than 200 yellow fever cases in Linares, there are fully 2,000 people sick with various ailments. The population is about 6,000.

THE ROLE OF LOCAL SANATORIUMS IN PREVENTING THE SPREAD OF TUBERCULOSIS.[1]

BY

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I think it is safe to say that at the present time it is the opinion of the medical profession that the best results in the treatment of pulmonary tuberculosis have been obtained in sanatoriums devoted to the exclusive treatment of the disease.

This being so, it follows that if a patient is sent to a sanatorium and is cured, while in the sanatorium during the existence of the disease, he is no longer a focus for spreading the disease and of course after cure, he remains in the same harmless condition, so that such patients from the time of their admission to the sanatorium cease to be sources for the spread of the disease.

Unfortunately, even with our present possibilities for early diagnosis, patients often come under observation so late that they are beyond cure, and consequently, in spite of instructions, are often a constant menace to their fellow beings.

Under the circumstances it seems clear that great good could be accomplished by the establishment in every community of two sanatoriums, one for advanced and one for incipient cases of pulmonary tuberculosis. By the enactment of an ordinance, every person with pulmonary tuberculosis who cannot receive proper care and be accommodated with an airy room at home, to be occupied by himself alone, should be compelled to go to one or the other sanatorium.

Two sanatoriums are advocated: 1. Because the treatment of the two classes of patients is decidedly different. 2. Because the constant presence of advanced patients and the occasional painful death of one or more have a decidedly depressing influence upon those having incipient cases. That this is a real influence for the bad, I have demonstrated on several occasions in a mixed institution with which I have been connected for several years. Only last winter 2 patients that were regularly and steadily improving in all respects, took a sudden and decided change for the worse after distressing deaths of other patients in an advanced stage of the disease.

If every case of pulmonary tuberculosis were reported to the health department, as it should be, the department could send an inspector and determine whether such case is one for home or sanatorium treatment. Of course every patient should be allowed the privilege of sanatorium treatment, if he so desire, even though his circumstances were such that he could be cared for at home.

The health authorities are allowed to isolate cases of smallpox and certain other infectious diseases, and the same right should be accorded them with regard to the greatest destroyer of all—tuberculosis.

After removal of the patient his bedding, clothing and apartment, should be thoroughly disinfected and cleaned. In this way many foci for the distribution of the disease could be destroyed. In the sanatorium the patient would, of course, be under strict medical supervision so that slight disturbance of temperature and other indications of increase in virulency of the disease, even though slight, would be noted early and thus there would be afforded a much better chance to arrest its progress by the prompt establishment of proper therapeutic measures than if the patient were at home under only occasional medical observation. In this way

[1] Read before the American Climatological Association in Washington, D. C., May 12, 1903.

the chances for the patient's recovery are doubled and he is no longer a source of danger to his fellows.

Moreover, in the sanatorium, he learns, through observation as well as instruction, how to care for his sputum and the very great value of this simple procedure. Through his visits to his friends and their visits to him, this knowledge would become much more widespread than by all the books and public lectures put together. Daily observation of the thing done acts as a clinical lecture, leaving a vivid impression much more lasting than that produced by the best of didactic instruction.

It will be urged that many tuberculous persons are able to attend to business and aid in the support of themselves and their families. To this it may be replied that it will be much less expensive to quit work for 6 months, or even for 18 months, and get well, than to continue doing rather poor work for a few months or a year and then have to quit for all time. Moreover, sanatorium life need not interfere with business if the patient really is in condition to attend to business, but it will interfere when it is best for himself and his companions that it should do so. This is, in truth, no hardship but ultimately a gain for all.

It may also be urged that it is an unnecessary hardship to compel a patient to die in an institution, excluding him from the privilege of passing his last days in the bosom of his family. To a very limited degree this is true, but in tuberculosis the end is seldom sudden and the members of the family can be notified and allowed to be present at such a time.

In the case of other great plagues the isolation is more complete and the friends are not allowed to be present even at the last. So the procedure is not unprecedented and the good, to come to the entire race from such sequestration kept up persistently for 10 or 15 years, would far outweigh the slight psychic disturbance of a few. The bodies of all dead from tuberculosis should of course be cremated.

Instruction in regard to destruction of sputum and feces, in regard to precaution as to personal contact with others and in regard to disinfection of apartments lately occupied by the tuberculous, are all of value in checking the spread of the disease, but it is my opinion that some such plan, as has been outlined, of compulsory reporting of cases and compulsory removal of suitable patients to their proper sanatoriums will be much more efficacious than all the other procedures in ridding us of the great white plague.

PYLORIC CARCINOMA WITH SYMPTOMS RESEMBLING GASTROCOLIC FISTULA.

BY

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AND

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The development of fistula between the stomach and the colon is an accident of great gravity, and one that is often accompanied by symptoms that are of striking character but that may readily lead to important errors in diagnosis. It may, therefore, well occasion some surprise that gastrocolic fistula has received so little attention from the authors of treatises on diseases of the digestive tract. As a rule, the condition is entirely ignored, or its occasional occurrence is casually mentioned, no information that would render it possible to make a diagnosis being given.

A conspicuous exception to this custom is found in the article by Welch in Pepper's "System of Medicine," in which a number of the most important characteristics of the condition are noted. Some attention is also given to it by Hale White in Allbutt's "System." With these exceptions, there is apparently no actual discussion of the condition in any of the important works that give serious attention to digestive disorders.

The reason that the gastrocolic fistula has received so little notice is, undoubtedly, the fact that it is quite rare. When, however, it does occur, it is of extreme gravity, and its recognition is a matter of great importance in prognosis and in some cases, in treatment; and if statistics are to be trusted, it is not so rare as to justify the customary omission of any discussion of it. Dittrich found it present in 3.75% of cases of gastric cancer and Brinton in 2.77%. These percentages to be sure, probably indicate too great a frequency of the occurrence of the condition, for they were compiled chiefly from cases recorded in the literature, and such cases are usually reported because they exhibit unusual features. It seems probable that the actual frequency of gastrocolic fistula, even in cancer of the stomach, is less than 2%; and cancer is certainly its most common cause. A sufficient number of cases has been described, however, to make the condition of importance and worthy of a brief discussion in connection with the points of interest in the case that form the basis of this report.

As just indicated, gastrocolic fistula usually occurs as a complication of gastric cancer. It is found next most frequently with gastric ulcer, less often in cases of cancer of the colon. Of the 68 cases collected by Murchison and Bec, 48 are known to have occured in connection with disease of the stomach; 35 of these were cancer and 12 ulcer; in 8 cases the cause was cancer of the colon. After the causes mentioned, the next most frequent is double perforation of an abscess; among the cases caused by this, some very curious conditions have been met, for instance, a fistula that traversed the whole kidney, connecting on the two sides with the stomach and the colon. Various other causes have occasionally produced the condition, and in one case it was even considered to have been congenital (Tosi), though there is doubt as to the correctness of this view.

The clinical characteristics of the condition are varied. The cases are divided clinically into three classes: (1) The latent cases, which exhibit no evidence of the presence of the fistula, and which are of interest only from a pathologic standpoint and need not be further mentioned here; (2) the cases in which there is fecal or feculent vomiting, usually with other notable signs of the condition; and (3) the cases in which there is no fecal or feculent vomiting, but in which there are other signs that at least suggest the existence of a fistula or may make a definite diagnosis possible.

The cases with fecal or feculent vomiting are, of course, the most striking, and are more likely than the others to be correctly diagnosed; though under some circumstances, they are also extremely likely to cause grave errors in the diagnosis. Certain fairly characteristic features of this vomiting are of much importance. Fecal vomiting was seen 29 times in 45 well-observed cases. It was positively absent in 16, in 12 of which vomiting of any kind was absent. It commonly comes on quite suddenly; and the pronouncedly fecal or feculent character of the vomited matter is shown at once—not gradually, as in acute peritonitis or intestinal occlusion. The vomited matter is usually brownish; it resembles the ordinary contents of the large intestine; and at times it consists of well-formed feces, *i. e.*, it is not simply feculent. Gastrocolic fistula is indeed apparently the only condition in which actual formed feces are ever vomited. With the fecal vomiting, there is often a persistent fecal odor to the breath. Finally, the vomitus is often of exactly the same character as the stools.

The other signs of the condition are common to both the second and the third classes of cases and may be present or absent in either.

A subjective sign at the time of perforation, that is

somewhat suggestive is the feeling that something has given way; or there may be an attack of severe pain at this time. Marked prostration, with severe circulatory weakness or even collapse, may also come on. Further, the patient may vomit shreds of tissue at this time, or may have a hemorrhage.

In the subsequent course, beside the fecal vomiting, which has already been mentioned, the most common complaint is of severe diarrhea, which, when it is characteristic, is typically lienteric, large particles of wholly undigested food being passed soon after the food is taken. The diarrhea is often extremely severe and entirely rebellious to treatment, and the patients at times state that food apparently passes at once into the lower bowel. Since the food is actually passed almost directly into the lower part of the large bowel, emaciation is likely to be very rapid and extreme, a fact that Murchison considered of great importance in diagnosis.

Another suggestive sign is the sudden cessation of persistent vomiting when signs of grave gastric disease are present. This is particularly important if lienteric diarrhea develops almost immediately afterward. A symptom upon which Bouveret lays great stress is persistent nausea in gastric cancer, without vomiting, but with troublesome diarrhea. He thinks that this indicates that the patient is vomiting into his intestine. One may, however, observe this in gastric carcinoma without fistula; and it cannot be considered to be of very serious importance in the diagnosis.

In the cases in which vomiting is readily produced, one may observe that colored or other recognizable material is vomited soon after its introduction into the rectum. On the other hand, lavage of the stomach may show that it is impossible to recover a large portion of the water introduced, and the patient soon after the lavage may have an imperative desire to go to stool and evacuate the remainder of the liquid in that way (May). It may also be noted that the water returned is, at the end of a long washing, just as dirty as at the beginning (Edmunds). The latter fact, however, is of little importance, as a similar condition is not uncommon in marked gastric stagnation without fistula.

Inflation of the stomach also may show that the air passes directly into the colon from the stomach; although, as far as we know, this procedure has never been satisfactorily practised in cases that were demonstrated to be gastrocolic fistula. Palpation of the stomach in cases that have all the characteristics of pyloric cancer may show an absence of the usual succussion splash over the organ, and its presence in the region of the transverse colon or of the sigmoid.

The other most characteristic signs are furnished by examining the stools and inflating the bowel. The stools as indicated may, when fecal vomiting is present, exhibit exactly the same characteristics as the vomit. When fecal vomiting is not present the stools may contain masses of wholly undigested food taken a short time before; Bouveret's patient, for instance, was given vermicelli and prunes, and these substances could be recognized unchanged in the stools passed a short time afterward. Colored substances given by the mouth may likewise be found soon afterward in the stools. The contrary may, as already indicated, be seen in cases in which there is vomiting.

The most characteristic sign, however, is that first described by v. Ziemssen, viz., the result of distending the lower bowel. When air is pumped in through the rectum, the sigmoid and more or less of the transverse colon become prominent. The air then enters the stomach. This organ shows some distention, and some of the air may be rapidly belched. The ascending colon and the right portion of the transverse colon either do not become distended, or show distention only after the stomach has exhibited it. Scholz and May were even able to determine the situation of the fistula in their patients by ausculting as the air was being driven in, and thus locating the point where the air seemed to pass into the stomach. A sign upon which Murchison laid stress, and one that may be mentioned in connection with this, is the presence of a tumor with a tympanitic note over it, the tympany being produced by the presence of gas in the fistulous tract. This sign must, however, be of questionable value.

This brief mention of the most important characteristics of gastrocolic fistula is sufficient to demonstrate the important points in our own case.

The patient was a man of 59, who was seen by one of us (Edsall) with Dr. Grafton Day, of Millville, N. J. His family and personal histories were entirely unimportant, except for a severe gastric attack in April and May, 1900. This attack came on rather acutely; it was associated with severe epigastric pain at the onset and for some time afterward, and there was persistent vomiting. The man emaciated rapidly and grew greatly prostrated, and it was then thought that he would die. He began to recover very rapidly, however, after having been ill about six weeks; and within a short time afterward he was apparently in good health. He regained his former weight, which was about 200 pounds, and was seemingly entirely well for two years thereafter.

In June, 1902, he began to have dyspeptic symptoms, which increased in intensity, and soon afterward vomiting appeared. This became frequent and was uninfluenced by treatment. The patient lost strength and weight rapidly. The vomiting never had the definite characteristics of that due to pyloric obstruction; the man never vomited large quantities at one time, or food that had been retained in the stomach for more than a few hours. He had never vomited blood. In this illness he had had almost no pain; the only striking features had been the vomiting and the marked emaciation, loss of strength and progressive anemia.

About August 18, 1902, he suddenly began to eject feculent material in vomiting; and at this time and once or twice subsequently, he brought up what appeared to be shreds of tissue. The vomiting was so severe and frequent as to cause considerable prostration. The patient had shown no signs of obstruction of the bowel or of peritonitis.

When seen with Dr. Day, a week later, the feculent vomiting still continued. The man was very weak and anemic. He then weighed about 135 pounds, while, as mentioned, he had previously weighed about 200. His breath had a distinctly feculent odor, and he complained of a constant feculent taste.

Physical examination by ordinary methods at this time showed nothing of importance except slight enlargement of the stomach on percussion, the greater curvature extending to about half an inch above the umbilicus. There was an indistinct sense of resistance at the level of the umbilicus and slightly to the right, and a little tenderness in this region, but nothing definite could be palpated. There was no sign of peritonitis; the abdomen was flat, there was no visible peristalsis the patient had no colicky pains, there was no obstipation, there was no fever, and the man was in no sense in collapse; he was merely weak from the persistent vomiting and the prolonged disturbance of nutrition. The thoracic organs showed nothing of consequence. A bowel movement was inspected and was found to have the same odor and appearance as the vomit.

The man was so weak that it was thought unwise to use a stomach tube, hence inflation of the stomach was not attempted. A rectal tube was introduced, however, and inflation of the bowel was carried out, with the result that the sigmoid and the descending colon quickly became distended. The man then belched considerable quantities of gas of foul odor, and at the same time the distention subsided. This observation was necessarily somewhat superficial. It could not wisely be carried further or repeated, because of the man's marked weakness and the exhaustion resulting from a general examination. The impression made was that the air had passed directly into the stomach. In the light of the autopsy it seems evident that the belching was due purely to the pressure of the distended bowel, while the subsidence of the colonic distention that followed showed merely that the air had passed on into the remainder of the colon. Further distention might have made this clear, but it was not thought wise to insist upon further inflation.

The patient was entirely unable at this time to retain anything given by the mouth, and had been so for two weeks previously. He was put upon nutritive enemas administered three times a day, each enema containing four ounces of milk and two eggs, peptonized; salt and five drops of laudanum were added to each. A specimen of the vomit to be obtained after several of these enemas had been given was requested, and was received the next day. It was a rather thick, brownish fluid, filled with small granular particles and having a most offensive feculent odor. Microscopic examination showed a multitude of bacteria; many specimens of *Cercomonas intestinalis*; large numbers of granular, irregularly rounded particles much like those that may be seen in curdled milk; and great numbers of fat-droplets. Estimation of the fat-content by the Leffmann-Beam process showed 4.1% of fat. A second specimen, obtained two days later, showed the same microscopic appearance and 4.2% of fat.

It was then suggested that the man be given starch enemas, and another specimen of vomit was obtained after these enemas had been given, and was examined for starch. The result was negative. It was afterward learned that the specimen received had been obtained only a few minutes after the first starch enema had been administered; and Dr. Day examined a later specimen for starch, but with a negative result. It is possible that the result in this examination may have been due to bacterial digestion of the starch.

The man was believed to have cancer, and was also thought to have gastrocolic fistula, because of the following combination of signs: The persistently feculent vomiting, the rapid onset of this vomiting with the ejection of shreds of tissue, the result of inflation of the bowel, and the result of the examination of the vomited material after the treatment with enemas had been instituted. It seemed impossible that the vomit could contain so much fat when nothing was being taken by the mouth, unless the enemas were being vomited; and, with the other facts mentioned, it seemed almost certain that these enemas were being passed from the bowel into the stomach through a fistula.

These symptoms continued without change, except increasing prostration, for a week, when the man died. Dr. Fife went to Millville and performed the autopsy, examination of the abdominal cavity only being allowed. Except for a moderate degree of interstitial nephritis, the results were of consequence only so far as the stomach was concerned. There was not the slightest sign of any communication between the stomach and the bowel. There was a cancer of the pylorus, of annular form, which had converted the pylorus and the adjacent part of the pyloric antrum into a dense, firm tube about half an inch thick and with a lumen just sufficient to admit the little finger. The growth had extended about two inches along the lesser curvature and to a slighter degree along the upper half of the anterior and posterior surfaces of the stomach. The mass was quite firmly adherent to the lower surface of the liver and was tucked up under that organ, where it could not have been felt. Its internal surface showed three small areas of ulceration about half an inch in diameter, but the surface was not elsewhere broken down. The pylorus, as stated, was perfectly rigid and incapable of contraction. The channel through it was nearly straight. There was no peritonitis, no fecal impaction, and not the faintest sign of obstruction of the bowel from any cause.

The accurate recognition of the conditions actually present in this case would seem to have been practically an impossibility. If more persistent examination could have been wisely undertaken it would probably have cast doubt upon the importance of the result of inflation of the bowel. This test is, however, by no means always positive in gastrocolic fistula; and even though further examination had shown it to be probably negative there still remained the feculent vomiting with its peculiar characteristics, beginning with the vomiting of shreds of tissue, the apparent rapid vomiting of the enemas, and the entire similarity between the vomitus and the stools. Feculent vomiting alone is, of course, not sufficient evidence of gastrocolic fistula, even in the absence of signs of peritonitis or of intestinal occlusion or paralysis, for feculent vomiting has been repeatedly observed in hysteria and rarely in other conditions when no lesion could be discovered, and a few cases are on record in which feculent vomiting was noticed under circumstances somewhat similar to those present in this case.

There was, however, as stated, no sign of peritonitis or of intestinal paralysis or occlusion in this case, and hysteria was not to be considered. The case was undoubtedly an instance of the other condition mentioned, *i. e.*, feculent vomiting in gastric cancer, without any communication between the stomach and the intestine, or any obstruction of the intestine. This condition seems to be extremely uncommon. While the possibility of its occurrence is mentioned by Osler and McCrae, and hinted at by one or two other authors, only one closely similar case with autopsy that is definitely described has come to our notice in an extensive search of the literature. This was reported by Osler. The autopsy in his case demonstrated no intestinal cause of the fecal vomiting, but showed that the pylorus was the seat of cancer, and was rigid and incapable of contraction. Boussoumier describes two cases under the heading, "Fecal Vomiting in Gastric Cancer," but these cases were not of the same type as ours; in the first there was peritonitis with about two liters of pus in the abdominal cavity, and in the second there was apparently intestinal paralysis from obstipation. The latter patient, an aged woman, had exhibited prolonged obstipation, and the feculent vomiting ceased after her bowel was thoroughly emptied. Both these cases were interesting in connection with ours, however, because in both, autopsy showed cancerous insufficiency of the pylorus. This last case and Osler's are the only instances that we have found definitely recorded in which there was fecal vomiting in gastric cancer without fistula, peritonitis, or anatomic obstruction. Several authors state that the vomit may be intensely foul, but do not speak more definitely.[1]

An explanation of the character of the vomit in these cases cannot be readily given. It is probable that such an odor may be the result of rapid and extensive ulceration and decomposition of the tumor itself, or of decomposition of the stomach contents. It is a notable fact, however, that in each of these cases the pylorus was rigidly patulous. This would allow of the ready regurgitation of the intestinal contents. It alone would, however, not explain the feculent vomiting, for the pylorus is not infrequently found permanently patulous in gastric cancer, while feculent vomiting is very rare. Hence, if this factor is accepted as a partial explanation of the feculent vomiting, some explanation of the backward flow of the intestinal contents must be given. In our case, and probably in some others, this backward flow was, we believe, due to actual reversed peristalsis.

The results of examination of the vomited matter make it difficult to accept any other explanation in our case. To accept this one is, of course, to enter the strife that has been going on for years concerning the possibility of a reversed movement of the intestinal contents from the large bowel past the ileocecal valve, and from here throughout the small intestine.

It is well known that Grützner has reported animal experiments, which, he believes, demonstrate that particles of substances introduced into the rectum were, in the animals investigated, carried throughout the whole alimentary tract, and appeared in the stomach contents, or were actually vomited. His results have given rise to a great deal of discussion and opposition, and Christomanos believed that he had shown that Grützner's results were due to the fact that the animals had been allowed to lick up excrement. This criticism of Christomanos' work was, however, definitely overcome by Van Swieten, who showed that Grützner's results could be obtained even when it was impossible for the animals to have swallowed the particles. Results similar to Grützner's and Van Swieten's have been obtained in animals by Hemmeter, and in human beings by Jacobs and Hemmeter, these authors having found in the gastric contents of human subjects substances that had been introduced into the rectum.

Some investigators, on the contrary, have had negative results; and, on the basis of these, have denied the possibility of substances thus traversing the alimentary tract in reversed direction. In the face of the positive results obtained by a number of investigators, however, these negative results are of no serious importance; and it must be accepted as a well-demonstrated fact that particles may be carried from the large bowel past the ileocecal valve, and may appear in the stomach.

Nothnagel, Riegel, Hemmeter, and others, believe that this is due merely to the movement of small particles along the surface of the epithelium, and that it is impossible for large quantities of material to pass in this

[1] A case similar to ours was mentioned by Riesman in the discussion of the report of our case at the Philadelphia Pathological Society, and the condition has, since this was written, been mentioned by Koch (Archiv f. Verdauungskrankheiten, Band ix, Heft 1) as a source of error in the diagnosis of gastrocolic fistula.

way. While in all probability this is usually true, it has almost certainly been shown that large amounts of material may at times traverse the whole alimentary tract in a reverse direction. Whatever the results of experimental work there are on record a number of clinical observations that apparently demonstrate this possibility very definitely.

Several cases of this kind have been collected by Angerant. The most striking of these—and, perhaps, the most striking case anywhere reported from an authoritative source—is one described by Cantani. His patient was a girl, who, because of severe constipation, was given large enemas of oil, about two liters being introduced at one time. The first injection was soon passed again per anum; the second served to clear out the large bowel quite freely; while, after the next injection, given on the third day, the girl soon said that she felt as if the fluid were passing up her intestinal tract. A few minutes later she said she was nauseated, and shortly after this she "vomited about half a liter of oil."

Another important observation was that of Jacobs. It was thought that nutrient enemas that were being administered to his patient must be passing up to the small bowel, because the absorption was so extremely good and bowel movements occurred with such great infrequency. Enemas of charcoal were administered and the charcoal passed in considerable quantity throughout the whole intestinal tract and was ejected with the stomach contents.

Further, beside the clinical evidence very important and apparently almost conclusive experimental testimony has recently been furnished by Reach, who has shown in animals that substances introduced into the lower bowel may be recovered through a fistula in the small bowel in considerable amounts, the upper segment of the small intestine being entirely occluded so that its contents could cause no confusion.

In view of such observations it seems unquestionable that under certain circumstances, even in human subjects that have no organic disease or in normal animals, large quantities of substances introduced per rectum may pass the ileocecal valve and follow a reversed course throughout the digestive tract; and there is even more reason for believing that such an occurrence may take place in some pathologic conditions, particularly in cases such as the one here reported, in which there was violent and prolonged retching and vomiting, and with this, permanent patulency of the pylorus; and in which the impetus to reversed peristalsis was being frequently given by the introduction of nutrient enemas into the lower bowel. We consider that the examination of the vomit in our case constitutes instructive evidence that may be added to that already recorded, that under certain circumstances, enemas may traverse the whole digestive tract, journeying from the lower bowel upward.

INSANITY AS A SEQUEL TO PHYSICAL CONDITIONS.[1]

BY

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[Note.—This article was received by us from Dr. Richardson on the day of his death.—Editor.]

The title of this paper is in one sense without significance, as all forms of mental disorder are in reality the result of physical disease. In this connection, however, it is used to distinguish such disturbances of the mind as follow preexisting physical conditions in the relation of sequels, and the effort will be to show so far as possible the distinguishing characteristics of such mental disorder, and to point out the nature of the relationship which may be traced between such mind disease and preexisting bodily conditions. To do so it will be necessary first to review briefly the manner in which insanity in general, develops from physical states or diseases.

To a greater extent, perhaps, than in any other form of disease, it must be conceded that the determining factor in the causation of mind diseases is a peculiarity of physical structure, either congenital or developed usually during the period preceding the age of full development. As this peculiarity is one inimical to the safety of the organization, and one that increases its susceptibility to disorder and decay, it must be considered a defect. It may be, first, an actual brain deficiency, such as exists in the varying degrees of imbecility. All persons mentally defective from imperfect development or congenital physical deficiency are more susceptible to acute attacks of active insanity in later years.

A second class of more than usually susceptible individuals, so far as liability to subsequent insanity is concerned, are those who are structurally out of balance; those in whom there is not a proper relative development of the different parts, even though their organization may not disclose any actual deficiency in any part. No part may be actually deficient, perhaps, but some portions are developed to a greater degree than others. This irregular development may or may not be inimical to the safety of the organization as a whole. When not prejudicial, it is often of great advantage, and lays a foundation for unusual capacity in special directions—in other words, it may be the basis of extraordinary expenditure of energy not inconsistent with the safety of the entire structure. Of such structure, for instance, an Edison is made. His organization is evidently out of balance, as compared with average development. His capacity is greatly enlarged in certain particulars, without doubt because of overdevelopment, or unusually full development of certain portions of his physical basis which, however, is neither at the expense of any other portion essential to its safe preservation, nor of a character itself which leads to any very serious danger to the structure as a whole. Therefore, there is an extraordinary and long-continued expenditure of energy in certain directions without resulting in any serious derangement of the entire mechanism. It is true, perhaps, that in such a person the general development is also above the normal.

In others the unusual development in special directions, the want of balance, may approach the danger line without crossing it. Such an organization was evidenced in Charles Lamb and De Quincey, who were both of great capacity in special lines, but in whom this development was dangerously near the point at which its existence might prove incompatible with the safety of the entire organization. There are many such individuals and the danger comes from numerous directions. In still another class there is such an unusual development in special directions, or this special development is of such character, or so far out of balance with other parts, that is, other parts are so relatively weak, that the result is destruction of the mechanism as a whole. There may be great capacity in some special direction, and this may result in marvelous expenditure of energy, but it is not coupled with the necessary adjustment to the other portions to ensure safe perpetuation, and as a result the whole is sacrificed. May we not cite the great Napoleon as an instance? Not that he was insane, but that he illustrates the sacrifice of elements in his organization essential to its safe perpetuation, to an extraordinary development of capacity in special lines. Was he not, too, so defective in reason and so carried away by his marvelous capacity, so warped and biased in judgment as to be incapable of discerning his inevitable destruction, the certain and speedy termination of his career? Of such, too, are the many meteoric careers which continually flash out before us, leaving a glittering pathway for a few short years, but burning themselves out in swift and certain extinction.

[1] Read before the Association of Examining Surgeons, U. S. Pension Board at Washington, D. C., May 14, 1903.

To come down now to the more matter-of-fact conditions of every day life and ordinary states of existence, it may be said that the dangers which come to the ordinary individual have their origin in most instances in an inability or unwillingness of the individual to estimate his own capacity properly, to discover his deficiencies and to adjust properly his expenditure of energy within safe limits, or to safeguard himself properly from his inherent deficiencies. Many are the individuals who go to mental and physical destruction simply because they do not or cannot safely adjust themselves to their safe limits nor properly protect themselves from the defects that lie inherent in their organization. A machine can produce only a given amount of power safely. It is a law of nature that there must be a *quid pro quo*. For a given result a certain mechanism is required. For a certain expenditure of energy a particular group of conditions is necessary. There must be a machine of certain capacity and type and it must be supplied with a certain amount of energy-producing elements. Such then are the conditions under which we all must work. Can we discover how danger comes and can we determine when the danger signals are present, and when present can we point them out? When actual disorder comes can we recognize its character? Such are some of the problems that should be solved by the alienist.

Insanity develops either from causes chiefly inherited, congenital or otherwise occurring during the developmental period and usually described as predisposing, exciting causes being quite subordinate or practically absent; or it may develop chiefly from exciting causes, the predisposition being less evident and these causes less potent.

Let us review the former class first. Such cases are quite numerous and usually have significant characteristics. They develop very slowly and insidiously. It often requires years to establish fully an evident state of insanity. Such persons almost invariably show marked peculiarities in their history. They are usually suspicious or morose, or inclined to solitude. They may be irritable or emotional or show an unusual lack of self-control in some direction. As time goes on the peculiarities become more marked. The epochal periods of life in such persons are fraught with danger. The form which the resulting insanity assumes is usually an exaggeration of these preexisting peculiarities. The suspicious person becomes still more suspicious, the morose or irritable man, still more morose or irritable, until finally fixed delusions of suspicion or persecution result. The emotional person becomes still more eccentric and unstable until an acute attack of mental excitement ensues. A person, by nature deeply religious or with hypersensitive conscience, gradually becomes actually morbid on the subject of his religious duties or his relations to his fellows and delusions of a religious character are gradually evolved. He believes his soul is lost, that he has committed the unpardonable sin or he conjures up some trivial offense in his early history and greatly magnifies it until it becomes to him an offense beyond hope of pardon. A person by nature moody and inclined to look on the dark side of things in general, gradually worries more and more over matters about him until there is finally developed an actual condition of melancholia. A person who is constantly fearful of his health, always taking medicine or consulting his physician, magnifies more and more the suspected symptoms of disease in his body until finally a state of actual hypochondriac melancholia develops. All such cases are usually accompanied by delusions of a fixed character.

Another class is formed of those in whom there has been a defect, usually inherited or congenital, that does not become particularly evident until the period of pubescence or adolescence arrives. The added strain of this period of development then proves too great and the brain elements begin to show an early decay or are thrown into acute disorder. The individual becomes less capable, he cannot do his tasks with average capacity, loses interest in things about him, becomes gradually more and more foolish in his actions, gives way to such propensities as masturbation, and shows generally more and more mental weakness. Such are typical cases of primary dementia.

Instead of this gradual and progressive mental weakness, the age of puberty or adolescence may develop sharp and acute attacks of emotional excitement, acute mania with much emotional disturbance, and rather rapidly developing signs of mental weakness. Delusions in all such cases are not frequent, and the dominating characteristic is mental weakness or dementia.

The preceding classes comprise a very considerable number of the cases of insanity occurring in any community. One can readily appreciate that a careful study of the previous history of the patient is very important. The relatives of the insane are prone to keep in the background all evidence of inherited defects and all signs of peculiar or anomalous conduct preceding the established disease. They very much prefer to have it ascribed to some exciting cause, an acute illness of some kind, or a trivial injury in childhood. In reviewing the development and causation of any case of insanity it is always important to look beyond the ascribed cause, given as exciting, to the previous history of the person. You will often find much in it to explain what is otherwise inexplicable in an evident want of relation between the disease as you see it and the trivial causes to which it has been ascribed.

Taking up now the second class of cases, those in whom the insanity is due chiefly to acute exciting causes, and in whom there is less evidence of any preexisting defect or peculiarity of structure, the problem of tracing the relation between the form of disease and its exciting causes, and of outlining any laws of development by which the reasonableness or unreasonableness of its existence in connection with such causes as may be claimed to have developed, becomes much more intricate and difficult of solution.

Let us first consider such cases as arise from the general class of exciting causes of a traumatic character. With these we should also include insolation or sunstroke, especially when caused by direct heat of the sun on the head rather than by simple overheat.

Traumatic cases in general may be divided into two classes: (1) Those that produce evident physical injury to the brain or its membranes, or serious injury to other portions of the nervous system or to the body in general; and (2) those which result only in shock without any or with very slight actual or evident injury to any part of the bodily structure. Taking the latter first, it may be said that, generally speaking, the effect of shock from traumatic causes unaccompanied by actual physical injury produces a chain of symptoms which may be described as neuroses rather than psychoses. At most the two are intermingled. The symptoms are usually those of general nervousness, tremor, more or less marked motor or sensory disturbance, notably the latter, often decided deterioration of the general health, insomnia or sleeplessness, and loss of appetite and of bodily weight. There is usually great increase in the influence of the *ego*, the patient's attention is concentrated on his injury and on himself. He is inclined to be despondent and emotional, and exaggerates all his symptoms. If actual insanity develops it is likely to assume the form of melancholia, and of the hypochondriac type. Many of these cases are complicated by prospective damage suits, and the prompt settlement of such suits is often the surest way to modify favorably the disturbance, this, too, in cases in which the disposition to malinger is not to be assumed. If present, the individual may be unconscious of the disposition to deceive.

In traumatic cases, when there has been actual injury to the brain or its meninges including sunstroke, there may be mental disturbance, as the direct result and

accompanying meningitis or cerebritis as a delirium, or there may be an immediate delirium or confusion of mind as a primary shock. This delirium may pass away with the subsidence of the inflammation and the mental confusion disappear with the disappearance of the shock, or the brain may as a result receive a permanent injury, which is accompanied by permanent mental disorder dating from the injury or very soon thereafter. This mental disorder may be quite varied in character. It may be shown only in marked change in character. Cases are on record in which complete change in moral characteristics has dated from injury of such character. Usually this change is deteriorating in nature. I have known insanity with fixed delusions to follow injury to the head, and continue for years, the autopsy finally developing general pachymeningitis externa, without evidence of fracture of the skull, but with complete adhesion of the dura to the skull throughout. The delusions in this case were of a pleasant character, and there was marked deterioration. In still another case I have known injury to the head, without evident fracture of the skull, to be followed at once or soon thereafter by profound dementia, persistent and lasting for years. In some instances I have known such a condition as alcoholism to be attributed to head injury, the change in habits following directly after the injury and being marked in character. I believe some such cases are correctly attributed to such cause. Injury to the head is a not infrequent cause of epilepsy, and the epileptic attacks may begin within a very few days, or hours even, of the injury. The mental deterioration resulting in such cases does not, in my experience, differ materially from the mental deterioration following epilepsy from any other cause.

Mental disorder that results from traumatic causes when there has been evident injury to the brain or its membranes, with little or no mental disturbance at the time of the injury, but arising months or years after the injury, may be of a very varied character. I believe in most cases, however, there will be found some indications of brain disturbance in the interim. The individual has frequent or severe headaches, he is not the same man that he was before the injury, or he finds he cannot perform the same amount of work without feeling the effect of it in some injurious manner. When many years have elapsed with no symptoms of injury to the brain in the meantime, I should hesitate to ascribe the injury as a cause of any mental disorder that might develop after a considerable lapse of time and when indications point to a causal relationship, I know of nothing in the character or form of the mental disease that would indicate a probable origin from such cause. The absence of any other sufficient exciting cause and the absence of any marked defect or peculiarity in the person previous to the injury, of course, tend to prove the causal relationship of the injury itself.

Turning next to the influence of acute diseases in developing insanity, the three classes which are of chief importance may be grouped as follow: 1. Conditions producing acute exhaustion. 2. Conditions due to acute infections. 3. Those which are the result of various forms of intoxication, either acute or more prolonged.

The form of insanity which usually results from acute exhaustion is that of simple confusion of mind or of depression. Occasionally there is a sudden outbreak of excitement. All these forms are simple in character, develop more or less rapidly and immediately prove the exciting cause and in uncomplicated cases tend toward recovery under conditions insuring rest, sleep, and proper nutrition. If recovery does not ensue, it is usually because of the natural instability or defect of the nervous system. In such cases more unfavorable forms of insanity may develop from those causes, accompanied by systematized delusions, hallucinations of hearing or sight, or greater or less dementia or mental weakness.

In the milder forms of mental disorder resulting from infections, such as fevers, we find similar types of the disease. There is usually either confusion of mind, mental hebetude, lethargy or states of depression. Less often greater or less excitement and occasionally decidedly acute mania may result. If the infection has been extreme in degree there may result more decided conditions of brain deterioration, resulting in dementia, fixed delusions, or dominant fixed ideas. I have frequently seen cases of permanent insanity resulting from such causes when the brain seemed to be completely burned out, so to speak, by the intensity of the infectious process. These infections may be of autotoxic origin, the condition resulting from the influence of retained excretion of some character. In all this class of cases, too, the natural predisposition of the nervous system may greatly influence the form of mental disease and also the prognosis. When this predisposition is marked, the forms of insanity resulting are accompanied by more evident deterioration. There are pronounced perversions, such as fixed delusions, hallucinations, or a greater or less degree of dementia.

In the third class of cases intoxication produces a numerous variety of forms of mental disorder, from simple alcoholic intoxication to paresis, epileptic mania or such as results from arteriosclerosis. Cases of this character are the result of the abuse of alcohol, opium or cocain. The limits of this paper will not admit of a full description of all the forms which may result from these. They constitute a very discouraging group. This is largely due to the fact that back of the development of the drug or alcoholic habit, is the existence of marked instability of nervous tissue. It is not hard to remove the immediate effect of the intoxication, and to restore an apparently normal state of mind, but the instability is so extreme, the original defect is so marked, that relapse occurs whenever the restrictions of treatment are removed. The permanent forms of mental disorder that result from these causes are usually marked by numerous and more or less fixed hallucinations or delusions, often persecutory in character. Paresis, while occasionally the result of alcoholic excess is far more frequently caused by syphilitic infection, some authorities going so far as to say that it is always the result of syphilis. Certainly there is a history of syphilis in not less than 75% of the cases. When there are evidences of organic brain disease resulting from alcohol or drug habit, such as paralysis, motor paresis, sensory disturbances, or disorder of the special senses, the insanity that accompanies the disturbance is almost invariably persistent and of organic character, accompanied by marked and progressive deterioration.

In conclusion it may be said that in the determination of the probable origin of a given form and degree of mental disease and the reasonableness of its development from an assigned cause, there are a few points which should always be kept in mind. 1. How much influence had original and natural defect or nervous instability in the development of the conditions found? 2. Do the assigned exciting causes bear a reasonable relation to the form of mental disease existing? 3. Can you exclude all other causes that might more probably produce the same condition?

You will naturally infer that the capacity to make a safe deduction from a given group of facts comes only from a long and varied experience and careful study of the insane. No other disease is so varied in its symptomatology and in no other disease is it more difficult to trace back the symptoms existing to their true origin.

Institution for the Cure of Drunkenness.—The city of Dresden will open the first institution for the cure of drunkenness on the continent October 1. Patients must be examined as to their sanity and be diagnosed as curative, and must voluntarily submit to a regimen of healthful living, such as farm work. They will have good moral surroundings, and must pay 45 cents a day. Patients may stop 3 years in the institution.

CASE OF ENLARGED PEDUNCULATED MIDDLE LOBE OF THE PROSTATE, SUPRAPUBIC PROSTATECTOMY, RECOVERY; FOLLOWED BY EPIDIDYMITIS, APPENDICITIS, GENERAL PERITONITIS, RECOVERY WITHOUT OPERATION; UNIVERSAL ECZEMA AND FINALLY CHOLELITHIASIS.[1]

BY

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of Philadelphia.

The history of this case is interesting on account of the sequence of serious affections, with their successful issue. All the acute manifestations followed each other in the course of 4 months. It seems almost beyond human comprehension that a single patient could successfully combat all these diseases, but as a matter of fact the patient at the present time is traveling considerably and in the best of health.[2]

In order to appreciate the important features the history is given in full:

CASE.—J. S., male, aged 70. His chief complaint is painful and frequent micturition.

Family History.—Father and mother died at an advanced age of unknown cause. One sister died of uterine fibroid, another of chronic bronchitis; two brothers have prostatic trouble, one of whom has been operated on in Germany.

Previous History.—No serious illness of any kind. Twenty years ago he had an attack of jaundice. Drinks alcohol sparingly. There is no venereal history.

Present History.—For at least 10 years the patient had been a sufferer of symptoms referable to an enlarged prostate. He passed urine with increasing difficulty and frequency as time went on. In the past year or two the symptoms were particularly annoying. Aside from this trouble the patient had always had excellent health. On September 15, 1902, he caught "cold," and since that time up to the day of operation the pain, frequency, and difficulty of micturition were all intensified, and the suffering was almost unbearable. He passed urine about every half hour, day and night, with great difficulty in starting the stream, the effort being so painful that his groans could be heard in all parts of the house. There was also much pain and burning after the act had been accomplished.

Physical Examination.—Patient is a remarkably well-preserved man; looking more like a man of 50 than 70. He is well nourished, robust, strong, and of medium height. His chest and abdomen are large and capacious and covered throughout with hair. The clavicles, ribs and scapulas, in fact, all the bony landmarks, are well covered. No abnormalities are seen on the abdomen. The heart is normal in size, the sounds are distinctly heard, regular and rhythmic. No murmurs. The lungs are resonant throughout, signs of bronchitis are noted over the entire area.

Abdomen.—Liver and spleen are apparently normal in size. Above the pubis a slight tenderness is experienced on deep pressure.

Urethra and Bladder.—A catheter passed with difficulty and about 2 ounces of urine was obtained, equal in quantity to the amount passed voluntarily. A catheter had never been used before. The acute symptoms were increased after this procedure.

A cystoscopic examination was not made; it would have been difficult in this particular case on account of the extreme pain caused by the passage of any solid instrument.

Rectal Examination.—When the prostate was reached, the lateral lobes were surprisingly small, almost normal. From this examination it was concluded that the middle lobe was enlarged and the seat of the trouble.

Urine showed at all the numerous examinations: Trace of albumin. No sugar. Sp. gr. 1,014 to 1,020; acid reaction. Microscopically, no casts. Pus cells which varied considerably in quantity; on this variance depended the amount of albumin.

On September 15, without apparent cause the patient had a chill followed by fever, headache, dry, coated tongue, loss of appetite. Temperature was 103°. As was stated before the urinary symptoms were intensified.

September 20, 1902, the temperature became normal in a few days, appetite improved, but the difficulties experienced in urination remained the same. Dr. Deaver was consulted. He advised that operation be deferred to a later date.

October 8.—No change. The bladder was irrigated for 10 days without any relief. A solid catheter first tunneled the way, then a soft rubber catheter was used in the irrigation. Urotropin was given continuously but did not seem to reduce the quantity of pus in the urine. Opium and belladonna suppositories gave relief for a time only. A pill of iron, quinin and strychnin was also administered. Sounded for stone; negative.

October 9.—Operation by Dr. Deaver at the German Hospital. The bladder first having been filled with boric acid solution an incision about 2½ inches long was made about 1½ inches above the os pubis. After passing through the abdominal layers the bladder was opened, the lateral lobes were removed, the middle lobe was found blocking the neck of the bladder. It was attached by a pedicle, the prostate acting like a ball valve. The wound was not closed, but a drainage-tube was inserted in the wound; the urethra was kept free. During the entire operation the patient was cyanosed. The operation was performed with remarkable rapidity.

October 10.—The patient is better, being much stronger. Temperature is 99°, pulse 114.

October 19.—Nothing of importance occurred during this interval, the wound was dressed several times a day. A steady improvement has been noticed and he was able to be out of bed today. The drainage-tube has been removed.

October 23.—The patient was walking a little. The abdominal wound is granulating nicely.

October 25.—Today he was sent home, where, after 3 days the wound closed and all the urine passed per urethrum.

November 2.—Examination of urine shows considerable pus; some albumin, no sugar and no casts. The bladder has been irrigated a number of times.

November 4.—Patient complained of something having given away on left side. No examination was made.

November 5.—Bladder irrigated today with very little pain. A shred shaped like a cast of the urethra was expelled. In the afternoon the left testicle became swollen.

November 6.—Early this morning I was called for an attack of epididymitis, which was causing considerable pain; with elevation, an icebag, and belladonna and ichthyol ointment, relief was obtained in a week.

November 9.—From now on we have to deal with an attack of appendicitis. It started with vomiting and pain in the epigastric region. Not much attention was paid to these symptoms. Later in the day the pain shifted to the umbilical region and finally centered itself around McBurney's point, with great tenderness and boardlike rigidity. The bowels were very active, with the assistance of magnesium sulfate.

November 10.—The condition was recognized today. Dr. Deaver was consulted, but refused to operate on account of the previous serious operation, a month ago, and the age of the patient. The tenderness and rigidity now localized itself to the right umbilicohypochondriac region. This made us think of a deepseated appendix pointing upward. The confines of rigidity in the abdomen occupied a space of 2½ inches in circumference, the lower boundary was on a line with the umbilicus, the upper was 1½ inches below the costal border. Bowels moved about eight times.

November 11.—Patient felt better today, but the area of tenderness and rigidity still remained the same.

November 12.—On the previous evening the patient was aroused at 11.20 by an intense paroxysm of abdominal pain. I was sent for and arrived about 1.30 a.m. I found general distention of the abdomen, boardlike rigidity, severe tenderness, tympanites, an anxious expression, rapid, bounding pulse, temperature 101°, glassy eye, profuse cold sweat and an expression of impending death. The swelling and pain started in the pelvis and one could see how the abdomen became more swollen from hour to hour. Before I arrived the nurse (to whose alertness and intelligence the patient owes much) gave a half ounce of magnesium sulfate in divided doses. To my great surprise 20 minutes after I arrived the bowels moved and an enormous, very fetid, brownish-yellow stool was expelled. Two other stools followed in quick succession. Three icebags were placed on the abdomen, covering it entirely. At 3 a.m. I consulted Dr. Deaver, who again advised noninterference and later in the morning he confirmed my diagnosis. At this time the distention was so great that what is called an abdominal fringe was present. The abdomen was very tender throughout.

All the food was changed to meat broths, beef juice, and liquid peptonoids; 2 drs. of magnesium sulfate were given every 2 hours. The bowels moved altogether 9 times.

November 13.—The patient passed a good night; in fact, he has been sleeping almost continuously since the rupture. He has very little pain, but tenderness remains. Temperature, 100°; pulse, 102; respirations, 26. Bowels moved 6 times. Just 48 hours after the rupture there was noticed a change in the physical character of the abdomen. The abdomen was getting soft in areas, especially on the left side. He was never nauseated, and never vomited.

November 14.—He has very little pain, and is much better. Marked rigidity and tenderness still remain on the right side in the area noted above. The other abdominal regions are soft and not tender, but instead there is a feeling of numbness. Bowels are moving quite frequently; an enormous quantity of flatus expelled. Magnesium sulfate is continued at longer

[1] Read before the North Branch of the Philadelphia County Medical Society.

[2] This statement was entirely correct at the time this paper was written, but on May 12 the patient passed through his second attack of appendicitis. The symptoms were the same as those described in the first attack. The question of operation was more seriously considered during the last attack than in the first, but it was again deferred. In 48 hours our hopes were realized; the symptoms subsided. At the present writing a colitis remains.

intervals. Patient says he notices that a greater stimulus than usual is required to move his bowels, and that it requires more effort on his part. About 11.30 p.m. he felt cold and weak. Temperature was subnormal; pulse of fair volume. He reacted quickly on application of external heat, digitalis, and strychnin.

November 15.—There is continued improvement, patient feels hungry. Tenderness and rigidity still remained on the right side up to 8 p.m., when a large volume of flatus was expelled. Immediately after this the boardlike rigidity disappeared. The patient experienced much relief upon its disappearance. Tenderness still remains. Temperature subnormal all night.

November 16.—Much better, abdomen universally softer, very little tenderness and rigidity. He is taking 6 ounces of milk every 2 hours, also raw eggs and broth. Pulse is full, tension good. This morning skin was actually frozen, blisters formed from the 3 icebags which have been kept on continuously. It was noted that as soon as the icebags were removed the abdomen would get hot and the patient remarked it felt uncomfortable without them. Magnesium sulfate still continued in dram doses at intervals.

November 19.—Eight days after the attack of appendicitis the patient sat up in bed; he is taking more nourishment, and resting better at night. He passes urine at the present time without any pain, gets up 3 or 4 times at night, and averages 30 ounces in 24 hours.

November 21.—Patient passed the best night since his last illness. Eating solid food with a relish. Bowels moved today voluntarily for the first time.

November 26.—The past few days have been uneventful. Eating all solid food, sleeps well. Has been up and walking the past few days.

The description of the sensations of the patient after the rupture occurred is as follows:

When the rupture occurred at 11.20 the evening of December 11, he felt as though war had been declared inside his abdomen. Two lines of battle were quickly formed and then the bombardment began. Shots were flying fast and furious. First one side would apparently be victorious, then the other. This was kept up for 48 hours, at the end of which time the imaginary foes were exhausted. It will remain a mystery forever which side won; my patient jestingly says "the right side won."

From the time of the last note up to January 14, 1903, the patient was harassed by an attack of universal eczema, affecting especially the scrotum and thighs. The sole treatment was the local application of zinc ointment.

January 14, 1903. The morning of this date the patient was in excellent spirits. In the evening the patient was seized with violent pains under the right costal border, which radiated to the shoulders. In addition vomiting with tympanites quickly ensued.

The symptoms were totally different from the attack of appendicitis. Great difficulty was experienced in moving the bowels; they responded 14 hours after treatment was begun. Jaundice followed in 24 hours, and the stools assumed the characteristic clay color. No gallstones were noted in the stools.

After the tympanites subsided the edge of the liver could be felt. It extended 1½ inches below the costal border. The border of the liver was tender and the same could be elicited by pressure over the gallbladder.

In 4 days the patient was about again and eating solid food.

The treatment consisted in giving high rectal enemas, turpentine stupes and magnesium sulfate. Sodium salicylate was also given with marked benefit.

This case is certainly remarkable when we consider the age of the patient and the serious surgical conditions present.

The diagnosis of enlargement of the middle lobe of the prostate was made by exclusion without a cystoscopic examination. The Bottini operation would not have been applicable in this case. It does not appeal to me for the same reason that the appendix should not be operated upon through the rectum. Blind operations with the technic of today ought to be the exception rather than the rule.

The suprapubic operation will undoubtedly become in time the selective one. The necessity of performing an operation on my patient was imperative. I felt that the ultimate recovery would be good because the catheter had never been used by himself or anyone else. In other words, the bladder had good expulsive power. On this point must depend our advice to a patient concerning operation, for in one already subjected to the catheter life, with infection and possibly signs of sepsis, an unfavorable prognosis must be given.

Some doubt may exist concerning the differential diagnosis between the attack of appendicitis and that of gallstone in this particular instance. The like symptoms will not be enumerated, but the points of difference are these: The pain in the attack of appendicitis took a typical course beginning in the epigastric region, then shifting to the umbilical region and afterward remaining localized to the right iliac fossa. The pain in the gallstone attack began directly under the right costal border and radiated to the shoulder. In addition there was a large and tender easily palpable liver accompanied with jaundice. These signs were entirely absent in the appendicial attacks.

The important facts in this case are:

1. The magnificent physique and vital resistance exhibited.
2. The relief of urinary symptoms by the suprapubic prostatectomy.
3. The quick recovery from the operation.
4. The apparent failure of urotropin to remove the pus from the bladder. Urotropin in my experience has been somewhat overestimated.
5. The occurrence of the epididymitis following an irrigation of the bladder, and its rapid subsidence after treatment.
6. The attack of appendicitis which pursued a characteristic initial course.
7. The occurrence of the rupture 2 days afterward and the accompanying symptoms. Dr. Deaver and myself feel certain that the appendix undoubtedly ruptured.
8. The great tolerance to magnesium sulfate and the continuous application of 3 icebags for almost a week. Neither after nor before the rupture was morphin given for the pain, which was intense. The pain is the best index we have, therefore morphin is a highly inappropriate drug in appendicitis.
9. Temperature was not important. This same phenomenon was observed in a patient on whom I operated during the past summer. The appendix here was on the point of rupture. Persistent pain was the important sign. (This was the only reason I urged operation in the subject of this paper.)
10. The attack of gallstone colic, its quick subsidence and recovery.

In closing this paper I extend my appreciation and thanks to Dr. Deaver for the dextrous and life-saving operation in the first illness. I must also pay a tribute to the loyalty, ability, and unceasing energy of the attending nurse.

Note.—My patient is passing through his third attack of appendicitis. It is the mildest of all.

SOME OBSERVATIONS ON TRACHOMA.

BY

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In late years the trachoma question has assumed a much greater importance in this country, and especially in New York City, where for about a year a real epidemic of this disease has prevailed. Until now it has shown little sign of subsidence, and new cases are constantly coming under observation. The children in our public schools have been particularly attacked by the disease, and it has been stated that in certain parts of this city 25% of the scholars have been found to be affected. In the special hospital for trachoma cases, established by the Board of Health, over 1,100 patients were treated from December, 1902, to May, 1903. The health commissioner considered the matter of sufficient importance to hold a conference in reference to the best way of suppressing the epidemic. For a time the eye

departments of the dispensaries were actually besieged by patients suffering from this trouble, and since October of last year I have had an opportunity of observing several hundred cases in every stage of the disease. That trachoma, however, was not confined to this city, but has prevailed to a greater or less extent in other parts of the country, is shown by a recent communication from the United States Marine-Hospital,[1] according to which more than 100 cases have been found among the employes of the Lackawanna Steel and Iron Company in Buffalo. The disease has always been more prevalent in European cities, and probably its present frequency is attributable to some extent to foreign immigration.

I have thought it of interest to report here some of my own observations, especially from a therapeutic standpoint. As already mentioned, most of the trachoma patients were children, all of whom presented the chronic form of this affection. A striking feature was the almost complete absence of subjective symptoms. Most of the little patients were unconscious of their trouble until they were refused admission to the schools by the medical examiners with the statement to consult an ophthalmologist. This was the case even in children in whom the trachoma had developed to such an extent that upon drawing aside the lids the conjunctival folds were found to project as thick, stiff, gelatinous protuberances. The granulous form of trachoma was chiefly encountered; much less frequently the papillary form alone, more frequently both forms in combination. Both eyes were always found trachomatous, although to a different extent and in a different degree. Pannus trachomatosus or other corneal complications as well as distortions of the lids and adhesions were observed only in those patients who had been afflicted for many years with the disease.

Pathologicoanatomic examinations cannot, of course, be made on dispensary patients for obvious reasons, and therefore the utilization of our otherwise abundant material in this direction could not be carried out. Special conclusions in regard to the still somewhat obscure etiology of trachoma could likewise not be formulated. I can only confirm the observation which has been frequently emphasized by others that uncleanliness and the close herding of people under unhygienic conditions particularly promote the extension of the disease. Most of the patients belong to the poorer class, and even their outward appearance was not of the cleanest, and most of them came from districts of the city in which the tenement houses are crowded to their utmost capacity.

According to nationality, by far the greatest majority of the patients comprised Polish or Russian Jews, to a less extent Roumanians, Hungarians, with a few Americans, Germans, and Italians. From this, however, no conclusion can be drawn as to the prevalence of trachoma among the various nationalities, as the above mentioned proportions correspond to the composition of the clinical material ordinarily observed at the dispensary.

The diagnosis in most instances was easy, and the disease could not generally be confounded with follicular conjunctivitis. Difficulties were experienced only in a few instances of commencing trachoma, in which it was occasionally impossible to make a differential diagnosis at once between follicular conjunctivitis and trachoma. Although Fuchs[2] asserts that the differential diagnosis between follicular conjunctivitis and trachoma is facilitated by the fact that the former occurs chiefly in young persons, while the latter is less frequently met in children, this did not happen in my experience, as by far the greatest number of trachoma patients comprised school children of various ages. The same observations have recently been made by others; thus, for instance, Schiele, of Kursk, Russia, found among the children examined by him a marked prevalence of trachoma, namely, 58%, and similar results have been obtained by Hoppe, in his investigations in villages of Eastern Prussia, and by Morax and Lakah in Egypt. The old view that children are insusceptible to trachoma or are only attacked in isolated instances, can therefore no longer be maintained.

In regard to the manner of treatment of trachoma there is still a wide divergency of views, and it may be assumed with justice, that when so many therapeutic methods are recommended for one and the same disease, that it must either be very difficult to manage or unamenable to treatment, that a cure takes place spontaneously, and perhaps even in spite of the most varied therapeutic measures.

As to the choice of treatment in trachoma, consideration must be given to the stage and extent of the process, the condition of the cornea and lids, the age of the patient, his place of residence, as well as the external conditions. In brief, we must strictly individualize in the treatment of trachoma. The patient whose circumstances permit him to consult the physician daily can naturally be treated differently than a dispensary patient whom the doctor sees at the most twice a week. With the latter class of patients the medicinal treatment must consist of a remedy which can be employed at home, and as it is well known that under the use of medical measures alone the course of the trachoma is often prolonged over many years, it is absolutely necessary in appropriate cases to combine therewith operative procedures. The treatment, therefore, was carried out in the following manner:

The milder and not far developed trachoma cases, especially the papillary form, were treated by instillations of a 2% protargol solution, which was given to the patient to be applied at home thrice daily.

I shall not discuss in detail why protargol is preferable to the old time use of silver nitrate, and will only mention that its chief advantages consist in its greater penetrative action and its freedom from irritation. Moreover, in the last few years the remedy has been employed with special success in various affections of the conjunctiva, and especially in trachoma.

My experience fully coincides with that of Darier, who in his recent work on ocular therapeutics, 1903 (translated by Sidney Stephenson), after a study of the advantages and inconveniences respectively of the different salts of silver, recommends protargol above all others on account of its penetrative power and the little pain it causes.

The results obtained from instillations of a 2% protargol solution in the milder cases of trachoma as well as those which had not too far advanced, were perceptibly good; the secretion rapidly diminished; the hypertrophy of the conjunctiva soon subsided, and, in most instances, the children, after 4 to 6 weeks' treatment, were so much improved that they were permitted to return to school. Other cases of somewhat more severe character failed to respond so rapidly to this treatment but even here the trachomatous process was arrested, the hypertrophy and secretion reduced, and the subjective symptoms materially improved, and while the treatment was more protracted a cure ensued without complications. It is worthy of note that after 6 to 8 weeks' treatment the patients were so much improved that they could be readmitted to school, and they were only required to continue the eye drops and to present themselves once a week at the dispensary. It may be further mentioned that protargol may be employed for an indefinite time, especially in a 2% solution, since, according to my observations and the statements of various observers, there is much less risk of its producing argyrosis than in the case of the silver nitrate.

In short, my experience has been so satisfactory that I have not felt tempted to try any of the other substitutes for silver nitrate which have been recommended on account of their higher percentage of silver and absolute freedom from irritation. According to my idea it is not so much the percentage

of silver as the form in which it is combined, and I do not think that it is possible to discover an effective germicide which will be devoid of all reaction upon the tissues. In other words the question of absence of irritation is only a relative one, depending upon the degree to which the tissues react in the individual patient. I also see no advantage in stronger solutions if the milder ones are sufficient, especially in view of the element of expense which must always be considered in the poorer class of patients. These mild solutions of protargol can be safely entrusted to the patient and they will not produce the disagreeable staining, attendant upon the use of some of the newer silver preparations.

I would emphasize in this connection the necessity of preparing solutions of protargol with cold water, as heat produces more or less decomposition of the drug, which might thus become irritating. Solutions may be prepared either by stirring the powder into a paste with a little water and then adding the remainder, or by dusting it upon the surface of the water in a wide-mouthed receptacle and letting it stand without stirring until the solution is completed. I have also found it better to use freshly prepared solutions rather than those that are made from a concentrated stock solution.

In reference to the fully developed trachoma cases, especially those of the granulous variety, it was evident from the first that practically nothing could be expected from medical treatment, as the disease might thus be prolonged over many years and the patient exposed to the risks of corneal complications, especially pannus and distortions and adhesions of the lids. Beside, it must be considered that by far the larger number of cases occur in children who are excluded from attendance at school so long as the trachoma is still in a stage of development. Here it is necessary above all to produce a speedy cure, in order to shorten the interruption of studies at school as much as possible. These patients were, therefore, subjected to operative treatment, consisting of the expression of the granules with Knapp's roller forceps, a procedure which when carried out under anesthesia accomplishes, according to my experience, all that can be expected, and therefore can be strongly recommended, contrary to the view of Bock,[3] who regards the method as rough. The granular, uneven, and gelatinous conjunctiva assumes a smooth appearance immediately after the operation and recovery is then initiated. Of course, the cure is not completed through this operation alone, but the preparatory steps only taken, since beside the large granules which have been expressed, numerous smaller ones are in process of formation.

The after-treatment in these operative cases also consisted of instillations of a 2% protargol solution, and through the combined operative and medical treatment it was found that the affected children could be sent back to school cured, usually at the end of 2 or 3 weeks.

The future will show whether an occasional recurrence will take place, in which case the protargol treatment, with or without operation, will have to be repeated. I would mention that in not a single one of the patients treated in this manner did complications occur, either in the cornea or in the lids.

The few cases of pannus trachomatosus, blepharophimosis, and trichiasis which came under observation, concerned exclusively older patients who had for many years suffered with trachoma or its sequels, and had been treated with silver nitrate or copper sulfate.

Dr. P. Schultz[4] reports on a small epidemic of trachoma in Berlin, which is of more than ordinary interest on account of the manner in which the disease was contracted. Nearly all of the cases observed occurred among the visitors at a certain bathing establishment. An investigation showed that the water of the swimming tank, which was not changed sufficiently often, was the source of the infection. These observations deserve careful consideration in view of the fact that the infection may be readily conveyed in the above manner in public and private bathing establishments where the tanks are not frequently scoured and the water is left unchanged for some time. Of course, the fertile source of the infection would be the towels. The dissemination of trachoma in this manner is not likely to give rise to an aggravated type of the disease, as the virus is not concentrated as by direct communication, and this is shown by the fact that most of Schultz's cases were of a mild character, being cured by expression of the granules, with thorough brushing with sublimate solution and instillations of protargol. In our inland cities where there is not an abundance of water and the public bathing is confined to tanks in which water is allowed to stand unchanged for some time, this danger, however, is a real one, and should not be overlooked.

The energy displayed by the New York Board of Health in the suppression of trachoma is worthy of general adoption in our other large cities. After the disease is diagnosed in a certain case, most stringent precautions should be taken to avoid its communication to others. Especial attention should be given to cleanliness of the patients, and particularly the hands. All rags and cotton that have come in contact with the eyes should be burned at once, and towels, bed-clothing, etc. should be thoroughly boiled, and the patient warned against rubbing the eyes. Children should be excluded from school until the disease is no longer in the infectious stage, and perhaps it might be well to suggest that the books, pencils, and slates be also disinfected. A thorough examination of the eyes of all immigrants and strict precautions in the case of those who have been attacked will reduce the cases of trachoma to a very trivial number, and thus prevent its serious complications.

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SPECIAL ARTICLES

EYESTRAIN AND CIVILIZATION.[1]

BY

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of Philadelphia.

The importance of the organ of vision in every moving animal is shown by the fact that the embryologic force, or, as I prefer, the Biologic Architect, with the foundation of the organism, at once begins the construction of the eye. It is not a question of days, but of hours, when the making of that all-important organ is begun as a differentiation of a part of the wall of the primitive cerebrospinal rudiment or medullary plate of the embryo. A trout embryo is first seen macroscopically by means of the massive pigment-heaping of the eye, that is larger than all the rest of its body. The common barnacle (*Lepas anatifera*) is well outfitted with eyes while it swims about, but when it attaches itself to the rock for the rest of its life the eyes atrophy. The mechanism of the finished vertebrate eye is of incomparable complexity and variability. A hundred evidences are strikingly manifest, all showing that the entire biologic process, so far as it pertains to motile organisms, is dependent upon the function of vision, and every act during the life of those organisms is in fact dependent upon the accuracy of vision and of its instant relation with every other mechanism of the body. Without such a perfection of visual function no animal can get food, preserve itself from enemies, or maintain itself in the struggle for existence.

Not only his physical existence is thus dependent upon seeing, but the intellect of man, and all resultant civilization is

[1] Read before the Cleveland Academy of Medicine, June 19, 1903.

literally a product of vision. The greatest victory of humanity, the one thing that has alone made all other conquests possible, is the alphabet. It took almost numberless generations to construct this great *sine qua non* of civilization, and as all know, the letters of the alphabet are the conventionalized images of things seen. All thinking is in pictures or representatives of them. The psychic thing, of course, preceded its tools, but without the eye there could never have been vertebrate beings on the globe.

There is no way so good to picture—again to picture—the essential mechanism of the external organ of sight as to suppose that a blind man should have millions of tiny fingers and that he should hold them up to a scene—again a picture!—like the sensitive plate of a photographer's camera. If a figure, a square, a circle, star, etc., made up of warmed iron rods, should be laid upon those million fingertips, the blind man could tell its shape and size by the warmth he would feel in his fingers. The objects of the external world reflect the warm rays of sunlight from themselves upon the million fingertips of the retinal rods and cones in precisely the same way. And back from each fingertip runs a nerve for transmitting the impulse to the mysterious brain center where nerve-impulse is made into sensation. We must also remember that the crude material out of which the eye creates color and light is nothing but ether-waves slightly varying in length reflected from the different parts of objects to be photographed on the retina; these ether-waves are about one fifty-thousandth of an inch long, and from 412 to 790 millions of millions of them strike the retina every second.

The incomparable delicacy of the process, the almost infinite slightness of the light-and-color stimulus, is also not appreciated. The retinal fingertips must respond to a stimulus lasting less than a thousandth of a second, and with but a millionth of a millionth of the energy, for instance, of the sound-waves to which the ear responds. Conceive, or, rather, attempt to conceive, the subtlety and fineness of the retinal and entire ocular mechanism which responds to such a slight stimulus as that. When one tries to think of it, one gets a hint, and only a hint, why it is that in death from starvation there is no stored nutriment, *i. e.*, no fat, in any part of the body except in the orbit of the eye, the blanket of fat about the all-important retina. The higher organism, biologically, that is without an eye is not worth life!

And not only an eye of some kind, or of any kind, but one whose mechanism is as unerring as the light ray it receives; one in instant connection with every other function of the body, especially of motility; one upon which the safety of the body and life depends a thousand times a day. There is a true passion of accuracy in its nature that is marvelous. The almost unconscious avoidance of objects in the way by horses and other animals, the superb perfection of eye and organism of a bird thridding through brush or alighting, the precision of the athlete, the juggler, etc.—such things, it is forgotten, are all first, and far more excellencies of eye than of muscle or nerve. I have read somewhere of the astonishing feat of monkeys running over the tops of African forests faster than a horse could run in the open, and looking back at their pursuers, while dashing from tree to tree. The ability of the ocular mechanism to make all of that possible fills one with awe of the ocular mechanician.

Let us now carry the thought on from physiology to pathology. Let us remember that in all nature there is no perfect organ or organism. No leaf of the numberless billions in the forests of the world is faultless. No face is symmetric, no finger perfect. And so, speaking absolutely, no eyeball is mathematically or optically perfect. Great physiologists and mathematicians have marveled at the optical imperfections of all eyes, but without any care to correct them. And almost no astronomers or microscopists, profoundly careful as to the perfection of their transits or objectives, have even cared to ask about the optical imperfections of their own eyes. We have at last begun to observe them. The canalizations of the planet, Mars, are finally found to be due to optical defects of the astronomer's eyes.

Such an illogicality, except one, is the most astonishing thing I know in the history of science. But it is explained by the fact that in the evolution of science the study of the most useless precedes all others and only slowly and progressively does the mind come to the real problems of life and to the student's own life. First astronomy, then the earth; when the body is at last reached bones and muscles are studied. Then health and disease, and last of all, the realities and final causes of disease. We are coming to psychology only now. But at every stage of the progress of the voyage of man in finding himself, the reactionaries cry out against the advance, and say, the old truth is all truth.

How amazing it would be without knowledge of this law that men whose life-study is pathology, men, hundreds of thousands of them, whose sole function is the curing of disease, have cared utterly nothing about the diseases of the eye, the malfunctions which precede and beget almost all ocular diseases, and very many systemic ones. Worse than that there are and have been specialists in diseases of the eye who have not cared, and still do not care, about these optical malfunctions of the eye. When one calls attention to these facts, one is accused of "hobby-riding specialism," and of "exaggeration." The very monomania, the true insanity of specialism is to look upon the single organ as if it existed of and for itself. The great dawning truth of physiology and therapeutics, the one which will bring new light into our art and science of medicine, is the functional interdependence of correlated organs, and the unity of the organism. That truth will kill all narrow specialism and bring once more the general physician to his place of honor. The tumor-inflammation-operation oculist is the genuine exaggerator, the hobby-rider, and the one who shows the systemic relations of malfunctioning eyes, is the true physician, the real scientist. My duty tonight is to harp upon this theme because I know of no greater medical need, no more atrocious professional crime than this which so long constituted our chief sin.

Everybody knows that the success of photographing depends upon definition of the image, the mathematic precision with which the picture images the outlines and the proportions of the fact. This definition is easily disproportioned or blurred. If the photographic camera is only an inch in diameter the securing of accurate definition of all objects in a wide field of view, and situated at all distances, becomes at one time a physical impossibility. And when one sensitive plate has been exposed it has been spoiled. But nature in the normal and emmetropic, socalled emmetropic, human eye has come as near as possible to creating a self-adjusting mechanism which shall secure definition of all scenes, far and near, and has also made the retina a self-resensitizing and single plate, good for all "exposures" at the rate of say a hundred thousand a day. As bad an optical instrument, as much of a makeshift as the eye may be, it is the most perfect of all biologic mechanisms, the greatest art-product of life. And yet after all the count has been made of its necessary and inobviable imperfections there is not, even optically, a perfect pair of eyes. The one pair that had been pronounced "mathematically perfect" by the most expert testimony, I demonstrated had myopic astigmatism, and this defect caused repeated and severe subconjunctival hemorrhages.

What are the optical defects of human eyes that produce malfunction and diseases local and systemic? The camera-eyeball may be too long, or too short to give perfect definition of the image, or the cornea may be abnormally curved, producing distortion and disproportion of the image. If the eyeball is too long there is myopia, and if its fellow has the same degree of over-length, no strain or attempt at strain can be made by the eye to neutralize this, and there are no evil results of a reflex kind. The person so handicapped simply cannot see well at a distance, and in our civilized life no bad results follow if the defect is not increasing, excepting that certain occupations cannot be pursued without glasses. But not one pair of eyes in a thousand has the same degree of myopia in both eyes, and at the same time is without corneal malcurvature (astigmatism), so that some eyestrain, of a low degree at least, exists even in myopic people. But it is inconsiderable in comparison with the pathogenic results of the defects which demand constant and morbid innervation of the compensating and accommodation mechanism. The retinal image in myopia, and even in myopic astigmatism may be far worse in definition

than that in hyperopic astigmatism, but as no effort can be made to neutralize it, the pain of morbid and excessive effort is usually avoided, and the eye alone is harmed, and the person limited in function.

When the eyeball is too short the image is poorly defined, except when the ciliary muscle can temporarily give better definition. If both eyes have an equal degree of over-shortness then, up to a certain degree, and for a certain length of time the compensatory mechanism can overcome the trouble. But as no one of the schoolboys who have tried it can hold his arm out straight for 10 minutes, so no ciliary muscle can compensate for high defects, or for low ones long at a time without resting. But the over-shortness of both eyes is hardly ever alike, and almost never without some astigmatism.

Then astigmatism, or malcurvature of the cornea, in the vast majority of cases, exists in some degree in the eyes, and over this defect the compensating mechanism has almost no power, and in a sphincter muscle like the ciliary muscle, two-sided action even of a low power, is, of course, essentially morbid. I have elsewhere described 12 mechanisms by which the same spot of the retina is relieved from a constant stimulus every instant. I should have shown that this accommodation and muscular tiring is a thirteenth, so that even this morbid fatigue seems designed to prevent greater harm by a lesser, and demonstrates the need of the prevention of severe or continuous use even of perfectly normal or emmetropic eyes.

If the incorrectness of measurements of the camera eyeball is as great as $\frac{1}{300}$ of an inch there is a lack of definition of the retinal image. To overcome this the eyes in hyperopia and astigmatism must struggle ceaselessly. Both retina and muscles are tired by this effort to neutralize; persistent innervation, coupled with abnormal action of muscles, is impossible and harmful, as every physiologist, every schoolboy even well knows. They know it leastwise of other muscles, but they ignore it of ocular muscles. To this complication of defects must also be added the frequent presence of imbalance of the external ocular muscles, 12 of which must act in fine adjustment and harmony to keep the two eyes properly directed upon a given object at any given instant. Another important error is that the evil reflexes, except in the case of the developing criminal, are the worst in the low defects, those that the eye can overcome by intense effort, but only for a short time. A third of a diopter of asymmetric astigmatism is a hundred times worse for the general system than high defects. The high defects produce criminals, or ruin the eye itself; the low defects, unrecognized by bunglers, produce the thousand morbid reflexes.

The chances thus grow more and more certain that no pair of eyes will be optically and muscularly perfect, but these chances are tremendously increased, becoming as thousands to one, when it is remembered that evolutionally the eye was developed under the sole need of seeing distant objects from say three feet to the horizon clearly. But now comes civilization in the last 300 years, and demands of the eyes a new work for which the history of millions of years has made no demand, and for which the eye has been outfitted with no mechanism. Printing, sewing, schools, and handicrafts cannot be carried on even by normal eyes except through persistent and abnormal functions. These excessive and morbid demands made upon the unfitted mechanisms of the eye thus tremendously heighten the difficulties preexisting and constitute the inobviable source of eyestrain with which civilization has henceforth to deal with all the seriousness which disease may command and science can consider. The "exaggerations" of the most enthusiastic "exaggerator" that has so far arisen cannot equal the importance of the awful facts. Brutal indifference and ignorance may not longer continue the cynical smile at the "exaggerator."

A great and famous "ophthalmic surgeon," for whom I have a proper respect, told me he had examined large numbers of patients who complained of the same troubles as Darwin, Wagner, Parkman, and the rest, and he found that they had no optical defects whatever. I answered that I had never seen a pair of eyes with no ametropia. I could not tell him that he had never tested a pair of these eyes by accurate and scientific methods, and that the refuse of his office was the best material for all the refractionists of his own and adjacent cities. I could not say to him that with his mental makeup no refraction, mathematically correct, was possible; that conscience, scrupulous carefulness, and keen intellect were necessary to do such work, and a painstaking subtlety in searching out the slight and long-continued causes of malfunction and of organic disease. I did tell him that all history is full of instances of the failure of the official leaders or representatives of religion, art, and science to recognize the new truth which finally supplanted the pitiable truth they stood for. It is the law of life, seemingly, but what an expensive one! Beware of officialdom in all its works and ways, and in any walk of life, but especially in medical science. In ophthalmology today it will often know nothing of the greatest truth, the most wonderful alleviator of human suffering. The blindness that is blind to it is the most amazing illogicality I know. In nearly every city of the land there are quiet, almost unknown refractionists who are making great practices, who are doing far more good to their fellowmen than the nationally and internationally famed presidents of all the medical societies. It pleases some of these great and famed ones to ignore these quiet men and to belittle their work, but the sin of doing so will some time become clear. There is a perfectly sound reason why the search for success and the attainment of it kills the love of new truth. Even in the few and best instances fame and presidencies and LL.D. degrees only come as rewards of what has been done. Then the poor recipient of popular favor is interested only in this past truth, plus himself and his connection with it. Patients' lives are sometimes mere pawns in the game for success. But in the vast majority of cases, as we know, the presidents and LL.D.'s secure the coveted honor after long and careful "still hunts" for it, and the secret plotter unconsciously kills the only thing that makes the reward of any value, *i. e.*, honor of self and the spontaneous honor given by others. It is an open secret nowadays that the colleges conferring the degrees called honorary do so for their own sakes, *i. e.*, to get honor while seeming to give it. Their motive is to attract attention and to advertise themselves, and to get endowments. But as an astute observer said of marriage, it is a game that two can play at and neither win. Neither of the schemers gets honor, because neither is honorable. In refusing such a degree in his old age, Spencer told the honorers that it could have been of great use to him when he was young and striving for the recognition of his truth, but that it was now useless to him. Knowing he was not an erudite man, Cleveland, greater than erudition could understand, also refused a false degree. Truth bids good-bye to the hunter and parader of the LL.D. degree.

The sooner the scoffer is silenced the better, and the sooner the role of eyestrain in civilization is recognized the better for the nation, and the greater its progress. How slow, how amazingly stupid we have all been in the recognizing is shown by the history of the finding of the pathogenicity of astigmatism. Clearly pointed out over 25 years ago, and demonstrated since then by proofs offered by a hundred clinicians, the great body of physicians and even of ophthalmologists of the world, especially of the European world, still ignores it. Pick up the programs of the highest official ophthalmic societies and notice how the whole subject of eyestrain is almost utterly ignored. In the great national and international medical societies it is usually not even mentioned. In our best and latest textbooks on general medicine the subject is not recognized, and the conditions which make the diagnosis and cure of these ocular and reflex diseases are not put in practice. There is a fine book written by a most capable man, bearing the date 1903, devoted to the teaching of the prevention of disease. It speaks well and scientifically of many common diseases and their causes, of the effects of study in schools, but in the whole book there is not a word as to the eyes, or the troubles that arise from ametropia. So careless of technic are we that not even Merlin's ingenuity could estimate astigmatism with the ordinary trial frame in common use. The average optician knows nothing about his true business, and the average physician does not care to see to it that he shall know about it. Patients from 40 to 55 years of age are refracted without a mydriatic, or worse-refracted with it, in half the clinics of the world, and the

best national medical journal[1] says that anybody can test such eyes with any ophthalmometer. It is precisely the weakening eye during the establishment of presbyopia that needs the most accurate refraction, because it is then that compensation by means of the elasticity of the lens is becoming progressively less and less. There are a hundred neglected requirements of accuracy that condition success. Without the least doubt, and weighing well what I say, I am sure that no discovery of modern medicine, except vaccination and the germ theory of disease, is of so great importance as this of eyestrain. Directly and indirectly this functional disease is the cause of more suffering than all the organic diseases combined. Incredulity cannot do away with the fact, and poohpoohing the "hobby-rider" will only disadvantage the poohpooher and postpone the day of relief to millions of sufferers.

It is a curious fact that, closely inquired into, the knowledge of the relief of the disorders of eyestrain has largely come from the lay world and from patients themselves. But not, as the *Lancet* contends with justice, not from the opticians. While the professional world has been ignoring the facts, publishing its textbooks on gastric and nervous diseases, etc., patients have been finding out that their ills are curable by proper spectacles. The few general practitioners and nerve specialists who much longer ignore the fact will find themselves stranded by the superior diagnostic skill of the nonmedical. I show you a circular issued by a quack optician, but one of a thousand, who is appealing direct to the lay world for patients, and over the heads of the regular and honest opticians, and, of course, in defiance of the physicians. Such men are organizing, supplying themselves with ophthalmometers and machines galore. Traveling spectacle peddlers, even traveling doctor-oculists are all over the land, ruining eyes often, but in spite of that gaining organization and power. Their vogue is due solely to professional neglect of eyestrain! There is no professional duty greater than to stop supporting this quackery. Many otherwise regular physician-refractionists are learning the lesson that they may also ignore the official leaders of the profession, the referrers of cases, and without their aid or sympathy may win success by going straight to the people themselves. The tons of "headache powders," and lakes of "bitters," "tonics," and "appetizers," and the rest that are annually sold, teach, or should teach, a no less suggestive reprimand. To encourage a greater revolt of the lay world into antimedicalism is neither good professionalism nor sound policy. We have need to walk heedfully in this dangerous road! For the unexaggerated and brutal fact remains that at least 25% of modern civilized people are today suffering from the ocular and systemic effects of eyestrain. Most all of the headache in the world, and of sick-headache, is absolutely due to that cause. A very large part of the neurasthenia and of the hysteria also springs from it, and of "biliousness," anorexia, "nervousness," etc., it is one of the most active of all causes. Every one of a hundred different lethal and organic diseases which finds foothold through the vague but awfully real fact called denutrition, may and frequently does find that foothold through the eyestrain that almost always lessens vitality and begets denutrition. We are making a wise, a splendid crusade against tuberculosis, but the ground in which the tubercle bacillus finds place and food is one prepared by general denutrition, and of all the modern producers of a general lowering of vitality none is more frequent and persistent than eyestrain.

Because of the value of the eye to the organism and life, the results of morbid ocular function cannot be borne by the eye itself. So nature has been forced to shunt these results elsewhere, and to obviate ocular injury at the expense of other organs. To this reason is added the power of sexual selection. The beauty, as well as the usefulness of the eye, requires that it be kept from inflammations and abnormal appearances. Such in part is the explanation of reflex ocular neuroses. This is the reason that the great influence of eyestrain is not recognized. The effects are so infinitely various, so far removed from the eye, and so subtle, that the ordinary mind is incapable of realizing the truth. Any other organ may suffer instead of the eye. Bound up as is the eye with every psychic and physical function the reflex vicarious suffering takes the line of least resistance and exhausts itself upon innocent cerebral, muscular, or nutritional organs elsewhere. "Nervousness," whether hyperesthetic or hypoesthetic, is the almost constant symptom of all eyestrain sufferers. Chorea, petit mal, insomnia, are frequent consequences. Being the creator of the intellect and the instrument as well of all mental activity, the mind and disposition are speedily and frequently morbidized by ocular malfunction. I really believe that eyestrain is one of the greatest of all causes of "domestic infelicity," and that many a divorce has been due to it. If a woman becomes a scold, a gadabout, or everlastingly ailing, the probability is, of course, that hers is another case of the very common disease called "new woman," but it may also be one of eyestrain in the "old woman." Even the noble animal, man, may display "incompatibility of temper," go to the saloon or club evenings, or drink too much, from the same reason. It will some time be shown that the abuse of coffee-drinking and tea-tippling is not seldom due to the attempt to whip up a tired or irritated nervous system, and a rebellious digestive system, hurt by the inhibitions and worries of eyestrain. Almost every eyestrain sufferer complains of sleeplessness, and that deadly trouble is at the bottom of a deal of woe in the world. I am sure that the tobacco dealers and trusts should combine against all opticians and oculists, for smoking is frequently encouraged by the desire to allay the cerebral irritation of eyestrain. It is striking that in the progress of civilization the consumption of tobacco and of coffee goes on rapidly increasing, and that those peoples which use the most of one are also the greatest users of the other. The connection is more than accidental, and the cause is not entirely dissociated with the great increase of nervousness, headache, biliousness, etc., among the hand-workers, the readers, the students, etc., of the more civilized nations.

But one of the most frightful facts of our modern life is the growth of the drink habit. A competent authority has calculated that the people of the United States spent last year $1,172,565,235 for alcoholic drinks. If I should guess that one-tenth or one-thousandth of this worse than waste was caused by an unconscious attempt to undo the evil effects of eyestrain on the nervous system and digestive organs I would be smiled at as a man overexcited in advertising his hobby. Yet I honestly believe that over one-tenth would be a low estimate. In the Bulletin of Iowa Institution for April, 1903, Dr. Applegate finds that of 150 inebriates examined, 63 had serious ocular lesions, muscular, optical, or nervous.

As to the production of crime and of criminals there is luckily an important bit of testimony. A large, an amazingly large, number of the young criminals of the State Reformatory at Elmira, N. Y., have such enormous defects of the eyes that as children and youths they could not possibly study, and could not even do handwork without danger to themselves, without botching it, or without such injury to the nervous system as would make truancy and a life of vagabondage inevitable. Eyestrain is a great teacher of crime. Nothing can be more certain than that De Quincey, Darwin, and Parkman had intolerable eyestrain, and that as schoolboys they were driven to truancy against every inborn taste and external influence. Their high moral natures kept them morally straight at an expense of suffering that was most tragical. Look out for the eyes of the nonstudious schoolboy!

Very nearly 100% of epileptics have some considerable eyestrain and of these about 50% have that otherwise rare and most unbearable variety, unsymmetric astigmatism and anisometropia. A number of cases of cure of epilepsy have been made by competent oculists, but it is probable that even when caused by eyestrain the large majority of patients with the established disease cannot be cured by glasses, because of the deep injury that has been done the nervous system. The same may be said of chorea. Prevention is the great word in medicine, and especially in nervous and mental diseases. The human brain is fundamentally a great storage battery, capable of secreting and then releasing great reserves of force in any way at the direction of the will and circumstance. Epilepsy and chorea, and nervousness are the useless, unmotived, and morbid releases of these stored batteries of nerve force. To meet the exigencies of life the storage must continue. The dis-

[1] See an otherwise capital editorial article in the Lancet of May 9, 1903.

ease is the pathologic release. The cure is preventing the overstorage and the weakening of the sluice-gates, which allows the epileptic, choreic and nervous drowning of the lower valleys with the disastrous flood.

A similar line of reasoning and observance of facts will finally reveal the ocular origin of a portion of the insanity of the world. The eye, again to be noted, is at once the creator, influencer, and instrument of mentality. Intellectual action cannot be spoken of or described except in optical terms, images, or representatives of these. A morbidly functioning pair of eyes will almost certainly, therefore, render the dependent intellect morbid. If superposed on a predisposed neurotic or unstable cerebral mechanism, they will almost infallibly end in "queering" or unbalancing the psychic or neural equipoise that constitutes sanity. Here again cure will consist largely in prevention. When mental imbalance has become chronically habitual, or even positive insanity, then the irreparable has been established. But look out for the eyes of the odd child, the developing crank, the acute monomaniac, the one with latent, but progressive, insanity. There never was a saner, wholesomer or more clear-headed intellect than that of Francis Parkman. Yet read how the insanity horror was before the minds of his friends (not of his own), and how he speaks of the study in his own case by the expert in neurology.

In this connection I cannot forbear allusion to an awful effect of eyestrain, when the eyes and all the rights of the irritated brain are ruthlessly trampled on by the most cruel of overuse and abuse. Once in Darwin's life when this was done, he made his solemn will, in view, as he believed, of soon oncoming death. Many times in Carlyle's life a similar shuddering seized him, and Wagner contemplated suicide many times. The tortured mind saw no other escape from the misery which haunted it with over-use of the eyes. Yet naturally these men were lovers of life, and even cheerful-minded. Even Carlyle was not inherently a pessimist, and his natural faith and hopefulness were constantly breaking through the gloom which use of his eyes threw over his mind. The greater the number of school hours demanded by a nation of the children the greater is the number of suicides and of child suicides. And especially where, as in Saxony the correction by glasses of the small optical errors, upon which the chief troubles of eyestrain depend, is scorned.

The reason of the fact that the organism itself must be wrecked rather than the organ of vision lies in this passion for accuracy of which I have spoken, concerning its physiologic aspect. The longer an organ has been in evolution, the more fundamental its function for the safety of the organism, the more imperiously it persists in struggle for existence and in normality of action. The autogeny repeats the phylogeny. This failure in accuracy of curvature of the cornea by so much as $\frac{1}{300}$ of an inch means the contradiction of the history of the race, means the unsafety every hour and minute of the day, of the individual, means the inheritance of the abnormality and ruin of future organisms. Biology and the preservation of the race hang for perpetuity upon the extinction of that $\frac{1}{300}$ of an inch. See how that works out in fact, and then see how the sneer of the cynic at the "exaggerator" is contemptible and criminal, how unscientific is such science. Take an instance in organic pathology, as more striking than the functional pathology which the pathologic pathologist affects to scorn. He cares nothing for the astigmatism which is a most profound concern of the God of biology; but he must recognize that a life of morbid function, never for an instant physiologic, usually and hopelessly renders other organs than the eye irreparably morbid, hopelessly incurable. Tie an arm up and it is soon paralyzed and withered. Stop speech for 20 years and the vocal bands renounce their function. But an eye will wait for 50 years for an astigmatic lens, and in an instant it is functioning normally. And for the same 50 years an eye that has never seen a thing, will wait for the removal of the cataract, when in a moment its function is perfect, far more perfect than the mind that must still learn how to judge of what the new-made eye tells it. This everlasting waiting for relief, this preservation of the possibility of normal action, this utter refusal to be turned from its right and healthy activity is absolutely exceptional in the eye, and is most amazing.

This brings me to the mention of the role of eyestrain in our schools. Dr. Johnston, of Washington, D. C., enumerates a very large number of cases of illness and disease, and of physical and mental injury, and in particular to the effect of school life on the eyesight, the frequency of headache, and resulting sleeplessness, affecting, in some instances, from 38% to 48% of the children, and he instances the experiences of the Cleveland Public High School, where 25% of the girls and 18% of the boys had been compelled to withdraw in one year for various reasons mostly on account of bad health. It is an absurdly low estimate to place the proportion of the 17,000,000 of American school children, students, etc., whose characters and health are being injured or positively ruined by eyestrain at 10%. Myopia, as all know, increases with each added year of school study—and myopia usually means the eyeball stretching from lack of proper glasses. The "nervous," "backward," "stupid," and unhealthy pupil is usually so from eyestrain. The State has no right to demand that every child should attend school without also stipulating that its eyes shall be made capable of study.[1] Glance at your arrangements in eye clinics for refraction; this most difficult and skilled of medical work is left to students, and in comparison with operations and inflammatory diseases and ophthalmoscopy, is held to be of so little importance that instruments, lights, etc., are neglected and good results made impossible. And yet eyestrain creates the greater part of the local diseases of the eye. Of course, such refraction cannot have any effect upon systemic and cerebral reflexes except to increase them. No refraction at all is better than inaccurate refraction. The endowment of refraction schools is as necessary as that for any other branch of medical study.

If one looks out over history there is seen to be no condition of human life wherein ametropia did not play a great role, and always one of evil. Eyestrain is the greatest cause of inflammatory diseases of the eye itself, including cataract. The only one of all the great ocular troubles it does not cause is presbyopia—the failure in sharp near vision that comes on at about 40 or 45 years of age, and is completed at about 60. This failure, parenthetically noted, is one of a dozen striking proofs of the tremendous difficulty encountered by the Biologic Architect in making the eyes. The nourishment of the transparent lens without red blood-corpuscles and nerves is such an almost impossible feat that in a large proportion of cases, if ametropia heightens the difficulty, it is only possible to maintain transparency for the first fifty years of life. But whether or not complicating eyestrain adds to the difficulty, the elasticity of the lens begins to fail at 45.

Even in savage and semibarbarous life eyestrain, conjunctivitis, presbyopia, and cataract must have been the cause of a vast amount of suffering. Any beautiful oriental rug, carving, or other art-work, may have been created by aching brains. Many of the weavers, the basket-makers, arrow-chippers, etc., must have been sufferers; the punishments personal and tribal must have been great, and all such workmen and workwomen came to grief when presbyopia set in. In peoples emerging into civilization the morbid ocular factor becomes still more felt. In the millions of negroes of our country, many striving for education and expertness in handicrafts, at least 10% are sufferers from eyestrain; only the fewest can now have scientific correction of their ametropia.

In the creation of the alphabet, millions of bad faulty eyes must have brought tragedies into their owners' lives. In battle and chase, victory and life were often on the side of the perfect seers, and defeat and death on that of the imperfect eyed. A myriad mysteries of history could undoubtedly be cleared up if we but knew all the influences direct and indirect about the defects of the chief of the senses. Who could imagine the results of this factor in the hundreds of millions of Chinese throughout thousands of years in which all offices, honors, and power have been and still are dependent upon scholarship and written examinations. Similar griefs must have afflicted vast numbers of the self-restrained and dignified Japanese. I

[1] Among a thousand good and blessed charities, among all selfish and wasteful ones, among others that harm instead of help, and that increase instead of lessen the evil, there has never been found one, as much needed as any of the best, which should help the poor to secure proper spectacles. I know of no charity, except that for crippled children, which commands our sympathy more acutely.

suspect that eyestrain has been the cause of the melancholy type of Chinese and Japanese faces, and especially of the peculiarity of the eyelid contours. A similar result in Europeans begot the term "blue blood," as applied to the castle-dwelling and aristocratic women, across whose pale temples ran the veins produced by eyestrain, which oculists now find in unaristocratic sewing women and others of the slaves of civilization. There must have been sad consequences of faulty eyes among the monks of a thousand years of medieval life, who were busied in study and copying manuscripts as they passed down to us the literary treasures of Greece and Rome. I have read somewhere of the pathetic lives and ruined eyes and health of the present-day sewing women in convents, especially in the Latin nations of Europe.

Pascal, I think it was, said that man's troubles arise from his inability to sit still in a room. He meant that lack of reflection and planning plunged men and nations into ill-judged activities. A correlated truth is implicit in the saying, for when one nowadays sits still much he or she does not reflect so much, but soon goes to doing something—reads, writes, makes something with the hands, etc. The musician, Wagner, expressed the same thought when he spoke of the "damnable organ of sitting still," and to none did this "organ" bring more suffering than to him. The doing something while sitting means eyestrain in at least 25% of the doers. Eyestrain means irritation and suffering only relieved by doing something outside, as all eyestrain sufferers have learned. Hence the frightful avidity in vast numbers of people for war, sports, athletics, and wasted activities of a thousand kinds. The nations of the world are at present crazy with securing "undigested territory." The financial world is suffering from a similarly frightful dyspepsia from "undigested securities," as Mr. Morgan dubs them. Well, the medical world is suffering in the same way from undigested knowledge. The deathrate is twice as high as it need be, if the knowledge gained were put in practice. Of all the undigested knowledge of the profession the greatest quantity of heavy food on our stomachs is that of the knowledge of eyestrain. The pylorus is even bound down and closed by a constriction of ignorance and prejudice, which permits no food to pass, whether digested or not. And volvulus and appendicitis or other intestinal obstruction awaits below!

The great philosophers, writers, historians, artists, these are the most valuable assets of a nation. How they are treated is the most important of the financial and governmental matters of that people. It is politically, socially, and personally due that after-generations shall hold up to view the ancestral carelessness and errors and prevent similar ones from going on. Responsibility for the care of genius is the most solemn responsibility in the world. And yet, "Genius go hang!" is the judgment of the past and still continues to be the judgment of the present. The ancient criminal idiocy is not yet dead of supposing that the physical and emotional sufferings of men of genius were the cause of their genius and that we should make all such men suffer the most possible in order that the long-eared aftercomers may enjoy the results of their work. It is a diabolic theory, but the long-eared both consciously and unintentionally bring it about that way.

When Beethoven was writing the Ninth Symphony he was squarely in the middle of the presbyopic period, and he was a martyr to pain in his eyes; he feared his ailments would cut short the thread of his life, his "bowels were in the most wretched condition," he had "the trouble with his eyes," and in brief, "his organization was entirely shattered." Fifty-seven years, most of them years of misery, was Germany's order as to Beethoven.

Banishment from the country; hideous poverty; worse than either, absolute nonrecognition; worse than that, malignant hatred of his musical work; worse still than all, the most atrocious personal cerebral and physical suffering—this is what Germany ordered for Wagner. And of all the doctors who wrapped him in wet-packs not one noticed, or would have cared if he had noticed, that Wagner's left eye was turned up and out, and his forehead concentrically wrinkled to get the lid away from the pupil. Frequently he could not write another line of a letter because of the added torture that the writing of that single line caused. And this was in the land of von Graefe, and in the fatherland of modern medical science!

England told one of her greatest literary geniuses to deaden his horrible pain with opium and walk, walk, walk. De Quincey had to obey—and hold one eye shut in his late years to rid his brain of its harassing image.

Another, a still greater child of England, was turned into a terrible dyspeptic and misanthrope, made to suffer as only genius and eyestrain and pseudomedicine, when combined, can make men suffer, and was also commanded to walk, walk, walk, ride, ride, ride, and waste, waste, waste both time and talents of infinite value, in order to rest his eyes, his eyes that needed only a pair of appropriate spectacles. Carlyle obeyed his unloving tyrant.

Huxley was also ordered to walk, walk, walk, and to suffer, and to quit his great work just when he was best fitted for doing the best of scientific labor. And Huxley was a physiologist most exacting as to microscopes, but knowing nothing, caring nothing, for the eye that looked through his fine microscope. Medical science had not a hint to offer Huxley.

Medical science told Browning his headaches were inherited, told him to go to bed—and to read, if he wanted to. Browning would read a minute or two and get the headache, then close his eyes, turn toward the wall for a minute or two to get rid of his headaches, and so on! The poor poet was also commanded to walk, walk, walk, and idle the rest of his life away. Browning obeyed.

The greatest of England's modern sons, if by greatest we understand that his work has had the greatest effect, was Darwin. His work was limited to an average of an hour or so a day with his eyes, and the rest of his life he was ordered to spend walking, walking about "the sand-walk," or shivering in wet-packs. With the possible exceptions of Parkman and Wagner no man ever suffered more from eyestrain. Poor, patient, glorious Darwin!

Spencer still has a loathing of doctors and opticians, and his life could have been made a very different one, far more useful, far more productive, if he could only have had a pair of spectacles neutralizing his myopic astigmatism. With such a help he could have learned German, could have done the reading he should have done, could have avoided the mistakes, scientific and philosophic, which he should have avoided. Luckily, he has been too astute to suffer as others have done. It is England's loss and our loss, not that of Spencer. It is our fault, not his.

And Parkman! We put him on the gridiron to be tortured and gave him his gridiron to work with, and we would not let him walk in the day because the light blinded him. We refused to let him write but a minute or two at a time, and refused him even that pleasure for 14 years, and set him to raising roses. Finally, as if still vindictive, fate refused him the right to walk day or night. We forced him to carry on his gathering of 70 odd volumes of historic notes, and of writing his few volumes by the aid of the eyes of others. He asked only for a pair of lenses, correcting his unsymmetric astigmatism, but we said, "Go to! Astigmatism is the hobby of hobby-riders!"

When we read of the sleepless Parkman nodding familiarly to the Boston Common policemen in the late hours of the night we are at once reminded of the sad De Quincey appearing at midnight to workmen far from his home like a ghost out of the darkness, and also of the tormented Carlyle, seeking, as they, ocular and mental rest, by riding in the night among the loneliness of the Scotch moors. A common origin of their ills adds to the pathos of their lives, and that they were unconscious of it accentuates the fatality all the more.

One of the greatest women that America has produced, Margaret Fuller Ossoli, was made to suffer martyrdom during her short life, by eyestrain—the sickness and the poverty it produced. Her incomparable intellectual powers were palsied by it, and it was the final cause of her accidental death in middle life.

All the newspapers that Whittier edited had to be abandoned because the editor could not carry on his literary work. He had to renounce the great duty of antislavery reform, for which his heart and head had fitted him, and his predestined

role of statesman had also to be abandoned. Retiring to the farm and the life of a valetudinarian, even his beautiful poetic endowment was denied proper outlet because he could not write and study as he should have done.

Mrs. Carlyle's life and happiness were wrecked by sick-headache, due solely to eyestrain; and ignorance and malice have made a sad mess of it in writing of her and her husband.

One of the greatest of European men, with a splendid equipment, physical and intellectual, one of the most erudite of men, a professor of philology at 24, was martyrized, literally, while he lived, his intellect morbidized; he was finally driven into insanity, all simply because he had not a scientific pair of spectacles. And Nietsche's pious students are today organized into a society to study each day's living and thinking of their master. They would do much more good for the world if they would study the science and doings of each day's living of the oculists of their native land.

For—

"These old, unhappy far-off things
And battles long ago,"

are being repeated every day and everywhere. There are millions of such patients in civilization. If for some of the old ones we may, as a profession be half excused, it is in our time a double crime, when ignorance in a scientific man is, indeed, a crime against science and against humanity.

But it is not only and not chiefly its geniuses that concern medicine and a nation, when we consider the total effect of this factor. Civilization has tremendously and suddenly increased the eyestrain by a thousand occupations, which demand "near-work" with the eyes. Printing, schools, and city life, give the matter an entirely new aspect. Sewing women, artisans, artists, machinists, musicians, clerks, typewriters, engineers, pupils, all the professional and business classes—these are the workers, spurred also to a continuousness of labor, such as has never been demanded, upon whom the obligation rests. The nation and the national medical profession that forgets or ignores this, overlooks a highly important element of progress. And it is one that is all the more effective because it conditions the peculiar means whereby modern civilization advances.

Why it was that some stupid and obstinate old architect should have scorned a splendid piece of quarried rock sent to him by his workmen, is one of the most incomprehensible things of history. But better minds and eyes finally came and it was said, as it may now be said, "The stone which the builders refused is become the headstone of the corner."

Drunkenness in the Army.—No reference to the effect of the abolition of the canteen upon the morals of enlisted men is made by Major-General John C. Bates in his annual report of conditions in the Department of the Missouri, which he commands, but he quotes an extract from the report of the Judge Advocate to the effect that 783 trials by general courts-martial were directly traceable to the use of intoxicating liquors. In the opinion of the Judge Advocate, an estimate that 50% of the trials by summary courts were caused by drink would be conservative. There were 3,429 men tried by summary courts.

The Significance of a Sneeze.—The Editor of the *National Druggist* says: "The fact is, that the majority of peoples, both ancient and modern, with the exceptions noted hereafter, seem to have regarded the act of sneezing as one usually fraught with evil. The custom still existing in many lands and among many peoples of uttering a salutation or a benediction on hearing one sneeze is a survival of a traditional fear of evil foreshadowed by the act. Some time ago a German contemporary, in answering a question regarding the origin of the almost universal Teutonic habit of saluting a sneeze with 'Zum wohl,' or 'Gott senge dich,' or 'Gesundheit,' stated that it originated during the prevalence of the great plague in the fourteenth century. One of the earliest symptoms of infection was a sneeze, single at first, but soon followed by a number of sternutations in quick succession. When a person sneezed, therefore, it was assumed that he was infected with the plague, and all who were near him commended him to the care of heaven, and lit out hot-foot to get away from him." This is the view generally held of the origin of the custom as it prevails throughout Europe today, but, that it will not bear investigation, is shown by the fact that among the wild tribes of Asia, Africa, Australia, etc., and among the ancient and modern Greeks and Romans, Egyptians, Jews and others there have, in times past, existed and now exist various and differing superstitions regarding the significance of sneezing.

THE WORLD'S LATEST LITERATURE

Journal of the American Medical Association.

October 3, 1903. [Vol. XLI, No. 14.]

1. The Bacteria Concerned in the Production of Eye Inflammations. Robert L. Randolph.
2. Bacteria in the Eye, and Notes on some Recent Work in Ophthalmologic Bacteriology. Brown Pusey.
3. The Essentials and Nonessentials of Ophthalmic Asepsis. Harold Gifford.
4. Some Clinical Aspects of Tuberculous Peritonitis. Joseph Eichberg.
5. Tuberculosis in the Negro. Seale Harris.
6. Public Health Powers: Where under Our Form of Government Do They Reside and How Should They Be Exercised? W. H. Sanders.
7. One Thousand Cases in Students' Outdoor Obstetric Practice; Report of First Series in the Outdoor Obstetric Department of the University College of Medicine. John F. Winn.
8. The Purification of Water Supplies by Slow Sand Filtration.
9. An Ophthalmic Treatment Outfit. Wm. Campbell Posey.

1, 2, 3.—See *American Medicine*, Vol. V, No. 23, p. 905.

4, 5.—See *American Medicine*, Vol. V, No. 24, p. 943.

6.—See *American Medicine*, Vol. V, No. 25, p. 984.

7.—One Thousand Cases in Obstetric Practice.—J. F. Winn details the antiseptic technic required of the students. The antepartum vaginal douche is never used, but most careful cleansing of hands and external genitalia is practised before each vaginal examination. Though working among the filthiest class of the community, the mortality has been only .05%. Not a death resulted from outside or preventable infection. The results are confirmatory of Krönig's statement that the vagina of a pregnant woman is free from pus-producing bacteria. Other conclusions are as follows: Thorough and continuous disinfection of hands and external genitalia are the chief safeguards against infection. Unhygienic surroundings are minor factors. Not only is puerperal morbidity and mortality below that in private practice, but this class of patients is endowed with greater powers of resistance. Any method designed to excite uterine contraction before nature is ready to cast off the placenta is precipitate, the signal of readiness being a pushing upward by the uterus of the hand gently held over the fundus after the expulsion of the child. Just in proportion as the genital tract is regarded as a *noli me tangere* after the child is born will the puerperium be marked by fewer deviations from the normal. [H.M.]

Boston Medical and Surgical Journal.

October 1, 1903. [Vol. CXLIX, No. 14.]

1. Urethral Tuberculosis, with Report of a Case. Arthur L. Chute.
2. A Note on the Transmission of Whoopingcough by Indirect Contagion. John Lovett Morse.
3. The Ill-Health of Francis Parkman. George M. Gould. (Concluded.)
4. Branchial Cyst. W. C. Howe.

1.—Urethral Tuberculosis.— A. L. Chute states that urethral tuberculosis may be primary. When only the posterior urethra is involved it can hardly be distinguished from tuberculous cystitis or old prostatitis. The case reported was that of a married laborer of 35 with tuberculous disease of the anterior urethra. When he appeared for treatment the symptoms had persisted for 2 years; there were frequent and painful urination, with swelling of the glands in the left groin, occasional hematuria, etc. When examined, the submucosa of the entire anterior urethra had been infiltrated with lime salts to such an extent that the urethra felt pipe-like, and on passing a sound, crepitus could be elicited, as could also the same by external palpation without the sound. The treatment was gradual dilation, which has given relief from most of the symptoms. With forceps he was able to remove several bits of calcified material. The patient is still under observation. No tubercle bacilli were found in the urine, and there was no previous history of urethral disease. [A.B.C.]

2.—Transmission of Whoopingcough by Indirect Contagion.—J. L. Morse sent to the American Pediatric Society a circular letter asking for data as to whether whoopingcough may be transmitted by clothing or third persons, or whether it may be contracted by going into a room or house in which there has been a patient with whoopingcough, there being no direct exposure to the patient; also asking for the personal opinion

on these points of those to whom the letter was addressed. It seems hardly possible to draw any very positive conclusions from the 40 replies received, except that very little is known as to the indirect contagiousness of whoopingcough. The cases reported, although very few, seem to justify the presumption that whoopingcough may be carried by third persons or by clothing or other articles. The fewness of the cases observed makes it probable that the disease is seldom transmitted in this way. [H.M.]

3.—Ill-health of Francis Parkman.—Geo. M. Gould has collected all the data bearing on Parkman's health from boyhood up, including his own descriptions of his case. None to whom was hidden the truth of the cerebral and psychic effects of great eyestrain could have more accurately described the tormenting mystery of his case. From the comparison of all the data the demonstration is perfect that Parkman had unsymmetric astigmatism and anisometropia which were not corrected by any of the glasses that were ordered for him. These defects were of so low a degree that prior to completed presbyopia they did not present fairly accurate distant vision, the power of accommodation being sufficient to neutralize them for this purpose; but they were so high that even with Parkman's marvelous vigor of will and innervation, they could not be overcome for but a minute or two, or at best, five, at near range (reading and writing), and during many years not even for a minute. The effort of overcoming them was so great and so expensive of nerve force that it resulted in such reflexes as intense photophobia, subjective vertigo, a terrible and lifelong insomnia, the feeling of an "iron band about the head," a vague but intolerable anguish, "strange, undefined torture," and "confusion." The almost unexampled severity of these symptoms was exceptional, because of the heroic resolution of the man and his indomitable perseverance in his chosen work. There are in America at least a million such sufferers unrelieved, and in Europe many millions, while at the same time there exist certain ophthalmic surgeons who cannot bring themselves to become "spectacle peddlers." [H.M.]

4.—Branchial Cysts.—W. C. Howe reports that a girl of 7 years was presented at the hospital. The history of the case showed that at the age of 2 a small lump the size of a pea appeared on the left side of the neck, it ruptured and discharged spontaneously. Four years ago she was operated upon by incision and cureting; 2 weeks ago the tumor reappeared and began to discharge a thin fluid. A reddened area, the size of a pea, appeared on the anterior aspect of the neck at the left of the thyroid cartilage. When examined it was found superficial, not tender, freely movable, with a deep attachment extending toward the median line. Operation was performed by Dr. Burrell, and a tubular sinus was found which extended downward to the wing of the left thyroid cartilage, the sac was dissected free from the cartilage. The dissection was difficult but the whole of the branchial cyst was removed. The patient made a good recovery. Emphasis is placed upon the necessity of removing every vestige of the tube and cyst wall, otherwise the remaining epithelial cells will form a new cyst. [A.B.C.]

Medical Record.

October 3, 1903. [Vol. 64, No. 14.]

1. A Case of Diffuse Gonococcus Infection of the Entire Upper Extremity. CHARLES A. POWERS.
2. The Manic Depressive Psychosis and Some of Its Etiologic and Pathologic Phases. WALTER D. BERRY.
3. Causes, Consequences, and Care of the Injuries to the Parturient Canal. BENSON M. FELDMAN.
4. The Selection of the Anesthetic in Children. S. J. KOPETZKY.
5. An Operation for Removing the Tonsils. WILLIAM H. STEERS.

1.—See *American Medicine*, Vol. VI, No. 1, p. 8.

2.—The Manic Depressive Psychosis.—W. D. Berry states that 15% of insane hospital admissions belong to this class, and hereditary defectiveness plays an important role in 70% to 80% of these. Previous to breaking down there may be abnormal brightness, tendency toward eccentricity, or overpiety, but in quite a different manner from dementia præcox. Predisposing causes are alcoholic excess, parturition, mental shock or trauma and improper nutrition during acute disease. There are 3 types, the maniacal, the depressed, and the mixed type. There are no characteristic anatomic changes. Habit of action, established in a disordered state, tends more strongly than in the normal condition to become permanent, and if recovered from, is liable to return. To be hereditary it is not necessary that the peculiar condition in the parent should be developed into actual insanity to insure its doing so in the offspring. Some persons and families seem endowed with unusual ability in transmitting healthy characteristics of race and nationality and this may prove an important factor toward eliminating tendencies to disease on the other side of the house. The writer reports 2 cases. [H.M.]

3.—Injuries to the Parturient Canal.—B. M. Feldman claims that a large portion of the work of the operating gynecologist is but a consequence of or a sequel to the inefficiency of the general practitioner in obstetric work, being due to unskilful instrumentation or bad judgment. Cervical tears may result from rapid second stage of labor when the first has been too short for complete dilation; from too rapid manual or instrumental dilation or hasty application of forceps; from application of forceps, or even spontaneous delivery while the patient has full bladder and rectum; from disproportionate size of head, and from shoulder and breech presentations; sometimes from the use of forceps when version is the preferable procedure. He thinks that cervical laceration is less likely to be the seat of infection than perineal or vaginal injuries. Postpartum pelvic exudates and pelvic abscesses are but septic infections, due to absorption of the micrococci through the break of the tissues. Lacerations of the cervix which are not extensive are not to be repaired immediately, but left for secondary operation, for immediate repair is rarely successful, whereas trachelorrhaphy 2 months later gives excellent results. When the pelvic floor or perineum is torn, if but slightly, aseptic cleanliness may be all that is necessary; but if of the second degree, there should be immediate perineorrhaphy unless the patient is too weak, and then within 24 hours to prevent septic absorption. Feldman describes his method of perineorrhaphy, and in conclusion reiterates and earnestly advocates that the general practitioner approach his parturient case with patience, never hurrying, except when the saving of life makes urgency in action a necessity, and never failing to learn exactly, by examination, the condition in which this physiologic process has left the genital canal, and to remedy any unfortunate result by prompt attention and repair. [W.K.]

4.—Selection of an Anesthetic for Children.—S. J. Kopetzky, anesthetizer at the Harlem Hospital, states, after a large experience, the idea that chloroform is safer to employ than ether with children, is not borne out with the facts. Chloroform is dangerous because an overdose is easily given, cardiac failure may arise, especially in case of violent struggle on the part of frightened children, death may occur suddenly and without warning, cardiac syncope may occur at any time during or after the administration of chloroform and result fatally. Nitrous oxid is the safest of all anesthetics, it induces anesthesia rapidly and without dangerous symptoms, and when followed by ether from a closed inhaler, rapid evaporation from the lung is avoided and pneumonia is not apt to occur. Preceded by nitrous oxid the amount of ether required is less, and the after-effects are less marked. With chloroform any departure from the depths of anesthesia, which is proper in any particular case, is attended with difficulty, while with ether we may err on the side of too light or too deep anesthesia with but small risk to the patient. Warning is given against short operations, as on the nose, throat, or eyes, before complete anesthesia. [A.B.C.]

5.—Operation for Removal of Tonsils.—W. H. Steers holds that the tonsillotome, as an instrument for removing the diseased tonsil, is less satisfactory than a method which he adopts. He uses a knife, forceps, and a hook-knife, which is modeled on the lines of a strabismus hook. The patient being anesthetized, the foot of the table is lifted, with the patient on his side; the mouth is held open with a gag, the tongue pressed downward and forward, and the finger of the operator is passed over and around the tonsil to detect any pulsating vessels. The under tonsil is first seized with a volsellum and turned upward on the opposite side, the hook-knife is passed between it and

the anterior pillar just beneath the mucosa between the pillars of fauces, and the tonsil is completely separated from the anterior pillar. The finger is then introduced into the wound to make sure there are no pulsating vessels, going to the torn-out mass, thus leaving it attached to the posterior pillar only, and this attachment is readily divided with a blunt tonsil bistoury. Hemorrhage at first is free, but it ceases promptly. Recurrence does not take place, whereas, with the mere clipping off with the tonsillotome recurrence is frequent. The danger of wounding large arteries is to be considered, but is reduced to the minimum on account of the palpating finger. [A.B.C.]

New York Medical Journal.

September 26, 1903. [Vol. LXXVIII, No. 13.]

1. The Gastric Contents in Gastroptosis. THOMAS R. BROWN.
2. Is Registration and Disinfection a Successful Method of Combating Pulmonary Tuberculosis? THOMAS J. MAYS.
3. The Results of Brain Surgery in Epilepsy and Congenital Mental Defect WILLIAM P SPRATLING. (Concluded.)
4. The Necessity of Special Legislation for the Prevention of the Contamination of Our Water Supply as a Preventive of Typhoid Fever. JAMES MITCHELL.
5. The Treatment of Acute Blennorrhea of Adults. JAMES F. MCCAW.
6. Some Obscure Cases of Eyestrain. F. W. MARLOW.

1.—Gastroptosis.—T. R. Brown has made an analysis of the stomach contents in 20 cases of gastroptosis. In all there was displacement to a greater or less extent of some other of the abdominal viscera as well. In 5 cases the decensus was associated with a high degree of dilation of the stomach, while of the other 15 marked dilation was present in none; in fact, in the great majority the stomach seemed to be slightly, if at all distended, although in some there was a slight dilation in the pyloric extremity. All the patients were distinctly neurasthenic. The figures seem to suggest that in simple gastroptosis there is a slight diminution in the amount of free hydrochloric acid in the majority of cases; in cases where the dilation is slight the free hydrochloric acid is further reduced, although not markedly so, while in those cases associated with marked dilation an absence of free hydrochloric acid is the usual occurrence. [C.A.O.]

2.—Registration of Pulmonary Tuberculosis.—T. J. Mays gives statistics which tend to show that registration and disinfection have not thus far shown themselves a success in combating tuberculosis. He presents the deathrate of tuberculosis, together with that of pneumonia, in 20 of our largest cities, and in 2 States. These statistics are arranged in 25 charts, each chart representing a city or a State and in many instances cover a period of 30 years. A composite chart of tuberculosis and pneumonia shows the gradual descent of the tuberculosis rate from the first year almost to the last; the pneumonia crescendo in the early nineties, followed by a decline, and then by a rise in 1900; and the increase of tuberculosis in the last 5 years. It is evident from the charts and figures submitted that the pronounced decrease of tuberculosis in the 12 prevention localities is supplemented largely by the excessive rise in the pneumonia rate in the same localities during the same time. In most of the nonprevention localities the pneumonia line remains far below the tuberculosis throughout. Mays believes that both of these phenomena are dependent on the influence of registration and disinfection, because in localities like New York and Boston, in which these measures have been carried out the most effectually, and for the longest periods, the deathrate of pneumonia attains by far the highest average during the last 10 years. [C.A.O.]

3.—Brain Surgery in Epilepsy.—W. P. Spratling says that operations for the possible relief of epilepsy should be confined to cases in which the attacks are of grand mal or Jacksonian type, and will seldom be found of any use in the petit mal or psychic types. In 1,325 cases that have come under the observations of the author during the past 8 years, 774 were grand mal and 9 Jacksonian. He first presents the results in 33 cases, all of which have been under his observation for periods varying from 1 to 8 years. In 21 cases there was no improvement in the disease, in 8 the attacks were lessened in frequency and severity, the operation being a part of the treatment only; in 3 the disease was much worse after the operation, and in one there was no apparent recovery. Spratling has thoroughly reviewed the literature of this subject and presents 194 cases under 2 heads in condensed form, the first group including the more immediate results in 111 cases, the second results somewhat more permanent in 83 cases. Of the 111 children operated on, 19 died in consequence of operation or soon after; 25 were operated on with no result; 10 were slightly improved, but not satisfactory; 24 were improved in stated ways; 30 improved without reports as to their character, and in 3 there was no report as to the results given in general. Of the 83 more permanent cases 20 died, 54 were unimproved, 9 were improved, and 74 received no benefit. [C.A.O.]

4.—Legislative Preservation of Water Supply.—James Mitchell calls attention to the increasing dangers from typhoid fever epidemics, as a result of the unscientific and careless manner in which we permit our rivers and streams to be contaminated by sewage, and urges that physicians call the attention of the public to this matter and to have them insist that our legislators shall pass laws effective to compel all cities and towns to care for their sewerage. He suggests that sewers might be connected so that the sewage could be run into a common basin, where it could be evaporated, dried, mixed with lime, and burnt, so as to destroy all germs. [C.A.O.]

5.—Acute Blennorrhea of Adults.—J. F. McCaw says the indication for combating the inflammation in the first stage is best met by the application of iced compresses, except in those cases where the conjunctiva looks harsh and is covered with a tenacious grayish exudate, in which case hot applications are preferable. Cold must be kept up continually for 24 to 36 hours when the intervals between applications may be lengthened. During the stage of free purulent discharge the eyes must be kept thoroughly clean. The author uses a half-saturated solution of boric acid. As soon as a free purulent secretion is established and the conjunctiva is in a succulent condition, it should be brushed thorougly twice daily with a 2% silver nitrate solution so long as this free discharge continues. Upon the first indication of corneal infiltration or ulceration, iced compresses should be discontinued, hot applications substituted, and a solution of atropin instilled 3 times daily. [C.A.O.]

Medical News.

October 3, 1903. [Vol. 83, No. 14.]

1. The Use of the X-rays in the Treatment of Diseases of the Skin, Certain Forms of Cancer, of the Glandular System and of Other Diseases, and as a Means of relieving Pain. FRANCIS H. WILLIAMS.
2. Treatment of Migraine. B. K. RACHFORD.
3. Paroxysmal Hematinuria (Hemoglobinurie a Frigore.) W. GILMAN THOMPSON.
4. Removal of a Heavy Silk Ligature from Around the Right Pneumogastric Nerve: Clinical Symptoms before and after Removal. CHARLES A. POWERS.
5. A Review of Some Recent Investigations Relating to the Pancreas. T. STUART HART.
6. The Obstetric Significance of Retrodisplacements of the Uterus. SAMUEL M. BRICKNER.

1.—Röntgen Rays in the Treatment of Diseases of the Skin, Malignant Disease, and Other Conditions.—Francis H. Williams gives his experience in the treatment of various skin affections, among which are lupus vulgaris, eczema, psoriasis, various forms of acne, herpes zoster, sycosis, lupus erythematosus, nevus flammeus, etc., in all of which the Röntgen rays have proved of value; in many instances of great value. He, likewise, discusses this form of treatment for Hodgkin's disease, tuberculous adenitis, peritonitis, and tuberculosis of the lung and of bones. In Hodgkin's disease he has had experience in a number of cases, and while he does not report an absolute cure in any instance, he said that a number of patients now under treatment are showing steady improvement. Tuberculous cervical adenitis is frequently greatly relieved under this form of treatment. Cases of tuberculous peritonitis have been reported improved; tuberculosis of bones is difficult to treat by this method owing to the calcium salts interfering with the penetration of the rays, therefore he appears to believe that the Röntgen rays will not accomplish great results treating this condition. Treatment of lung tuberculosis by this method is still on trial. Certain diseases of the eye, particularly of the cornea and conjunctiva, yield to Röntgen

ray treatment. As an analgesic and general tonic the rays are valuable. With reference to newgrowths he states that after treating many patients, some of which have been well for 3 years, he must admit that recurrence may take place, but still the recurrent growth is amenable to treatment by the same method. Much depends upon the character and size of the growth; superficial growths, of course, yield most readily to treatment. In most of the conditions treated, the process must be carried out conscientiously and persisted in frequently for a long period. The patient should always be under careful observation to see that no injury takes place from the socalled burns or from toxemia resulting from too rapid change in the treated tissues. [A.B.C.]

2.—Treatment of Migraine.—B. K. Rachford believes that while autointoxication is the essential factor in every case, a neurotic inheritance, overtaxation of the nervous system, and reflex irritation may be contributing factors. The poisons are increased by conditions that diminish the functional activity of the liver or throw increased work on it. In periods of functional incompetency of the organ the poisons are thrown into the general circulation. These poisons act on both sensory and sympathetic nerves, producing pain and vasomotor disturbances, depression of spirits, periodic tachycardia, recurring attacks of dyspepsia, and severe gastric pain, without cause, vomiting not associated with headache, and recurrent coryza not associated with pain in stomach or head. The writer prescribes over long periods of time, sometimes years, the following formula: Sodium sulfate, 30 gr. (2 gm.); sodium salicylate, 10 gr. (.66 gm.); magnesium sulfate, 50 gr. (3.6 gm.); lithium benzoate, 5 gr. (.33 gm.); tincture of nux vomica, 3 drops; distilled water to make 120 cc. (4 oz.). This is made in large quantity and sent by the pharmacist to a mineral water factory where it is put up in siphons and charged with carbonic acid. From ¼ glass to ½ glass is taken each morning, a half hour before breakfast, during the winter months, discontinuing it about April or May. This treatment has given excellent results. All reflex factors connected with the eyes, nose and throat, pelvis, etc., should be sought for. Overeating, coffee, alcohol, red meats, and sweets should be avoided. Open air exercise is very important. Vapor and alkaline baths are valuable. He gives 2 other formulas to be used when the above proves too laxative, or when there is irritable bladder or muscular rheumatism. [H.M.]

3.—Paroxysmal Hematinuria.—W. G. Thompson reports 2 cases of this rare and obscure disease. The quantity of urine voided is subnormal during the paroxysm, and above normal afterward. Blood appears from a half to three-quarters of an hour after the initial chill, urticaria, extreme lassitude, etc., and persists from 2 to 12 hours. There are no diagnostic blood changes. Occasional symptoms are vomiting, epigastric oppression, and diarrhea. In many cases there is perverted nutrition. Muscular effort and cold and wet precipitate the attack in most cases. Some patients cannot go out doors; in one the attack was brought on by laying the hands on cold marble. The disease is more intimately associated with syphilis than with anything else. There are many theories as to the genesis of the paroxysm. The author believes it a profound neurosis, chiefly affecting the vasomotor system, and called into activity by moderate cold, muscular fatigue, or mental emotion. The features of diagnosis between malarial hemoglobinuria and the paroxysmal type are distinct, also those following burns and poisons. The treatment consists in mercury and iodids, removal to a warm climate, avoidance of mental and bodily fatigue, and in wearing warm clothing. Stimulants should be prohibited on account of subsequent depression. Calcium chlorid, amyal nitrite, and suprarenal have been recommended. Thyroid might prove more beneficial, as it does not raise tension. Attacks may be aborted by hot baths, hot water bottles, or a simple hot draught. Diffusible stimulants are useful. [H.M.]

4.—Accidental Ligation of the Right Pneumogastric Nerve, with Symptoms Preceding and Following the Accident.—C. A. Powers reports that a young man of 25 applied to him for treatment, having 2 connecting suppurating sinuses on the right side of the neck. These were in the scar of an old wound, which had been made for the removal of tuberculous cervical glands. Two of these operations had been performed; the last early in 1900. This operation was performed in a distant city, and, from the patient's version, it appears there was serious hemorrhage and collapse at the time. It appears that following the operation there was severe continued spasmodic coughing, great distress, and complete loss of voice for some weeks, and after that any pressure or irritation in the region of the scar caused a recurrence of the coughing and impairment of voice, and at times interference with circulation, and nausea, etc. On one or two occasions a portion of large braided silk had sloughed out of the wound. After a consultation with a nerve specialist, the author performed an operation, coming down upon an old silk ligature, very large size, situated in the depth of the wound under the border of the sternomastoid muscles. Manipulation of the ligature, which was surrounded by a mass of new-formed tissue, caused violent coughing and cyanosis, even when the patient was under an anesthetic. The ligature was cut and removed, the wound healed uneventfully. All the pressure sensations, coughing, impairment of voice, cyanosis, etc., have almost entirely disappeared, and the patient is strong and robust. [A.B.C.]

5.—Investigation Relating to the Pancreas.—T. Stuart Hart gives a general review and summary of the work of investigations which have been carried out relative to the pancreas, its diseases, secretions, etc., in the past few years. Pawlow, he says, advances the following thought: Pancreatic secretion is affected by the entrance of acid and certain foods into the duodenum. He believes that this is brought about through the agency of a nervous reflex, and that different nerve endings respond to distinct kinds of food. Wertheimer and Lapage believe that the secretion is evoked by peripheral reflex action, the seat of which is to be found in the ganglia scattered through the pancreas. Bayliss and Starling conclude that the secretion is affected by the entrance of acid chyme into the duodenum, and according proportionately to the amount of acid entering. It does not depend upon nervous reflexes and occurs when all nerve connections with the intestine are destroyed. In reference to pancreatitis Opie describes an interlobular and interacinar form. Flexner and Pearce, among their conclusions, say that pancreatitis follows on a great variety of insults to the pancreas and may develop rapidly. Herter and Weightman report, as result of intraperitoneal injections of adrenalin, sugar was suddenly found in the urine. In dogs the pancreas was exposed and painted with adrenalin, and glycosuria was a constant result. Many other authors are quoted with reference to various conditions in connection with the pancreas. [A.B.C.]

6.—Retrodisplacement of the Uterus.—S. M. Brickner believes that retroflexion in nulliparous women may be congenital or acquired, arising from trauma, or from excessive and unusual exercise, and when in the third degree may become a cause of sterility, a cause, however, which may be remedied by restoring the organ to a normal position, and this is often accomplished by wearing a properly formed pessary for a few months. Cases of this kind are reported, also cases of pregnant retroflexed uteri producing pain and abortion, and upon repetition relieved by a Hodge pessary, so that the pregnancy was completed at term. The main things in the treatment of retrodeviations of the gravid uterus are: Reposition of the uterus, employment of absolutely no force in reposition, the use of a well-fitting pessary, the use of douches only when necessary; the assumption of a prone position by the patient for a few hours each day, proper attention to the excretory organs, reexamination of the patient to assure one's self of the proper position of the uterus and the suitability of the pessary, the removal of the pessary after the beginning of the fourth month of pregnancy. In regard to puerperal retroflexion arising during the first 2 weeks after labor, the principal causes are muscular exercise during the first few days following delivery, too long a maintenance of the dorsal position, overdistention of the bladder, extensive lacerations of the pelvic floor, and atony of the uterine walls. Prophylaxis is the best treatment, and consists in compelling the patient after the fifth day postpartum to lie on her abdomen daily for from 1 to 2 hours; or, if she cannot do this, she should at least be made to lie on her side for an equal length of time. [W.K.]

CLINICAL MEDICINE

David Riesman A. O. J. Kelly

REVIEW OF LITERATURE

Polymyositis.—H. Oppenheim[1] discusses in detail the symptomatology, diagnosis, and prognosis of polymyositis and reports 5 cases. In all of his patients the mucous membranes were affected, which he considers an important symptom. The inflammation involved the cheeks, tongue, gums, and pharynx, and in two of his cases the conjunctivas and the larynx were inflamed. The redness, swelling, increased secretion, and hoarseness were followed in some cases by multiple small ulcerations of the mucous membranes. The ulcers were small and superficial, which under proper treatment would disappear. They had, however, a constant tendency to return. Submucous hemorrhages were also observed which left a pigmentation similar to that seen in Addison's disease. The type of polymyositis which is accompanied by lesions of the mucous membranes is termed by Oppenheim, dermatomucosomyositis. In another case there was a conjunctivitis of both eyes, together with iritis. The author compares this affection with scleroderma and believes that the 2 diseases are very closely associated. As regards the prognosis of this disease, out of 10 cases of general polymyositis, two died, five made an eventual recovery, while in the rest the disease continued throughout life with occasional remissions and exacerbations. Most authorities are pessimistic as concerns the results of treatment. Oppenheim, however, has obtained excellent results through energetic diaphoresis. During the second period of treatment, the patient should receive thermomassage, gymnastics, and electricity. [W.E.R.]

New Experiments on the Transmissibility of Human Tuberculosis to Cattle.—M. Kossel[2] has reported the results of experiments made by the German sanitary office. Cultures of tubercle bacilli obtained from 39 patients were given to calves by subcutaneous injection, by the alimentary tract, and by inhalation. Only the first series have been completed. Of these 19 caused no lesion, nine a slight increase in size of the neighboring lymph-nodes, seven a considerable increase of the lymph-nodes, and four a general infection which in two cases caused death. From this the commission states that in two of 39 cases tuberculosis transmitted from man to bovines has been fatal. [A.G.E.]

Estimation of Free HCl in the Gastric Contents.—C. E. Ham and J. J. R. Macleod[3] detail a method of determining free HCl, which was first described by F. A. Hoffman in 1889. The method depends on the catalytic power of the free acid in producing inversion of cane sugar, the rapidity of the inversion being proportional to the amount of free HCl present. The amount of inversion produced in a given time by the gastric juice, is compared with that produced by a solution containing a known amount of HCl. The amount of free HCl can then be accurately determined by a calculation, the details of which are given. [B.K.]

Malaria Relapse after an Unusually Long Period of Latency.—C. Schilling's[4] patient had a typical attack of tertian malarial fever 8½ months after having left Africa, and 2½ years after his last attack, characteristic parasites were found in the blood. Since his departure from Africa the patient had no opportunity of becoming reinfected. [E.L.]

Notification of Measles and Whoopingcough.—M. Hay[5] tabulates the results of compulsory notification of measles and whoopingcough, which has been in force in Aberdeen since 1881. From the results reported, Hay says it is obvious that notification has not enabled them to exercise any distinct and effective control over either the prevalence or mortality from these 2 diseases. The chief difficulty, as in all infectious diseases, is the occurrence of very mild cases which escape the recognition of parents and physicians. The subject is one of importance, Hay states, because in the past 10 years measles and whoopingcough have together caused 1,451 deaths, while during the same period the total deaths from scarlet fever, diphtheria, typhoid fever, typhus fever, and smallpox have been only 671. Hay adds in a postscript that since making his report the town council has discontinued compulsory notification. Voluntary notification has thus far yielded as good results, at least in cases where school attendance was concerned, as with compulsory notification. [A.G.E.]

Paroxysmal Hematoporphyrinuria.—J. Pal[1] reports a case of paroxysmal hematoporphyrinuria in a man of 66 years, who had had syphilis many years before. For 6 years the patient had been subject to peculiar attacks. When exposed to cold, he experienced a cramp-like feeling and distress in the region of the lower sternum, followed by pain in the loins and the discharge of an almost black urine. The passage of black urine would last for from 12 to 24 hours. A specimen examined during an attack showed hematoporphyrin in large amount, some albumin, and hyalin and granular casts. The author brings the hematoporphyrinuria into relation with the antecedent syphilitic infection. [D.R.]

The Effect of the Dilution Test upon the Freezing Point of Nephritic Urine.—The dilution functional kidney test consists in observing the effect upon the kidneys of large amounts of mineral water or liquid food. H. Roeder[2] performed the dilution test in a large number of nurslings and adults, and concluded that the changes in the freezing point of the normal urine are influenced by the amount of fluid ingested. When a large amount of liquid is taken, the freezing point of the urine from a sound kidney rises rapidly to —.3; —.2; —.1, and —.03, while no amount of fluid ingested is able to bring the freezing point of the urine from a diseased kidney up to that of the sound one. The freezing point of the urine in a case of nephritis remains almost constant and uninfluenced by the dilution test which shows that the inflamed tissues are able to adapt themselves to an increased amount of fluid. [W.E.R.]

Recurrent Varioloid Rash Following Vaccination.—R. W. C. Pierce,[3] reports the case of a boy whose primary vaccination took place at 7 years of age, and who was successfully revaccinated at 15 years. Nineteen days after this second vaccination he developed a typical attack of smallpox. Over 2 months later another eruption of typical variola lesions made its appearance, with some constitutional disturbances, but no fever. The most probable explanation seems to be a reversion of the vaccinia to its original character, when introduced into a subject of high susceptibility. [B.K.]

[1] Berliner klinische Wochenschrift, April 27 and May 4, 1903.
[2] La Semaine Médicale, July 22, 1903.
[3] Lancet, August 1, 1903.
[4] Deutsche medicinische Wochenschrift, March 5, 1903.
[5] Public Health, July, 1903.

GENERAL SURGERY

Martin B. Tinker
A. B. Craig C. A. Orr

EDITORIAL COMMENT

Buccal Carcinoma and Betel.—The attention of the Indian Government has even been directed toward the observations of Captain W. L. Niblock, I.M.S. The cases in the Madras General Hospital during the past ten years have been carefully tabulated and classified. Those of carcinoma, sarcoma, and rodent ulcer have been scrupulously differentiated. The result of the sifting of the statistics so obtained is as follows: "Carcinoma of the cheek alone accounts for more than one-third, and carcinoma of the cheek, jaw, and tongue, taken together, form more than one-half of the total. The disease affects the buccal surface of the cheek, generally commencing opposite the teeth of the lower jaw, and spreading with varying rapidity." The general consensus of opinion appears to refer the frequency of the disease in this position to the national habit of chewing betel. This item of Oriental luxury is said to be made up of (*a*) "the essential constituents, viz., betel leaf, areca nut, and caustic lime (Chunarn); (*b*) condiments, such as cloves, nutmeg, cardamoms, cubebs, etc. Dry powdered cocoanut and oil are also sometimes added. The above components are mixed in varying proportions, rolled up

[1] Zeut. f. inn. med., June 2, 1903.
[2] Berliner klinische Wochenschrift, May 11, 1903.
[3] Lancet, August 1, 1903.

in a betel leaf, and placed in the mouth. They are then chewed and rolled about by the tongue and cheek for a period varying from 10 to 30 minutes and then spat out." Cancer of the cheek is specially prevalent on the west coast, particularly in Malabar. This peculiar frequency is said to be due to the fact that the people of that portion of the great peninsula chew betel, which contains an exceptionally large proportion of caustic lime. So that as a cancer generator, the chewing of betel in India corresponds to the smoking of the short black "*dhudheen*" in Ireland. And it merits notice that we are also told that "on the west coast the chewing of tobacco is also very prevalent."

REVIEW OF LITERATURE

Intestinal Obstruction.—W. Philipowiez[1] says volvulus of the sigmoid flexure causes many of the cases of intestinal obstruction, 33% of those observed by him. This condition is not so mild in its course as volvulus of other parts of the intestine, its course does not depend so much upon the degree of the torsion as upon the severity of the strangulation; torsion of 180° may prove fatal. He has never observed a characteristic form of the abdomen in this condition; the diagnosis, he believes, must be made upon the course of the disease, the history, certain subjective and objective symptoms; at times he finds the diagnosis difficult. Sometimes the point of torsion passes over to the rectum and the contents of the volvulus empties itself; should there be a recurrence in these cases operation is necessary. Philipowiez believes in laparotomy and relieving the torsion, he regrets the proposition to perform colotomy without relieving the torsion. The distended intestine should be emptied before replacing it. Since volvulus tends to recur it must be borne in mind at the time of the operation, and means of prevention should be instituted such as best suit the operator. [A.B.C.]

Phimosis Dilator.—Rudolf Matzenauer[2] describes this instrument, which consists of 4 arms in the shape of a letter S, attached at the base in such a way that by turning a screw the arms may be separated. This may be used in noninflammatory congenital phimosis, as well as in ulcerative processes with attendant inflammatory phimosis. In the latter case it may assist in the cleansing of the parts, and the introduction of antiseptic gauze. [J.H.W.R.]

Operative Relief for Certain Forms of Facial Paralysis.—L. J. Hammond[3] reports that a woman of 36 suffered from the symptoms of mastoid disease 13 years ago. Two years ago she had a second attack, the symptoms persisting for some 4 months and then gradually subsiding. In February, 1902, there was a third attack characterized by severe pain and tenderness over the mastoid, vertigo, headache, and meningeal symptoms. In this attack facial palsy developed for the first time. Again all the symptoms slowly subsided. Five months later another attack occurred in which the facial paralysis persisted. In August, 1902, a mastoid operation was done; the bone in the vicinity was found carious and removed. A large blood-clot was found within the antrum, completely filling it; the lateral sinus was exposed, but found free from thrombus. The facial paralysis entirely disappeared within 12 hours after the operation, and the patient made a satisfactory recovery. The author is of opinion that a chronic pyogenic osteitis had been going on for years, and in all probability the blood-clot was one of many that had previously formed and been absorbed; and that the paralysis in this instance was due to a slight inflammatory compression from exudate about the nerve rather than disease of the nerve itself. This would appear to explain the former recovery from paralysis as well as the immediate recovery from this condition after operation. Should the exudate be such in quantity that absorption and removal could not readily occur, and should operation be delayed, organization and hyperplasia would occur, which would, in all probability, lead to permanent impairment of the nerve, and hence palsy more or less complete. [A.B.C.]

[1] Arch. für klin. Chir., Heft 3 and 4, Bd. lxx, 1903.
[2] Wien. klin. Woch., 1903, No. 21.
[3] Annals of Surgery, May, 1903.

GYNECOLOGY AND OBSTETRICS

WILMER KRUSEN FRANK C. HAMMOND

REVIEW OF LITERATURE

Therapy of Placenta Prævia.—Hammer[1] thinks the diagnosis of placenta prævia presents no difficulties after palpation is possible. But if there is hemorrhage in the first period, one cannot fail to think of placenta prævia and treat the case accordingly. If the fetal condition corresponds to a later month than the woman gives for the cessation of the menses, this points to a placenta prævia which has caused bleeding in the first months of pregnancy. Hammer divides placenta prævia into 3 classes—central, lateral, and deep-seated. The last are least difficult to treat, and require only a spontaneous or artificial rupture of the membranes and the hemorrhage will cease with the progress of the larger fetal parts, being checked by their pressure. Hammer reports 107 cases of placenta prævia treated in Würzburg clinic, with a maternal mortality of 8, fetal 58. There were 19 cases of central placenta, in 14 of which the combined version of Braxton Hicks was employed, with the death of 1 mother and 11 children. One of the greatest dangers is hemorrhage after delivery. The therapy is the same as in other uterine hemorrhage; but in interior irrigation the operator must use great caution, using weak solution, at low pressure, because of the danger that the gaping veins may admit the fluid and lead to very serious results, if not immediate collapse. [W.K.]

Suppuration of an Ovarian Cyst Due to Typhoid Bacilli.—P. W. Zanchenko[2] reports that a woman of 28 sought advice for an abdominal tumor which was diagnosed a cyst of the left ovary, probably suppurating. A laparotomy was accordingly performed and the cyst removed. The contents were now examined by means of cultures and typical typhoid fever bacilli found. Eight months ago the patient had been ill with typhoid, and it remains to postulate that the bacilli had at that time gained access to the cyst, finding there a favorable medium and causing in time suppuration. When we read that the cyst was multilocular and contained pseudomucin, we understand how well protected and isolated the bacilli must have been there. The author has found 3 analogous reports in literature, the cases pertaining to suppurating dermoid cysts, however, while he had to deal with a pseudomucinous cystoma of the ovarium. [L.J.]

Rupture of the Soft Parts of the Birth Canal Intrapartum.—E. Puppel[3] reports 2 cases of this kind; the first in a woman of 36, in the fifth labor, a rupture of the lower uterine segment occurring. The patient had had severe labor pains which had ceased, leaving the head fast in the pelvic inlet. After 2 hours internal version was performed and the child delivered. Three hours later in attempting manual extraction of the placenta there was found a complete transverse rupture of the anterior uterine segment, and the placenta was lying close under the liver in the abdominal cavity, which was filled with blood, vernix caseosa, and meconium. The tear was extensive and the edges so ragged that supravaginal amputation of the uterus was deemed advisable and was performed, the laceration of the broad ligament drained, and the uterine stump and drainage covered with peritoneum. The ovaries were left. The patient recovered in 4 weeks. In the second case the child occupied the dorsoposterior transverse position, internal version was performed, and the child died during the extraction of the head. As in the first case, manual extraction of the placenta showed it free, lying outside of the uterus, but the intestines were not perceptible and the rupture was found to be in the vaginal vault. As the hemorrhage was slight there was simply a tamponade of the cavity and no suture of the rupture. The patient left the hospital in 7 weeks. In the posterior vaginal vault the gynecologist can feel a transverse smooth scar; other conditions being normal. In the first case, no doubt, the cessation of the labor pains marked the occurrence of the rupture caused by the closed os uteri drawing back upon the advancing fetal part. [W.K.]

[1] Münchener medicinische Wochenschrift, September 1, 1903.
[2] Russki Vratch, July 26, 1903.
[3] Zentralblatt für Gynäkologie, August 29, 1903.

Care of Premature and Weakly Infants in the First Days of Life.—O. Polano[1] emphasizes the importance of keeping the premature infant uniformly warm, without any cold shocks, and this can be done only by constant care and watchfulness. He compares Credé's method of using a vessel of warm water, and a hot air apparatus constructed by Rommel and tested in the hospital at Geissen, the advantages of the latter being that a regular temperature can be secured without such constant care, it is easily transported, and there is a possibility of feeding and caring for the infant in the same apparatus. In premature and very weak infants all manipulations should be limited to the minimum, with a morning bath in warm water, then with only the simplest clothing, wrap the child in a warm shawl, lay it on a layer of soft material, on the side, only changing from right to left. The position on the side prevents danger of syncope from vomiting. In these first days it is necessary to incite the child to cries in order to unfold the lungs. It seems rational in the first few days to give chiefly cow's milk every 2 hours, about 15 cc. to 20 cc. (4 drs. to 5 drs.) at a time. He has usually used 1 part milk to 2 parts water for 6 days, and then in equal proportion. A prematurely born or weakly infant from its birth for the first weeks requires the exclusive care of a devoted and intelligent nurse. [W.K.]

TREATMENT

Solomon Solis Cohen
H. C. Wood, Jr. L. F. Appleman

REVIEW OF LITERATURE

The Systematic Antifebrile Treatment of Typhoid Fever with Pyramidon.—H. Valentini[2] prefers pyramidon to the Brand treatment. He employed it with 19 patients, 16 of whom were very ill; only two of them died, one of pyemia and pneumonia, the other of heart failure; the autopsy revealed brown atrophy, enlarged spleen and healing intestinal ulcers. The drug is given in doses of 0.2 gm. to 0.4 gm. (3 grs. to 6 grs.) every 2 hours, continuing it night and day. The temperature is thus kept at or near normal, the pulse and mental condition are influenced favorably. Valentini has never seen unfavorable results from the drug, but does not credit it with any specific influence. He continues the pyramidon until he supposes the fever period to have passed, when, as a test, he omits it for several doses; should the fever recur he returns to the drug and then continues it until the afebrile state remains. [E.L.] [We quote this as an item of news. The treatment is not to be commended. S.S.C.]

Cause of Death in Rarefied Air.—According to Carvallo as quoted by Tissier (System of Physiologic Therapeutics, Vol. x): 1. Death in rarefied air is due to diminution in the tension of the surrounding oxygen. 2. A warm-blooded animal is more sensitive to diminution of barometric pressure than is a cold-blooded animal. 3. The higher the body temperature of an organic species, the more feeble its resistance to diminution of barometric pressure. 4. The effect of a sudden fall in pressure, however it may be brought about, is less marked when the animal is in repose than when it is in active motion, and less marked in well-nourished individuals than in those who are in a state of inanition. 5. The higher the animal in the biologic scale, the feebler is resistance to diminution of atmospheric pressure. (The higher the creature is in the biologic scale, the more sensitive it is to any variation in the external air.) 6. The animal succumbs sooner when the pressure is suddenly diminished than when the diminution is brought about gradually and methodically. 7. Low temperatures hasten the occurrence of accidents due to rarefaction. The general conclusion is that all the disturbances, including death, occur as soon as the tension of the oxygen is lowered to the necessary point. The diminution in the barometric pressure is only one of the methods of bringing about this insufficient tension. The phenomena observed in organisms breathing rarefied air are, in fact, absolutely comparable to the phenomena produced when an animal is only gradually deprived of oxygen. Cellular protoplasm is anaerobic, and it is only after an initial phase of fermentation, during which a number of bodies derived from the albuminous molecule are formed, that oxygen intervenes and brings about a dissociation that causes them to lose their toxicity. So soon as the pressure is lowered beyond a certain point, the tension of the gases becomes too feeble to prevent the dissociation of their combinations (oxygen and carbon dioxid), and it is easy to understand the resulting modifications in the general nutrition and in the various functions. The effect of habit and functional adaptation may be disregarded in this study, as the phenomena referred to take place only when the animal is confined for a short time in rarefied air. The phenomena that are observed in subjects exposed to low pressures are due to a chemical, not to a mechanical action. When the tension of the oxygen becomes too feeble, its chemical function becomes impossible, and death is then inevitable.

A Local Application in Erysipelas.—Stroell[1] recommends the following local application in erysipelas:

Carbolic acid,	
Tincture of iodin, of each . . .	1 gram (15 minims)
Mucilage of acacia	5 grams (1 dram)
Absolute alcohol	20 grams (5 drams)

M. Shake before using.

The erysipelatous area should be painted with this mixture every 2 hours until the swelling and redness have disappeared. [L.F.A.]

The Variability of the Therapeutic Value of Quinin Combinations.—M. Christian[2] has made comparative studies of quinin hydrochlorate and some of the newer quinin preparations to determine which, if any, approaches it in efficacy without possessing its disadvantages. Of the hydrochlorate 29% was excreted in the urine within 24 hours, whenever the drug had been taken during the morning hours on an almost empty stomach. Euchinin, salochinin, ariston and the quinin tannate are much more pleasant to take, euchinin being the most efficacious; of it 17% was excreted, of ariston 16%, of salochinin 7%, and very small quantities of quinin tannate. None, therefore, is the equal of the hydrochlorate salt in therapeutic value. To overcome the unpleasant effects Christian recommends its subcutaneous administration. He obtained the same results with half the quantity of quinin, when given in this manner, although only 10% of it was excreted. He believes that it is deposited within the tissues, thus protecting the organism against further attacks. [E.L.]

Treatment of Relaxation of the Abdominal Wall.—Relaxation of the abdominal wall is a frequent cause of constipation.[3] Whether this relaxation be due to obesity, multiple pregnancies, or to congenital predisposition, its treatment is almost the same. It is necessary to relieve the wall from the weight of the viscera and by proper stimulants to increase the tone of the enfeebled muscles. The first indication may be met by the application of a binder, which must be made to order and enclose the whole area between the pubes and the lower ribs. The second indication may be met by massage, gymnastics, and electricity. Gymnastics should consist of movements which bring the abdominal muscles into play. Electricity is employed in the form of faradism: (1) The positive electrode is placed in the lumbar region, while the negative electrode is applied to the abdominal wall; (2) both electrodes are placed on each side of the lumbar region and frequent inversions of the current practised; (3) direct electrization of the recti muscles by placing the electrodes over them. [L.F.A.]

Treatment of Whoopingcough.—Stepp[4] continues to treat whoopingcough with bromoform with favorable results. When this fails to produce the required termination and especially in the case of very young children (during the first year of life) he recommends the use of a 2% to 2.5% solution of fluoroform, which he considers perfectly harmless, giving it in daily doses of 100 gms. to 150 gms. (3 to 5 ounces). It is odorless and tasteless. He reports 15 cures with it and emphasizes again and again the rapid termination of the affection. [E.L.]

[1] Münchener medicinische Wochenschrift, September 1, 1903.
[2] Deutsche medicinische Wochenschrift, April 16, 1903.
[1] Le Mois Thérapeutique, Vol. iv, No. 5, 1903, p. 60.
[2] Deutsche medicinische Wochenschrift, March 19, 1903.
[3] Journal des Praticiens, Vol. xvii, No. 31, 1903, p. 489.
[4] Prager medicinische Wochenschrift, 1903, Nos. 11-14.

NERVOUS AND MENTAL DISEASES

J. K. MITCHELL F. SAVARY PEARCE

EDITORIAL COMMENT

Insanity in California.—Dr. John W. Robertson of Alameda, California, has made a very interesting study upon "The Prevalence of Insanity in California," and from statistics showing the high percentage of insane, he also deduces the fallacies of those who do not look deep enough into remote causation. The essential reason for the great increase of insanity in California over that of other States is clearly shown to be largely the result of migration of people to the far West, and of their successes and failures there occurring in all lines, including of course those of the mind and body. People in the extremity of homesickness and physical depletion are very liable to alienation. Added to this is the loss of means to return to the East. Dr. Robertson very sensibly concludes that the great preponderance of insanity in California is due to these combined reasons. Out of 5,276 cases in 2,325 or 57% of the total, he was able to trace foreign birth to 25% of them. Of 2,490 of the adult cases, 68 only were professional men and 186 were commercial men. He gives an interesting table in proof of the prevalence of insanity in California as follows:

California	1	insane	to every	260	people
New York	1	"	"	230	"
Massachusetts	1	"	"	370	"
Pennsylvania	1	"	"	550	"
Texas	1	"	"	1600	"
Georgia	1	"	"	960	"
Tennessee	1	"	"	5000	"

the least number of insane of any state in the union. The writer also refers to the inadequate accommodations for the insane in California, many of them being cared for in almshouses of the various counties, although recent State appropriations have been made to improve existing conditions. The whole subject is of intense interest and this paper tends to clarify from a sociologic point of view, an unjust stigma thrown upon our extremely Western commonwealth.

Prognosis and Treatment of Syphilitic Disease of the Nervous System.[1]—This important practical subject it is refreshing to see treated by so able and mature an observer as Sir William R. Gowers. Such contributions help mightily toward the scientific optimism that should be in neurology. The early diagnosis of the case today, added to by the knowledge of pathogenic agents of disease helps greatly in the prognosis and treatment, therefore, of the patient. "The rising sun is old enough, but each sunrise is a new event," and so old important truths must be constantly reiterated as medicine advances. Strictly speaking there is no syphilitic disease of the nervous system since it is the vascular and neurogliar tissues or the membranes that are primarily affected, the neuron being diseased secondarily. So that the neurologist must constantly bear this in mind; one reason why "syphilis of the nervous system," is of such good *prognosis*, when under complete antiluetic *treatment*. The nature of the pathologic process is that of an endarteritis, which does not produce gross symptoms until a thrombosis or clot forms in some of the smaller bloodvessels when the collateral circulation is cut off. Then in a few hours necrotic softening may be set up, but the "thrombus" and "softening" are not in themselves specific. Thus it must be remembered, neither the gumma nor cicatricial mass in the later course of the disease are the cause of the extensive symptomatology in specific disease of brain, cord or nerve. It is the extensive endarteritis that produces these signs of *lues*. In proportion as the inflammatory process predominates, also to that extent does it present (as in the meninges) symptoms similar to simple inflammation. "Likewise acute myelitis, focal or transverse, is met so often in the early stage of constitutional syphilis that it is impossible to doubt a causal relation." This may run a course, too, similar to cases which are not syphilitic. A resulting sclerosis may be the end in either instance; the morbid process being interstitial, the nerve elements suffering secondarily. Local chronic inflammation of the cerebral cortex also leaves other effects due to simple damage of the nerve elements adjacent to the inflamed meninges. "Instead of stimulated, proportionated liberation of nerve energy there is spontaneous discharge which gives rise to local convulsion." The above points rehearsed are of great practical importance in *prognosis* and *treatment*. "The essential point is that the specific process can be influenced by treatment, but this can produce no effect on the simple changes on which the symptoms directly depend." The prognosis is favorable in proportion as the latter can pass away when the cause ceases to act. This can only be gotten through close observation of many cases. It must be remembered that the tendency to recover is great, if the change has not proceeded to actual destruction. Thus, in arterial obstruction in the brain, the chance of partial recovery depends entirely upon the power of compensation in the other hemisphere. In slow compression, power of recovery depends upon its degree, but still more on its duration. Pressure always involves secondary inflammatory changes in the compressed tissue. This is why Pott's disease paraplegia is so favorable in prognosis. Strive to see the morbid change as indicated and you can become skilled in prognosis. Therapeutic progress of the last half century has left us with no new remedy for syphilis. The use of iodids and mercury both have advantages, which, when judiciously used, are of great help. The former can be introduced rapidly, the latter slowly.

Tabes with Reference to Causation, Symptoms, and Length of Life.[1]—The scientific pendulum has swung well and far in neurology. We are now in the stage of practical application of the facts. In the second editorial in this issue *prognosis* and *treatment* are considered; and no disease demands more careful study as to these considerations in managing one of the most common organic diseases of the nervous system. We are optimistic. Dr. Byrom Bramwell publishes an instructive article on the subject, giving an analysis of 155 cases of tabes. In a large proportion of the cases the disease was followed carefully through periods of several years; 90.3% were in males, 9.6% being in females. In 74.1% the disease commenced between 30 years and 50 years of age. Syphilis was found to have existed in 59.8% of the cases. Our own experience makes this proportion much higher—between 80% and 90%. It is impossible in a third of cases to determine previous luetic infection, though surely existing. In Bramwell's cases in 91% the tabes developed in less than 20 years after the syphilitic infection; the second, third and fourth quinquennium claiming each nearly a fourth of the victims. Many of the men were robust and of fine physique—another point in favor of nervous heredity having but little to do with its origin—and that syphilis may have *everything* to do with its incidence. "Lightning pains" occurred in 53%, diplopia and ataxia in 8.6% each, loss of vision in 6%, urinary disturbances in 4%, gastric crises in 3.3%, and numbness of feet in 2% as *initial* symptoms; while "lightning pains" were the commonest symptoms in the course of the disease. Knee-jerks were lost in 82% of cases, the Argyll Robertson pupil being present in 72%. The average duration was 8.3 years, the longest being 22 years. With the author we regard mental symptoms as very rare in tabes.

[1] A lecture delivered at the Medical Graduates' College and Polyclinic.—*British Medical Journal*, April 4, 1903.

[1] Brain, 1902, Spring number.

REVIEW OF LITERATURE

Certain Cerebral Localizations.—Durante[1] says that lesions, especially those determined by neoplasms of the frontal lobes, are nearly always accompanied by very grave phenomena of altered intelligence, which proves that the frontal lobes, and particularly the prefrontal, must be considered as the site of the most elevated functions of the mind. The cortical center for hearing is situated in the temporal lobes, and each center is in relation with both of the auditory nerves, and the direct auditory bundle must be very much less active and smaller than the crossed auditory bundle. The site of the center for general sensibility and for muscular sense is in the parietal lobes, and disturbances of general sensibility and of the muscular sense may occur in the limbs independently of any disturbance of motility whatever. For the solution of the various problems concerning the function of the several regions of the human brain, operative surgery and pathologic anatomy are more useful than experimental physiology, which has animals at its disposal. The functional arrangement of the brains of some animals has some analogy to that of man, but certainly cannot be compared with it in every respect. [A.B.C.]

Ascending Paralysis.—Widal[2] reported a case of ascending paralysis involving the muscles of deglutition, death ensuing on the twenty-fourth day. The necropsy disclosed the presence of an interstitial parenchymatous neuritis involving the spinal roots, especially the anterior and the nerves of the cauda equina. The peripheral nerves and the cells of the gray matter of the cord were intact. The periradicular meninges presented no abnormality. During life an examination of the cerebrospinal fluid failed to reveal the presence of lymphocytosis. This observation goes to prove that a severe nerve lesion as near to the centers as is possible may not induce a lymphocytosis if the adjacent pia matter is uninvolved. Lymphocytosis is an indication of meningeal involvement. [J.H.W.R.]

Compulsive Action.—Rudolph[3] reports concerning the condition of three people afflicted with a variety of irresistible, compulsive movements, which he calls arithmomania, or haptomania. The first of these patients he observed for a long while. He seemed to be compelled to retouch any article which he came in contact with, either accidentally or on purpose, at exactly the same spot repeatedly, the number of touches always being even; he would touch twice, four times, etc., but never three or five times. The patient himself had no explanation to give for this excepting that he had gotten into the habit of touching everything at least twice. The other two cases concerned a brother and sister whose grave neuropathic antecedents is shown in a family tree. In both these cases there was probably a hysterical basis for their peculiar irresistible movements. [E.L.]

Spontaneous Remissions in General Paralysis of Tabes.—In this paper Pierret[4] first discusses the etiology of tabes, emphasizing Charcot's theory that there is always an inherited neuropathic predisposition, affecting especially the sensory neurons. Fournier's claim that tabes is always syphilitic is also true to a certain extent. But syphilis cannot develop a true tabes except in persons predisposed by a feebleness of their sensory systems. And there are also other toxic conditions productive of tabes, such as alcoholism, gout, ergotism, influenza, etc. It has been observed by Trousseau that some cases of locomotor ataxia may be arrested spontaneously. That this occurs only rarely, in spite of vigorous antisyphilitic treatment, is due to the fact that in a large number of cases the inflammation has its origin, not in syphilis, but in one of these other toxemias. Even in a successfully treated syphilitic tabes the disease may be given a fresh impetus by some other infection, and specific treatment is of no avail. Pierret then makes a distinction between general paralysis of tabetic origin and common paralytic dementia. The dementia of tabes never loses its sensorial characteristics. It has been noted that even in these cases all the symptoms may disappear, either temporarily or permanently. If relapses occur, they are often due to other than specific causes. These spontaneous remissions distinguish tabetic dementia from paralytic dementia, and show the former to be related to the general paralyses of toxic origin, notably the alcoholic dementia. These facts emphasize the importance of a strict hygienic treatment of tabes. The author also claims that if all cases of locomotor ataxia were subjected to a vigorous specific treatment there would be a much greater number of recoveries. [B.K.]

Paralysis Agitans.—M. Callet[1] reports cases illustrating anomalous forms of Parkinson's disease, namely, (1) cases without tremor; (2) with tremor of the face, tongue and jaw; (3) with unilateral tremor; (4) with general tremor, in which suddenly the tremor disappeared on one side. [J.H.W.R.]

Chorea Electrica.—Bruns[2] reports four cases of chorea electrica. This name is given to a condition in which there are muscle twitchings resembling the contractions caused by the passage of an electric current. It affects the neck, shoulder and upper arm muscles in children between 9 and 15 years of age. The twitchings are often so weak and rapid that only the most careful attention will detect them. The contraction lasts but an instant while the interval varies in length of time from a second to a minute. Bruns believes that chorea electrica is closely related to the different forms of tic. If the cause is hysteria the prognosis is very favorable. The treatment should be mainly psychic, including good hygiene and suitable tonics. [W.E.R.]

Treatment of Chorea.—Malbec[3] employs the following in the treatment of chorea in strumous patients:

(1) Salipyrin	2.5	drams
Strontium bromid	5	drams
Syrup of orangepeel	3	ounces
Limejuice	6	ounces

Three teaspoonfuls daily.

(2) Iron glycerophosphate	75	grains
Syrup of orangepeel	3	ounces
Wine of quinin } of each	6	ounces
Wine of kola }		

A wineglassful at meal time. [L.F.A.]

[1] British Medical Journal, December 13, 1902
[2] La Semaine Médicale, December 3, 1902, p. 400.
[3] Allgemeine Zeitschrift für Psychiatrie, etc., 1902, Vol. lix, p. 242.
[4] Lyon Médical, December 21, 1902.

THE PUBLIC SERVICE

Health Reports.—The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended October 3, 1903:

			Cases	Deaths
SMALLPOX—UNITED STATES.				
Alabama:	Mobile	Sept. 19-26	4	
California:	Los Angeles	Sept. 12-19	2	
Illinois:	Belleville	Sept. 19-26	3	
	Chicago	Sept. 19-26	2	
	Danville	Sept. 19-26	1	
Maine:	Oldtown	Sept. 19-26	8	
Maryland:	Baltimore	Sept. 19-26	1	
Massachusetts:	Fall River	Sept. 19-26	2	
Michigan:	Detroit	Sept. 19-26	1	
	Port Huron	Sept. 19-26	3	
Minnesota:	Crow Wing County	Sept 14-21	23	
	Stearns County	Sept 14-21	3	
	Stevens County	Sept. 14-21	1	
Mississippi:	Natchez	Sept. 13-20	1	
New York:	Niagara Falls	Sept. 19-26	2	
Ohio:	Cincinnati	Sept. 18-25	1	
	Cleveland	Sept. 19-26	1	
Pennsylvania:	Altoona	Sept. 19-26	1	
	Butler	Sept. 12-19	1	
South Carolina:	Charleston	Sept. 19-26	2	
Tennessee:	Memphis	Sept. 19-26	3	
Wisconsin:	Milwaukee	Sept. 19-26	2	
SMALLPOX—INSULAR.				
Philippine Islands:	Manila	Aug. 1-15	1	1
SMALLPOX—FOREIGN.				
Austria:	Prague	Sept. 5-12	1	
Belgium:	Brussels	Sept. 5-12		1
Brazil:	Pernambuco	Aug. 1-15		9
	Rio de Janeiro	Aug. 23-30	46	20
China:	Shanghai	Aug. 8-15		2
Colombia:	Barranquilla	Sept. 6-13		1
Great Britain:	Bradford	May 30-Sept. 12	155	9
	Dundee	Sept. 5-12	3	
	London	Sept. 5-12	9	
	Newcastle-on-Tyne	Sept. 5-12	5	
	South Shields	Sept. 5-12	1	
India:	Bombay	Aug. 24-Sept. 1		3
Netherlands:	Amsterdam	Sept. 12-19	5	
Russia:	Moscow	Aug. 29-Sept. 5	1	1
	Odessa	Aug. 29-Sept. 5	5	
	Warsaw	Aug. 22-29		1
Turkey:	Smyrna	Aug. 31-Sept. 6		40

[1] Lyon Médical, February, 1903.
[2] Berliner klinische Wochenschrift. December 22, 1902.
[3] La Médecine Moderne, Vol. xiii, No. 13, 1902, p. 106.

YELLOW FEVER—UNITED STATES.

Texas:	Laredo	Sept. 24-28	13	3

YELLOW FEVER—FOREIGN.

Colombia:	Panama	Sept. 14-21	2	1
Mexico:	Vera Cruz	Sept. 12-19	35	10
Venezuela:	Cagua	Sept. 19	Epidemic.	
	San Felipe	Sept. 19	Epidemic.	

CHOLERA—INSULAR.

Philippine Islands:	Manila	Aug. 1-15	32	24
	Provinces	Aug. 1-15	1991	1492

CHOLERA—FOREIGN.

China:	Shanghai	Aug. 8-15		2
India:	Calcutta	Aug. 15-29		18
	Madras	Aug. 15-22		1

PLAGUE—FOREIGN.

Africa:	Cape Colony	July 26-Aug. 8	1	
Brazil:	Rio de Janeiro	Aug. 23-30	19	10
China:	Hong Kong	Aug. 8-15	13	11
Egypt:	Alexandria	Aug 22-28	7	6
	Damiette	Aug. 22-28	7	5
India:	Bombay	Aug. 24-Sept. 1		79
	Calcutta	Aug. 21		29
New Caledonia:		Aug. 29	23	17

Changes in the Medical Corps of the U. S. Army for the week ended October 3, 1903:

GLENNAN, Major JAMES D., surgeon, in addition to his present duties, is detailed as professor of the Army Medical School, in Washington, D. C.

MILLER, First Lieutenant REUBEN B., assistant surgeon, now at San Francisco, Cal., is relieved from further duty in the division of the Philippines, and will report to the commanding general, department of California, for assignment to duty in that department.

PEASE, FRANK D., contract surgeon, now on temporary duty at Fort Assinniboine, is relieved from further duty at Fort Harrison, and assigned to Fort Assinniboine for station.

RAFFERTY, Major OGDEN, surgeon, will proceed from San Francisco, Cal., to Seattle, Wash., and make a sanitary inspection of the transport Dix.

PATTON, First Lieutenant IRVINE W., assistant Surgeon, is relieved from further duty in the division of the Philippines and from temporary duty at the Presidio, and will proceed to Fort Hamilton for duty to relieve First Lieutenant Walter D. Webb, assistant surgeon, who will proceed to West Point, N. Y., and report at the United States Military Academy for duty.

ROBISON, HOMER J., sergeant first class, company of instruction, No. 2, hospital corps, Fort McDowell, will proceed to Fort Brady to relieve Sergeant First Class Richard W. Soper. Sergeant Soper will proceed to Manila, P. I., for assignment to duty.

DE NIEDMAN, WM. F., contract surgeon, is granted leave for one month, with permission to apply for an extension of twenty days.

BORDEN, Major WILLIAM C., surgeon, is detailed to represent the medical department of the Army at the annual meeting of the Mississippi Valley Medical Association to be held at Memphis, Tenn., October 7, 8, and 9.

ADAIR, GEORGE F., contract surgeon, is granted leave for one month.

KERALLA, JOHN, sergeant first class, Fort McDowell, will proceed to Fort Casey to relieve Sergeant First Class Wm. Peake. Sergeant Peake will proceed to Manila, P. I., for assignment to duty.

TRUBY, First Lieutenant WILLARD F., assistant surgeon, will proceed to West Point, Ky., and report to Major-General J. C. Bates for duty, and upon the completion thereof will return to his proper station.

Changes in the Medical Corps of the U. S. Navy for the week ended October 3, 1903:

DOUGLAS, S. W., pharmacist, detached from Naval Proving Ground, Indian Head, Md., and ordered to Navy Yard, Portsmouth, N. H. —September 25.

PUGH, W. S., JR., assistant surgeon, appointed an assistant surgeon, with the rank of lieutenant, junior grade, from September, 23, 1903—September 28.

STONE, M. V., assistant surgeon, when discharged from treatment at the Naval Hospital, New York, ordered home and granted sick leave until December 31—September 29.

GRIFFITH, S. H., surgeon, detached from the Marine Barracks, Washington, D. C., and ordered to the Minneapolis and to duty as Fleet-Surgeon of the Atlantic Training Squadron—October 1.

WILLIAMS, R. B., assistant surgeon, detached from the First Torpedo Flotilla and ordered to the Naval Hospital, Norfolk, Va.—October 1.

BOGAN, F. M., assistant surgeon, detached from Navy Yard, Washington, D. C. and ordered to the Chauncey for duty with the First Torpedo Flotilla—October 1.

Changes in the Public Health and Marine-Hospital Service for the two weeks ended October 1, 1903:

PURVIANCE, GEORGE, assistant surgeon-general, granted leave of absence for ten days from September 23—September 23, 1903.

GEDDINGS, H. D., assistant surgeon-general, to proceed to Paris, France, to represent the United States at an International Sanitary Conference, October 10—September 24, 1903. Upon the adjournment of an International Sanitary Conference at Paris, France, to proceed to Berlin and Frankfort, Germany, and London, England, for special temporary duty—September 25, 1903.

BROOKS, S. D., surgeon, to proceed to Savannah Quarantine as inspector —September 25, 1903.

MURRAY, R. D., surgeon, to proceed to New Orleans, La., for special temporary duty—September 23, 1903. To proceed to Laredo, Tex., for special temporary duty—September 24, 1903. Reassigned to duty at Key West, Fla., effective May 15—September 30, 1903.

BAILHACHE, PRESTON H., surgeon, five days' leave of absence from September 5, 1903, under paragraph 189 of the regulations. To proceed to Trenton and Perth Amboy, N. J., for special temporary duty—September 23, 1903.

CARMICHAEL, D. A., surgeon, relieved from temporary duty in the Hygienic Laboratory, and directed to rejoin his station at Vineyard Haven, Mass.—September 28, 1903.

PECKHAM, C. T., surgeon, to proceed to Boston, Mass., for special temporary duty—September 28, 1903. Bureau order of September 28, 1903, directing Surgeon C. T. Peckham to proceed to Boston, Mass., for special temporary duty, revoked—September 29, 1903.

WHITE, J. H., surgeon, granted extension of leave of absence for ten days—September 3, 1903.

GUITERAS, G. M., surgeon, to proceed to Laredo, Tex., for special temporary duty—September 22, 1903.

ROSENAU, M. J., passed assistant surgeon, reassigned as director of the Hygienic Laboratory, effective April 27, 1903—September 30, 1903.

GARDNER, C. H., passed assistant surgeon, to proceed to Boston, Mass., for special temporary duty—September 29, 1903.

CUMMING, H. S., passed assistant surgeon, to proceed to San Francisco, Cal., for special temporary duty—September 29, 1903.

MATHEWSON, H. S., passed assistant surgeon, granted leave of absence for forty-five days from September 22—September 29, 1903.

VON EZDORF, R. H., passed assistant surgeon, to proceed to Laredo, Tex., and report to Surgeon G. M. Guiteras for special temporary duty—September 24, 1903.

LUMSDEN, L. L., passed assistant surgeon, relieved from duty at Vineyard Haven, Mass.; directed to proceed to New Orleans, La., and report to the medical officer in command for duty and assignment to quarters—September 26, 1903.

WHITE, M. J, passed assistant surgeon, three days' leave of absence granted by Bureau telegram of August 28, revoked—September 30, 1903.

HOBDY, W. C., assistant surgeon, granted leave of absence for seven days from August 22, 1903, under paragraph 191 of the regulations.

VOGEL, C. W., assistant surgeon, granted leave of absence for two days from September 17, 1903, under paragraph 191 of the regulations.

EBERSOLE, R. E., assistant surgeon, to proceed to New Orleans, La., and report to medical officer in command—September 26, 1903. To proceed to Houston, Tex., for special temporary duty—September 29, 1903.

STEGER, E. M., assistant surgeon, to proceed to New York, N. Y., and report to Surgeon G. W. Stoner, Immigration Depot, for duty—September 10, 1903.

ALTREE, G. H., acting assistant surgeon, granted leave of absence for eighteen days, on account of sickness—September 23, 1903.

BURFORD, HUGH, acting assistant surgeon, granted leave of absence for thirty days from September 20—September 19, 1903.

ECHEMENDIA, D. M., acting assistant surgeon, granted extension of leave of absence, on account of sickness, for seven days from September 3—September 15, 1903.

HALLETT, E. B., acting assistant surgeon, granted leave of absence for three days from September 26—September 23, 1903.

WELDON, W. A., acting assistant surgeon, granted leave of absence for seven days from August 31, 1903, under paragraph 191 of the regulations.

ACHENBACH, J., pharmacist, granted seven days' leave of absence from September 9, 1903, under paragraph 210 of the regulations.

GOODMAN, F. S., pharmacist, granted twenty-three days' leave of absence from September 10—September 5, 1903. To proceed to Washington, D. C., for special temporary duty—September 30, 1903.

HANRATH, F. R., pharmacist, granted leave of absence for twenty-one days from September 7—September 5, 1903.

RICHARDSON, S. W., pharmacist, granted ten days' leave of absence from September 20—September 15, 1903.

WOODS, C. H., pharmacist, to proceed to St. Louis, Mo., and report to medical officer in command for temporary duty—September 23, 1903.

WALERIUS, M., pharmacist, to proceed to Laredo, Tex., and report to Surgeon G. M. Guiteras for special temporary duty—September 23, 1903.

SCOTT, E. B., pharmacist, granted leave of absence for thirty days from September 5—September 4, 1903.

BECK, J. E., pharmacist, granted leave of absence for thirty days from September 14—September 18, 1903.

SOUTHARD, F. A., pharmacist, granted leave of absence for three days from September 28, 1903, under paragraph 210 of the regulations.

MORRIS, G. A., pharmacist, granted leave of absence for twenty days from September 14—September 18, 1903.

STIER, C., pharmacist, to proceed to Key West, Fla., and report to acting assistant surgeon in temporary charge for duty—September 24, 1903.

Appointment.

Edward M. Steger, of Texas, commissioned as assistant surgeon (recess) in the Public Health and Marine-Hospital Service—September 4, 1903.

Boards Convened.

Board convened to meet at Washington, D. C., September 25, 1903, for the purpose of making physical examinations of candidates for appointment in the Revenue Cutter Service. Detail for the Board: Assistant Surgeon-General W. J. Pettus, chairman; Assistant Surgeon A. J. McLaughlin, recorder.

Board convened to meet at the Purveying Depot, New York, N. Y., October 5, 1903, for the physical examination of officers of the Revenue Cutter Service. Detail for the Board: Surgeon H. W. Sawtelle, chairman; Passed Assistant Surgeon A. C. Smith, recorder.

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PUBLISHED WEEKLY AT 1321 WALNUT STREET PHILADELPHIA BY THE AMERICAN-MEDICINE PUBLISHING COMPANY

VOL. VI, No. 16. OCTOBER 17, 1903. $5.00 YEARLY.

The Pennsylvania State Medical Society and the W. C. T. U. School Physiologies.—At its recent meeting the Pennsylvania State Medical Society tabled the report of a committee on the question of the teaching as to alcohol in our public schools. This action has been construed as a vote in favor of the school physiologies of the W. C. T. U. Such, however, is a very erroneous reading of the vote. The report was not acceptable to the society and it was not received or adopted, but not by any means because the members of the society, or physicians generally, approve of the methods of carrying on the crusade by Mrs. Hunt and her "physiologies." The committee's report was unsatisfactory and was tabled, for many reasons that need not be epitomized here, and the committee was discharged. A new committee was appointed which, it is believed, will next year bring in a report not at all satisfactory to the W. C. T. U., but thoroughly so to the physicians of Pennsylvania. Physicians, as a rule, are as thoroughgoing believers in temperance as any of the reformers, and precisely in the interests of temperance they are opposed to the methods of the "temperance" school physiologies, which do not represent physiology, pedagogics, or temperance. These books, indeed, distinctly tend to increase and not diminish intemperance and alcoholism.

The scientific prognosis of death, or more properly the large element of doubt in it is illustrated by the statistics of the deaths occurring within one year after insuring in a careful life insurance company. These show the impossibility of absolute prevision in the present state of medical science. The medical examiners have every reason to reject applications about which there is a reasonable element of doubt. The *Royal Arcanum* had 100 first-year deaths in 1902, a ratio of 1.60 for every 1,000 initiates in 1901 and 1902, and the report of the examiner-in-chief thinks this may be counted upon as a continuing ratio. The causes of death in the 100 cases were: Pneumonia, 21; casualties, 19; appendicitis, 8; typhoid fever, 8; tuberculosis, 6; heart disease, 6; cerebral apoplexy, 5; cancer, 4; diseases of kidneys, 4; peritonitis, 3; suicide, 2; intestinal obstruction, paretic dementia, malaria, gastric ulcer, gastro-enteritis, diseases of liver, stricture of urethra, smallpox, laryngitis, biliary calculus, bronchitis, mediastinal growth, erysipelas, hemophilia, each 1. It is noteworthy that there has been such a sudden rise in the deathrate from pneumonia, as the order lost only 11 from this cause in the previous year. Thus the mortality, within one year, is more than two and a half times as great as from appendicitis and typhoid fever, and three and a half times as great as from pulmonary tuberculosis. But the mortality in the entire number of deaths, regardless of length of membership, was from tuberculosis 285, and from pneumonia 216, or 11.2%, and 8.5% respectively of the total mortality. It is unfortunate that the most rigid scrutiny could not prevent six deaths from tuberculosis within the year, three of these being within eight months. Four of these six developed from an attack of acute pneumonia. From heart disease, the previous year, nine died, and six in 1902. A further reduction in the number should be made the coming year.

The Y. M. C. A. Health Farm at Denver opened in May, 1903, is a unique institution, most deserving of encouragement. The Association Farm consists of 94 acres—a 34-acre fruit farm, the gift of Mr. and Mrs. David Brothers, and a 60-acre ranch. The present equipment includes a brick house for office, superintendent's residence, parlor, dining-room, kitchens, cellars for 1,000 barrels of apples, stable, and a group of cottage tents for the guests of the farm. The tents are floored, wainscoted, with canvas sides and roof and comfortably furnished. Only one resident will occupy each tent. The cost of providing for a resident is $25 a month, and the opportunity is offered to pay this in labor on the farm. But at first, in the case of the average young man from the East, the work must be very light. It is for help in making up the difference between the earning power of the residents and the cost of giving them wholesome food and clean lodgings that the association appeals. Too often the health seeker goes out to do office work or loiter about the depressing boarding-houses, inactive and discontented. Only those likely to be benefited will be received. No hospital treatment is offered. Already the Association has received more applications than the present limited capacity of the Farm can accommodate.

The Case of "Smith, of Arizona."—During the past two months we have received several communications from a certain gentleman in Chicago named Smith.

In the first he begins by telling *American Medicine* that he is "in a position to see all the medical literature published." As there are some 1,500 medical periodicals in the world, and several thousand medical books published each year in a hundred languages, one is astonished at Mr. Smith's ability to read so much, his omniscience, and his accuracy of opinion. There may therefore be some error in his statements that he was very ill, and vainly spent $7,000 on physicians to be rid of a disease none knew or understood, and all called by different names. Mr. Smith is very severe on us "grave robbers and murderers," on our "bribed legislators," our "malicious operations," and all that. But the "new school of telepathic healing" cures all disease miraculously and suddenly and its greatest practitioner makes no charge, except he cures. The last letter received from Mr. Smith reads as follows:

American Medicine,
Philadelphia, Pa.

Gentlemen:—I hand you herewith the card of a man that is working wonders, performing myricles and other things without medicine. He was a M.D., but reformed and is now doing good without poisoning or killing the people with a knife. Medicine is a failure and you know it and so do I, but it cost me thousands of dollars and years of suffering to find it out, and this man cured me with only ten treatments and charged me $25, but I paid him $500.

J. M. SMITH,
September 21, 1903. The Arizona, Chicago.

The Case of "T. Elijah Hall, of Chicago."—The "card" sent by Mr. Smith has upon one side a picture entitled "A Demonstration," with the headpiece "Preternatural Healing." A five-cent young man in a hundred dollar suit of clothes has brought his coat and silk hat into the sick room, and holds them while performing the miracles and also "the other things" upon the poor lady in a million dollar house. The "elegant" young man has not time to bring his last foot to the side of the "elegant" couch. The "cultured, reasoning mind" (who Mr. Smith says, was "a M.D., but reformed, but who cures "diabetis," "St. Vitis dance," "peratonitis," "micturition," "cleptomania," and so forth), must find the "germs" of disease and the "subjective cell-intelligence" most "amenable to his instruction," for he teaches them but an instant. Upon the reverse of the card there are the statistics of "Recent cures," the majority being "instantaneous." There are listed hundreds of cures of appendicitis, Bright's disease, blindness, cancer, "diabetis," "micturition" (How sad for the cured patient!), heart disease, menoxenia, pneumonia, locomotor ataxia, "peratonitis," "paralysis," "St. Vitis dance," typhoid fever, etc. The philosophy of disease offered by this orthographic and therapeutic wonder-worker is as follows:

The Germ that is present in some diseases possesses life and intelligence, and as all animal intelligence is amenable to instruction from man's higher intelligence—the cultured, reasoning mind—it may be driven from the body, with a positive, forceful thought, addressed to the subjective cell-intelligence.

The fees for instructing germs, etc., range from $2 to $10, and from $25 to $50, but T. Elijah takes only what the patients are willing to give—doubtless thus getting a hundred times as much as he would if he charged a fixed price.

The case of the people of Chicago, as regards its T. Elijah Halls and its Smiths of Arizona, is also worth considering. This Smith-Hall disease grows by being let alone. Is it a wise thing to allow cunning, ignorance, and rascality to run rampant, on the ground that it will soon "fizzle out" in the old inevitable way when the deluded victims find what fools they have made of themselves? The one form of folly, the hundreds of special fraudulent miracle-workers do indeed pass, but others take their place. The Smiths, of Arizona, are ever there by the thousand. The law protects them from other criminals, all of whose methods of fleecing them are based upon the gullibility of the easily deceived. Why is the law so slow to keep the public from being swindled by the clap-trap of an ignoramus extending his hand over the "germs," giving "instruction to the subjective cell-intelligence," or giving his "absent treatments," "mental healing," etc.? The State and the law is in every way encouraging and supporting hospitals, scientific medicine, the rational study of disease, the prevention of disease, etc., and then it refuses to jail the scamps who make it all of no avail. These fellows are practising medicine, or pretending to do so, and yet they "cure micturition," they know nothing about medicine, know not enough to spell the names of the most common diseases; they are, of course, obtaining money under false pretences. Is it not time the local profession in all cities should organize and appoint a capable attorney to bring these fellows before the bar of the law? Their cry of "monopoly," and "bribed legislators" is, of course, mere buncombe, and the old plea that "persecution increases the crime" is not only not true, but is unworthy. So far as any is so, we are the official guardians of the health of the people, and that the victims wish to be victimized is no excuse for our acquiescence in the crime. Our laissez-faire makes the profession really *particeps criminis*.

Scoundrelism in the advertising business is, of course, an old fact, but the variations of the tune are new, and should not go unperceived. We are too prone to think of all patent medicine quackery as equally bad, but if we remember correctly, Dante made many more grades and degrees among the gentlemen and ladies of the Inferno than of the Paradiso. Now there are in truth a hundred degrees of diabolism and filth between the best and the worst quack advertisers. One new circle of the lowest infernalism has lately come to notice. It is hard to name or describe. It might be called *The Wallow, By Many Names, The Foulness, alias The Devil's Own*, etc. No name would accurately describe it. It is really, we suspect, a cheap and villainous attempt to get a triple profit by cheating the scamp advertiser himself, by means of pretended circulated papers under a number of different names. Three copies of apparently different "Woman's," or "Home," or "Family" journals, lie before us. They have entirely different titles, and different addresses are given in each of publishers and

editors. But the moment one glances at the three together it becomes plain that they are all from the same fonts of type, from the same run of the same paper mill, they exploit the same loathsome and obscene articles, nostrums, books, and frauds, by the same manufacturers, in the same ways, etc. The pages are the same size, the paper used is the worst that could be bought, the very arrangement of the little advertisements is the same, etc. It is patent insides and patent outsides, patent nostrums, and yet all is secrecy and all hypocrisy. On every page, engulfed in a cesspool of horrid advertisements, runs a little column or two of what the vibralogist journalist calls "Original Selections," some claptrap stuff pretending to be for the benefit of "children," "ladies," "the household," "the family circle," "the gentlewoman." We doubt if the polluting things have much circulation—as even the most degraded man would hardly allow his wife and children to look at such frightful putridity. The stupid cunning of the would-be advertisers is probably overmatched, and they are cheated to the top of their need. But Mr. Comstock and General Madden should get after the sharper who has devised the scheme. All the things are "entered as second-class matter, etc.

Newspaper Diseases.—"For more than twenty years," says one of the greatest Chicago newspapers, and in a leading editorial, "the diseases of Tobacco Endlyopia, and Alcohol Endlyopia, as they are called, have been recognized by oculists, etc." "Endlyopia does not progress far before scotoma, or color-blindness, makes its appearance." "If Endlyopia maintains its present ratio of increase, it will in a quarter of a century be one of the common eye troubles." "Scotoma is one of the most dreaded enemies." This delightful editorial comes in the same mail with the advertisements of a "Professor" who finds his function in life to be that of inspiring the overmodest and shrinking American youth with self-confidence. He is the Professor of Self-confidence, and will sell a complete equipment of the much-needed to the youth of Chicago and of the United States, for $5.00 cash in advance. "A student of medicine and surgery, College of Physicians and Surgeons," testifies that the Professor's science and self are "God-sent factors" in changing him. A full-page illustration pictorially demonstrates that the poles of acquisitiveness, energy, effort, desire, etc., are not long enough to knock the persimmons from the "tree of success," and that the pole of self-confidence, plus a silk hat, can alone bring them down. With such editorial wisdom to suggest, and such medicine to guide, the advertiser in the next column solemnly says:

> The true cause of appendicitis is sluggishness of the bowels, constipation, and the gases which are formed in consequence produce germs known to the scientific physician as the Bacilli Colli Commensis. Now to avoid this formation of gas germs, constipation, and the resulting inflammation take Smith's Pineapple and Butternut Pills, which have been tested in all the various diseases, etc.

Touching for "Kings Evil."—The continuous and increasing importance of the *tuberculosis* problem will probably induce many true lovers of professional knowledge to peruse with interest the account of the origin of the "Cure of Kings Evil" by the "Royal Touch," which originated with Edward the Confessor, of England. One of the venerable chroniclers of Great Britain tells the story in this way:

> A young woman, married, but without children, had a disease about her Jaw, and under her Cheek, like unto kernels, and the disease so corrupted her face with stench, that she could scarce, without great shame, speak unto any man. This woman was admonished in her sleep to go to King *Edward*, and get him to wash her face with water, and she should be whole. To the Court she came, and the King hearing of the matter, disdained not to undertake it, but having a Bason of water brought unto him, he dipped his hand therein, and washed the Woman's face, and touched the diseased part oftentimes, sometimes also signing it with the Sign of the Cross. When he had then washed it, the hard crust or skin was softened, the tumours dissolved, and drawing his hand by divers of the holes, out thence came divers little Worms, whereof, and of corrupt matter and blood, they were full. The King still pressed it with his hand to bring forth the corruption, and endured the stench of it until by such pressing he had brought forth all the corruption. This done, he commanded her a sufficient allowance every day for all things necessary, until she had received perfect health, which was within a week after, and whereas, she was ever before barren, within one year she had a child by her Husband. This disease hath since been called the Kings Evil, and is frequently cured by the touch of the Kings of England.

The American Hookworm in Chimpanzees.—In a recent number of the *Centralblatt für Bakteriologie, Parasitenkunde, etc.*, Dr. von Linstow, the wellknown Göttingen helminthologist, reports that he has found the American hookworm, *Uncinaria* (*Necator*) *americana* in the West African chimpanzee (*Simia troglodytes*). He assumes that it has been carried to America by man and has spread here to the extent of gaining its present foothold. If this assumption is correct, it presents an interesting case of the introduction of a disease from one country into another. Whether the parasite is originally African, and belongs primarily to the apes and has now become American and settled in man, or whether the reverse is the case, is still an open question. That the early slave trade presented the possibility of such introduction, must be admitted. It seems, however, that *Agchylostoma duodenale* is the species found in North Africa. On the other hand *Uncinaria americana* is found in both North and South America, hence it may have existed here among the natives before the introduction of slaves.

Ignorant Physiology of the Eye.—Dated August, 1903, and said to be published in New York City, a journal comes to us that is called "Medical," and in it is an editorial article entitled, "Why Use Spectacles?" This particular medieval ghost, however, does not even show that semblance of scientific physiology of the eye which may be found in antiquarian books. Witness:

> With most persons there is an epoch in life when the eyes become slightly flattened, says *Health*. It arises probably from a diminished activity of the secreting vessels; the consequence is that the globe is not kept quite as completely distended with fluids as in youth and middle age. There is thus an elongated axis of vision. A book is held further off to be read; finally becoming more flattened by the same inactivity within [within

the book, if English grammar rules in the office of the *Medical Times*] the difficulty is met by putting on convex glasses; this is the waning vision of man. If, however, when that advancing imperfection is first realized, the individual persists in the attempt to keep the book in the old focus of vision, even if he reads under the perplexing disadvantages, never relaxing, but perseveringly proceeding just as he did when his eyes were in the meridian of their perfection, the slack vessels will at last come up to his assistance and the original focal distance will be reestablished. This statement will unquestionably be combated energetically by those who use glasses; but it will be a waste of forensic power, because the fact is established beyond cavil.

Of course the simplest ninny could have learned that the tonicity of the eyeball does not change in presbyopia, and if it did, the "flattening" would result in a shortened, not an "elongated" axis of vision. But one must not waste his "forensic power" on editors and science "beyond cavil." The *Health* quoted must indeed be in a very unhealthy condition of intellect, for as any person knows who has looked into a modern book on physiology, there is not a word of truth in the foregoing excerpt. This spook of a "flattened eyeball" as the cause of presbyopia, one had hoped, had been "laid" long ago. The ignoramuses who as advisers of of the public parade such ignorance are curious proofs of the persistence of ancient modes of thought in civilized times. Of course, from such physiology comes such therapeutics as is found in this article, which advises never to wear glasses, and to overcome presbyopia by "forensic power," by will, and by doing as the ancients did. It is even solemnly contended that these ancients were wise and virtuous, because they did not wear glasses—the funny writer, of course, not knowing that no man, not even an ancient, could wear a device that had not been invented. "And just to see," concludes the humorist, "the thousands of young men and women ruining their eyes because it is fashionable to wear them." For the sake of "the gaiety of nations," one must beg the *Medical Times* never to buy a pair of the sinful things!

"Young People's Friend" is the title of a monthly paper, published at 15 cents a year, at West Bay City, Michigan; it styles itself as "an undenominational journal, devoted to the interest of our young people." It is entered as second-class matter at the post office. Among the advertisements is one, "Diet vs. Drugs," emphasizing the old story that *Drugs poison and kill, etc.* But on the same page Dr. Veba says that rheumatism may be scientifically cured by his treatment, and that a package of his drug may be had for $1. On the preceding page the young people are advised to

BE KNOWN AS A "LYCOSITE PHYSICIAN."

We want one general agent in every town to open a Lycosite office, employ assistants and sub-agents, cure the sick, heal the afflicted, and instantly relieve every superficial pain by use of the Lycosite. The Lycosite is a scientific apparatus which lasts a lifetime and instantly relieves the most distressing pains of Rheumatism, Neuralgia, Backache, Catarrh, Asthma, Pain in the Lungs, Muscles, Joints or Kidneys—Pain anywhere, without taking a drop of medicine. You can cure pain instantly and make thousands of dollars. Relieve all pain Free. Your office will be crowded and every sufferer buys a Lycosite, spreads your name abroad, and sends you other customers. Act wisely now and your fortune is made.

AMERICAN NEWS AND NOTES.

GENERAL.

The Conference of State and Provincial Boards of Health of North America will hold the next meeting in Baltimore, October 23 and 24, 1903, with headquarters at "The Stafford." The American Public Health Association meets the following week.

American Physician Honored.—Professor M. Allen Starr, M.D., LL.D., of the medical department of Columbia University, of New York, has been elected a corresponding member of the Neurological Society of the United Kingdom, London. Dr. S. Weir Mitchell is the only other American member.

Thirty-first annual session of the American Public Health Association will be held in Washington, D. C., from October 26 to October 30. This association represents the health authorities in the United States, Canada, Cuba, and Mexico. The executive committee has selected the following topics for consideration: Purification of water supplies, disposal of industrial wastes, purification and disposal of sewage, disposal of garbage, animal diseases and animal food, car sanitation, steamboat and steamship sanitation, etiology of yellow fever, tuberculosis, plague, cause and prevention of infectious diseases, infectious period of communicable diseases, disinfectants and disinfection, production and free distribution of vaccine virus, sanitary aid societies, and the canteen system in America.

Army Deathrate Increase.—An increase in the deathrate of the army from 13.94 per 1,000 in 1901, to 15.49 per 1,000 in 1902 is shown in the annual report of Surgeon-General R. M. O'Reilly for the fiscal year ending June 30. This increase is attributed to cholera, which caused 3.54 deaths per 1,000. A slight improvement appears in the hospital admission rate for disease and injury, which declines from 1,791.59 per 1,000 in 1901 to 1,716.51 per 1,000 in 1902. Discussing other features of the health of the army, Surgeon-General O'Reilly's report says: "The enrolment of about 5,000 native Filipino scouts having added a new racial element to the army, it becomes a matter of much interest to study the comparative effects of disease on them and on our white and colored troops. For the whole army, at home and abroad, during the year 1902, the white troops showed an admission rate of 1,700.33 per 1,000, and a deathrate of 14.40. The negro troops had 1,897.74 admissions and 24.11 deaths per 1,000, and the Malay scouts 1,707.21 admissions per 1,000 and 24.4 deaths. The white race, therefore, gave the lowest figure in sickness and much the lowest mortality. The black race led in both, although the Malay closely approached it in deathrate. The steadily increasing prevalence of venereal disease is the most discouraging feature in the sick report of the army."

NEW YORK.

Police Surgeons to be Under the Control of the Police Commissioner.—Commissioner Greene has reorganized the Board of Police Surgeons by rescinding the department rule, which gave the surgeons the right to elect their own officers, and by placing in charge of the board Dr. Edward T. T. Marsh, himself a police surgeon of 25 years' experience.

The Cornell University Medical College on September 30 opened with a largely increased third and fourth year class, but without marked increase in the numbers of the first year, owing to the rigid enforcement of entrance requirements. It is interesting to note the improvement in the personnel produced in the entering class by practically requiring the entrance subjects necessary for admission to the academic department of the University.

Renovation of Tenement Houses.—Despite the fact that millions are being spent on "new law" tenement houses, there are in Greater New York over 350,000 dark rooms without any windows opening to the outer air or even to another room which itself has windows opening to the outer air. Moreover, these rooms are located in over 40,000 different tenement houses scattered throughout the different boroughs. Under the law a large window, 3 feet by 5 feet, must be cut into each such room. A special and systematic examination of cellar living rooms in tenement houses is to be made so that those which do not conform to the law may be vacated

Work of the Lying-in-Hospital.—During the month of September the Lying-in-Hospital has had 422 applicants for treatment, of whom 119 were admitted and cared for in the hospital wards. The number of children born in the hospital during September was 93. For the same period in the outdoor department 259 applicants have applied for assistance in their own homes and 226 were treated in confinement. The number of medical visits made was 944. During the past year the society has received 5,310 applicants for treatment, an average of nearly 450 monthly, of whom 1,424 have been cared for in the hospital wards, lack of income preventing a larger service and only permitting the use of one ward floor, consisting of 62 beds. The number of children born in the hospital has amounted to 1,132.

PHILADELPHIA, PENNSYLVANIA, ETC.

It is reported that the explosion of a bottle of carbolic acid in the laboratory at the Chester Hospital, Chester, Pa., October 11, so severely burned the face, hands and body of Dr. Harry Taylor that he may die.

Medical Department of the University of Pennsylvania.—Elections in the medical department for extramural teaching were recently held, and Dr. Robert G. LeConte and Dr. Richard H. Harte were chosen adjunct professors of surgery, and Dr. J. Alison Scott adjunct professor of medicine.

Smallpox Increasing.—Thirty-four new cases of smallpox were reported between the period beginning at noon on October 9 and ending at midday October 12. The increase is the greatest in any corresponding period in 2 years, and the health authorities say that the refusal of persons to be vaccinated is the cause of what is termed "the threatened epidemic." The reports show 45 new cases in 10 days prior to October 13.

A course of lectures on tropical medicine at the Jefferson Medical College, by Captain Charles F. Kieffer, assistant surgeon, U. S. A., will be begun on Monday, October 12, 1903. These lectures will be delivered at 4 p.m., each Monday, in the amphitheatre of the hospital, on Sansom street: October 12, Dysentery; October 19, Dysentery; October 26, Sprue or Psilosis; November 2, Tropical Abscess of Liver; November 9, Trypanosomiasis, Including African Lethargy; November 16, Uncinariasis; November 23, Filariasis; November 30, Elephantiasis; December 7, Beriberi; December 14, Hygiene of Warm Climates and Prevention of Tropical Diseases.

SOUTHERN STATES.

Further Experiments with Food Preservatives.—The table class of Dr. Wiley, Chief of the Bureau of Chemistry of the Agricultural Department, composed of 12 young men, selected for the purpose of testing the effect of salicylic acid and other preservatives upon food, began the second experiment of the series. The experiment will continue for 8 months, during which time the men will be boarded at the expense of the government.

Anticigaret League.—An anticigaret league has been formed in East Washington for the purpose of presenting to Congress a monster petition urging the passage of a stringent law to prevent minors from using cigarets, or tobacco in any other form. There are said to be branches of this organization in many parts of the country, and it is estimated that about 2,000,000 names will be sent to the incoming Congress protesting against the cigaret habit among children.

WESTERN STATES.

Will Found a Professorship in Orthopedic Surgery.—It is stated, apparently on good authority, that J. Ogden Armour will found a professorship in orthopedic surgery in St. Joseph's Hospital, Omaha, Neb. The endowment will be $100,000, and the holder of the professorship will receive $5,000 per annum.

The Central District Medical Society, which is subordinate to the Indian Territory Association, held its regular meeting at Wilburton, I. T., Tuesday and Wednesday, October 13 and 14. Important papers were presented and discussed in ophthalmology, surgery, internal medicine, obstetrics, gynecology, etc.

Medical Society of the Missouri Valley.—The annual meeting of this association was held at the Paxton Hotel, Omaha, on September 14, with an attendance of over 100 members. An interesting program was carried out, and in the evening the society was entertained by the Knights of Aksarben. An amendment to the constitution was adopted, which makes Council Bluffs the annual meeting place on the fourth Thursday of August of each year. The semiannual meetings are to be migratory, as heretofore. The next one is to be held in Lincoln on the fourth Thursday of March. The election of officers resulted as follows: President, Dr. A. D. Wilkinson, Lincoln; first vice-president, Dr. R. R. Williams, Manning, Ia.; second vice-president, Dr. J. H. Cleaver, Council Bluffs; treasurer, Dr. Donald Macrae, Council Bluffs; secretary, Dr. Chas. Wood Fassett, St. Joseph.

Chicago Deathrate Decreasing.—The deathrate of Chicago infants less than 1 year of age, has decreased 60.1% since 1891; the deathrate of persons of all ages has decreased 39.2% in the same 12 years. These statements are made by the weekly bulletin of the Health Department. Speaking of the cases favorable to prevention of infant mortality, the bulletin says: "An improved milk supply, the antitoxin treatment of diphtheria and other causes often cited to account for the decrease of infant mortality are equally inadequate, and the department is disposed to attach more importance to the education of mothers in the hygiene of the young. The efforts of the women's clubs and similar organizations in this education have been steadily growing during all this period of decreasing infant mortality, and it is believed this is the principal factor in giving the baby a better chance for life."

FOREIGN NEWS AND NOTES

GENERAL.

Journal of the Royal Army Medical Corps.—A new monthly journal, with the preceding title, has lately appeared, the first number being dated July, 1903. It is edited by Major R. H. Firth of the Royal Army Medical Corps, and contains a number of interesting and instructive articles.

Eliminating the Dangers of Infectious Hospitals.—Dr. Farnarier, of Paris, has come to the conclusion that infectious hospitals constitute a center of danger to the neighborhood; but he holds that this can be overcome by using isolated blocks surrounded by trees; by having a wall round the whole establishment, and by exercising strict surveillance over all who come and go.

Dr. Finsen in Poor Health.—It is reported that Dr. Finsen, the Danish scientist, who discovered and showed the value of the light which has been named in his honor, and who has spent years demonstrating its therapeutic value, is now in poor health, and has for this reason been compelled to give up much of his work in original research, though this is being continued under a corps of able assistants. It is sincerely hoped, by his collaborators, that a year's rest and recreation will enable him to resume his original and valuable work.

Sanatorium in Madeira.—It is stated that Prince Frederick Charles von Hohenlohe, accompanied by Drs. Franckel and Pannwitz, wellknown German physicians, have visited Madeira for the purpose of selecting sites in the central part of the island for two large sanatoriums for tuberculous patients, and a hotel for those accompanying the invalids. The buildings will be similar to those in German watering places. According to a concession granted by the Portugese Government, the establishments will be exempt from taxation and other duties, and in return the government reserves the right to 20% of the beds for the poor.

High Infant Mortality in Spain.—According to Dr. Raphael Ulecia y Cardona, from 1901 to 1902 there has been an increase of 615,858 inhabitants in Spain. During the same period, according to Bertillon, the population of the European nations increased as follows: Germany, 6,917,014; England, 4,721,340; Austria-Hungary, 3,956,305; France, 619,650, which gives the following proportion: Germany, 140; England, 100; Austria-Hungary, 96; Spain, 33, and France, 16, per 1,000 inhabitants. The increase in Spain's population, as will be seen is very low; certainly it is not owing to the scarcity of births, but to an excessive and dreadful mortality.

GREAT BRITAIN.

Statistics in London.—The rate of increase of the population is diminishing, having been only 16.8% in the 10 years 1891-1901, a smaller percentage of increase than has ever previously been recorded. The deathrate in 1901 was 17.1 per 1,000, as compared with 18.6 in the previous year. Thus it appears that the London deathrate was lower than that of any of the great cities of the kingdom, except Bristol and Leicester, and lower also than that of any foreign capitals, except the small towns of Amsterdam, Brussels, and Stockholm. In that same year—1901—there were fewer fatal street accidents than in any year since 1886, namely, 302. The smallness of this figure is an eloquent testimony to the skillful manner in which London traffic is regulated. Some of the metropolitan streets are the most congested in the world, yet the traffic goes on without many accidents.

Insanity in Ireland.—There were on January 1, 1903, 22,138 lunatics in the district, criminal, and private lunatic asylums in Ireland. These figures show an increase during the year 1902 of 508. The corresponding increase for the previous year (1901) was 401. The inspectors state in their annual report that the number of insane under care has increased from 250 per 100,000 of the population in 1880 to 499 in 1902. If, to the number of insane under care on December 31 last, be added the number of lunatics and idiots at large, according to the last census, the total (26,006) represents 587 per 100,000 of the population. The number of patients discharged from district asylums was 1,918, viz., 1,090 males and 828 females. Of these, 1,362 (771 males and 591 females) were discharged recovered, an increase of 59 on the number for the previous year. The percentage of recoveries on the admission was 34.5%, or 2% lower than that for the previous year. The number of deaths was 1,326, a net increase of 69.

OBITUARIES.

David Franklin, at his home in New York, of appendicitis, October 7, aged 40; a graduate of the New York Medical College in 1878; at one time house surgeon in Bellevue Hospital, later a resident in California, afterward an active practitioner in New York City and president of the Harlem Medical Society at the time of his death. October

10 the Harlem County Medical Society met and adopted appropriate resolutions concerning the death of Dr. Franklin, commending his many honorable qualities and expressing profound bereavement.

John B. Johnson, at his home in St. Louis, October 6, aged 86; a graduate of the Berkshire Medical College (Mass.) in 1840; one of the most prominent physicians in the city of St. Louis and emeritus professor of the practice of medicine in the medical department of Washington University. In 1843 he founded the first public medical dispensary west of the Mississippi River, and was the first vice-president of the American Medical Association when it was founded in 1850.

William Johnson Dale, at his home in North Adams, Mass., October 7, aged 89; a graduate of the Harvard Medical School in 1840. He was appointed surgeon-general of the State in 1860, and served as assistant surgeon in the United States Army throughout the Civil war, during which he instituted many sanitary reforms. He was a member of the Massachusetts Medical Society and many other medical organizations.

George W. Carpender, at his home in San Francisco, recently, aged 87; a graduate of the medical department of the University of Michigan in 1853. He resided at South Bend, Ind., for many years, from which place he moved to Chicago, and in 1896 to San Francisco.

John M. Allen, at his home in St. Johnsbury, Vt., September 18; a graduate of the University of Vermont, 1890; surgeon to Bright Look and St. Johnsbury Hospitals, member of the Vermont State Medical Society and the American Medical Association.

Thomas J. L. Kennedy, at St. Vincent's Hospital, New York, of typhoid fever, October 8, aged 27; a graduate of the College of Physicians and Surgeons, New York, 1900, and at the time of his death a resident of the New York Foundling Hospital.

Edward N. McPheeters, at the home of his father at Natchez, Miss., October 3, aged 21; a graduate of Tulane University, and an interne in the Natchez Hospital at the time of his death.

Cornelius Sheppard, at his home in Trenton, October 7, aged 66; a graduate of the University of Pennsylvania in 1861, and prominent in political and municipal affairs in northern New Jersey.

Daniel B. Howard, at his home in Warrensburg, N. Y., September 21, aged 62; a graduate of the Albany (N. Y.) Medical College, 1865, and ex-president of the Warren County Medical Society.

J. B. Winn, at Kirkwood, Mo., September 23, aged 88. The oldest physician in northern Missouri, in whose honor the Macon County Medical Association, a few years ago, gave a banquet.

George Doughten, of N. Wilkesboro, N. C., at the University Hospital, Baltimore, September 24, aged 38; a graduate of the College of Physicians and Surgeons, Baltimore, 1884.

Dominick F. Harang, at his home in New Orleans, October 5, aged 25; a graduate of Tulane Medical College in 1901, and one of the prominent young practitioners of New Orleans.

James I. McConnell, at his home in Napoleonville, La., October 8. He was prominent in local affairs, and at the time of his death was president of the State Board of Health.

George O. Graymond, at his home in Boston, October 7, aged 31; a graduate of Harvard Medical School and prominent in Masonic and other secret orders.

George W. Crider, at the Home Hospital, Lafayette, Ind., September 21, aged 68; a graduate of the Medical College of Indiana, Indianapolis, 1879.

George W. Colby, at his home in Sutton, Vt., September 13, at an advanced age; a graduate of the National Medical College, Washington, D. C., 1869.

Margaret Elinor Pears, at Butte City, Mont., September 19, aged 47; a graduate of the College of Physicians and Surgeons, Keokuk, Ia., in 1897.

Ernest W. Spinney, at his home in Reed City, Mich., September 22, aged 35; a graduate of the Chicago Homeopathic Medical College, 1896.

Samuel T. Dodd, at his home in E. Palestine, O., September 22, aged 68; a graduate of the Western Reserve University, Cleveland, 1867.

James A. Johns, at his home in Westminster, Ga., September 11, aged 71; a graduate of the Medical College of the State of South Carolina.

Stephen Terry Biggers, at Cornelia, Ga., September 21, aged 92; a graduate of the Southern Botanico Medical College, Macon, Ga., in 1835.

John T. Sankey, at his home in Tharin, Ala., September 18, aged 77; a graduate of the University of Pennsylvania in 1847.

Edward C. Swift, at his home in Easton, Pa., September 23, aged 60; a graduate of the University of Pennsylvania, 1868.

Joseph L. Haggerty, at his home in Topeka, Kan., September 24; a graduate of Rush Medical College, Chicago, 1870.

E. C. W. Simpson, at his home in Lennoxville, Que., September 23, aged 27; a graduate of McGill University in 1901.

O. W. Goss, at his home at Lakeport, N. H., October 8, aged 47; a graduate of Harvard Medical School in 1882.

William C. Wells, at Reed City (Mich.) Sanatorium, September 19, aged 70.

Robert H. Gordon, at his home in Norfolk, Va., September 22, aged 27.

SOCIETY REPORTS

AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS.

Sixteenth Annual Meeting, Held in Chicago, Ill., September 22, 23, and 24, 1903.

[Specially reported for *American Medicine.*]

[*Continued from page 580.*]

The Rational Treatment of Postpartum Infections of the Uterus.—D. TOD GILLIAM (Columbus, Ohio) said the rational treatment of postpartum infections of the uterus presupposed a knowledge of the infecting agencies, their nature and tendencies, and of the conditions which favored or retarded their entrance into the general system. The bacteria of puerperal infection were the same that took part in other pathologic processes of the genital tract, chief among which were the streptococcus, gonococcus, colon bacillus, and the saprophytes. Saprophytic or putrid infection occurred when fetal detritus—fragments of placenta or membranes—had been left in the uterine cavity. It was pernicious only through its products, the toxins, and would cease to do harm so soon as the fetal debris was expelled from the uterine cavity. Both the colon bacillus and the gonococcus were surface germs showing little tendency to penetrate into the depth of tissues or to disseminate through the general system. The streptococcus was the most deadly of germs connected with puerperal infection. It might and did proliferate in living tissues. While all of the germs were capable of producing invalidism, there was only one—namely, the streptococcus, that jeopardized life. This assertion was to be taken in a general sense, as other bacteria had on occasion been the cause of severe or even fatal infection. It became, then, important to distinguish between streptococcus infection and that of other germs. Unfortunately, there was no sure method, even the microscope at times being inefficient or misleading. Clinically, putrid infection was usually characterized by high temperature, slow pulse and foul odor, whereas in streptococcus infection there was no odor in the earlier stages, and the pulse was markedly accelerated. There might be suppression of lochia. The normal deathrate for puerperal infection was about 1%. This was increased in epidemics, which were usually due to streptococcus infection. The deathrate from streptococcus infection was about 5%, and these constituted about one-fourth of all cases of puerperal infection. Hence, about 98 or 99 cases out of 100 should recover, if let alone. A recently delivered uterus was a hotbed for infection, being filled with the juices of disintegration and spilled blood. The mortality would be appalling were it not for the safeguards. These were: (1) Autosterilization of the genital tract; (2) the protective epithelium; (3) the protective leukocytes under the epithelium. The germ of Doederlein was the principal agent in sterilizing the genital tract; hence irrigation before or after labor was harmful, because it washed this germ away and did not entirely rid the tract of pathogenic germs. It was impracticable to clear the uterine cavity of pathogenic germs by curetage or flushing, as many of the germs were ensconced in the depths of the utricular glands, and could not be reached, hence curetage or flushing by opening avenues of infection without getting rid of the pathogenic germs was harmful and dangerous. The epithelium was usually an efficient preventive of germ invasion. The normal deathrate of puerperal infection was about 1%, but after curetage it amounted to 20%. The sharp curet was especially dangerous, as it not only failed to remove the germs, but destroyed the protective barriers. Curetage was only permissible when there was known to be fetal debris in the uterine cavity, and where there was reason to believe no streptococci were present. For this the finger or dull curet with stiff handle should be used. Flushing, if done at all, should be done with every precaution against infection. The patient should be on a table, under a good light, the vulva and vagina cleansed, the latter with 5% creolin in liquid green soap, mopped, dried, and retractor introduced; the cervix grasped, drawn down and steadied with forceps; the cervical canal wiped out with gauze, and bits of membrane picked off with forceps. Gently introduce irrigator and flush. If pulse and temperature should drop, repeat daily or oftener, otherwise discontinue. Alcohol might be instilled according to Ill's modification of Carosso's method.

Penetrating and Perforating Gunshot and Stab Wounds of the Abdomen.—JOHN YOUNG BROWN (St. Louis, Mo.) went fully into the literature of this subject. An analysis showed 9 cases of perforating wounds of intestines, with 6 recoveries and 3 deaths. Of the deaths, one was due to shock, the injury being so extensive that the patient never reacted. The author's second patient entered the hospital with general peritonitis, and while a perforation was overlooked, it was probable that the result would have been the same if this injury had been repaired. The third patient he thought could have been saved. Of the wounds of the liver, 5 cases in all, 4 recovered, and 1 was fatal. This patient died 3 hours after operation from shock, the result of hemorrhage. A patient with a wound of the pancreas recovered. To these cases he added 8 cases where

laparotomy was done and no injury to viscera found, making a a total of 23 cases with 19 recoveries and 4 deaths.

The Use of the Stem Pessary for Infantile Uteri, Scanty Menstruation, Amenorrhea and Dysmenorrhea.—J. Henry Carstens (Detroit, Mich.) cited a number of intractable cases of this kind, which were promptly relieved by the stem pessary. The theory was that weak or poorly developed muscles could only be strengthened by constant exercise. The only way to exercise the uterine muscles was to introduce something into the uterus, and the constant tendency to expel the contents would enlarge the muscles and develop the uterus. It was absolutely essential that no pelvic trouble, either chronic or latent, existed. The diagnosis must be perfect. The use of the stem pessary was valuable in infantile uteri and in atrophy of the uterus. In amenorrhea, including scanty and irregular menstruation, especially as found in fleshy women, it was also of great value. It might be used with great advantage in simple cases of retroversion in young girls, and cases of stenosis or tortuous uterine canals. He used the Chapman hard rubber pessary, and left it in from 6 months to 2 years.

Tuberculosis of the Female Genitalia and Peritoneum.—John B. Murphy (Chicago) considered at great length tuberculosis of the vulva, vagina, portio vaginalis externa, cervical canal, fundus uteri, tubes, ovary, pelvic peritoneum, and general peritoneum.

Movable Kidney with Secondary Cyst Formation, Resembling Ovarian Cyst.—Rufus B. Hall (Cincinnati, O.) said that until recent years the consensus of opinion of the profession was that a movable kidney was not dangerous to the life of the patient, and that this condition did not call for operative treatment until the patient suffered extreme pain or developed serious structural changes. Almost the universal practice at this time was not to interfere until compelled to do so, either on account of torsion of the pedicle or some serious pathologic lesion. While only a small percent of patients suffering from movable kidney had obstruction of the ureter, necessitating an operation for relief, a very large percent were more or less invalids. In all patients suffering from hydronephrosis, with periodic attacks of pain, the urine contained pus for 3 or 4 days after the attacks. He contended that if the cases of movable kidney were operated upon early for fixation of that organ, it would save structural changes, give great relief, and he advised operation early. He also believed that the movable kidney, if neglected, might undergo cyst formation or develop hydronephrosis or pyonephrosis, and in rare instances developed into large tumors holding several gallons, as in cases reported.

Surgery of the Ileocecal Valve for Malignant Disease.—N. Stone Scott (Cleveland, O.) said the fact was well established that the pylorus and rectal valves were peculiarly liable to inflammatory diseases, with consequent hypertrophy or contraction of the tissues, and attendant partial obstruction of the tract. It would be most natural to suspect the other one of the three, the ileocecal valve, of similar tendencies. Three or four typical cases were quoted. The rarity of recorded cases was not so strange when one considered the virginal character of the territory under discussion. Medical literature gave not only a scarcity of cases, but no adequate description of the disease or its diagnosis, its cause or its cure. Most of the author's own cases had either been the subject of stenosis in other parts of the alimentary tract, showing a decided tendency to hypertrophic inflammation in certain portions of the tract, or had had typhoid fever. There was a reasonably clear history of this in all but 1 of the 7 cases reported by the author.

The Choice of Methods for Closing the Parietal Abdominal Incision.—Edwin Ricketts (Cincinnati, Ohio) in referring to the various suture materials used for closing incisions, said that to his mind the through and through suture of silkwormgut with the midway closure of the peritoneum with interrupted sutures of fine silk would permit surgeons to nearer attain the ideal method than any other. Silkwormgut was actually impervious to any attacks of infections. While it was a foreign body, it was to be removed between the fifth and tenth day. One great advantage of silkwormgut was that, keep it as one may, there was no germ to gain a foothold within its body substance. It was easily rendered aseptic from an immersion in hot water, to be dipped in alcohol just previous to placing the same. Possibly the oldest suture material for through and through work was silk—pure silk. Some prominent operators of today make use of it. With thorough asepsis in the care of this silk, it was a question in his mind if this material could not be used successfully, as the silkwormgut, for through and through suture, provided it was removed within 5 days.

Supravaginal Amputation for Fibroid Tumors.—Herman E. Hayd (Buffalo, N. Y.) said supravaginal amputation had such a small mortality, not more than 5% to 6%, with all kinds of cases, complicated as they so often were with hydrosalpinx, hematosalpinx, or pyosalpinx, that one could in good faith recommend it when once he was satisfied that the tumor was progressing in size and its symptoms were demanding active treatment. He was of the opinion that over-conservatism was even more dangerous than extreme radical surgery, as every day patients were depleted from frequent floodings, and died of some simple intercurrent disease because self-resistance was reduced to a minimum, or pressure symptoms were left unrelieved until dangerous complications were excited in the bladder, ureters, or kidneys. The only other operation he had employed for the removal of the uterus for fibroid tumors was complete hysterectomy, or panhysterectemy, abdominal and vaginal. The operation of total hysterectomy offered very few advantages. It was more difficult to perform; had a higher mortality; took more time, and had increased danger from hemorrhage, and it robbed the vault of the vagina of the support which the cervix gave it. However, in certain cases it should be the operation of election when the cervix was the seat of marked cystic degeneration, or had a bad tear, and particularly if associated with considerable vaginal prolapse, or where, for any reason, drainage would be desirable. He could have gone into a discussion of the field of myomectomy and the questions concerned in the advantages of the vaginal over the abdominal route for certain fibroid polypi and small tumors of the uterus, but had been content to place himself on record as believing that the supravaginal amputation for necessarily operable fibroids met nearly every indication demanded of the abdominal surgeon, and could be applied, and had been applied, to every conceivable kind of tumor, with short or long pedicle, tumors growing deep into the pelvis, or cut into the broad ligaments, and with results which made it a clean and ideal piece of surgery. It was the operation of choice, excepting in those cases where drainage must be provided for, or where the cervix, for various other reasons, should be removed. He presented a table giving a list of his 14 supravaginal amputations with one death. The operation by preference which he performed was that by Baer, and modified occasionally after the suggestion of Kelly and other more recent operators, when some special indication existed for its employment.

The Pelvic Musculature in Disease.—Hugo O. Pantzer (Indianapolis, Ind.) said the symptoms in pelvic disease arising from the unstriped and voluntary musculature of the pelvis were unmistakable and had important definite diagnostic significance. The textbooks were inadequately expressive on this subject. Two extreme cases were narrated in detail. The first case dealt with a subperitoneal hemorrhage involving both broad ligaments. While there was active hemorrhage going on the muscles of the pelvic floor were in spastic, painful contraction. This symptom had been found available in differential diagnosis between pelvic hematoma and hematocele. The second case described similar contraction of the pelvic musculature observed in a case of gangrenous appendicitis.

Veratrum Viride in Surgical and Obstetric Practice.—Charles L. Bonifield (Cincinnati, Ohio) said that the physiologic action of veratrum had been carefully studied by H. C. Wood, who says that "it is a cardiac and spinal depressant." Veratrum slows the pulse, but the author did not believe that it lessened the force of the beat, when used medicinally, except it produced nausea. It stimulated the liver, kidneys, skin, and salivary glands, and it lowered temperature and relieved inflammatory pain by its effect on the circulation. These properties make it valuable in the treatment of localized peritonitis. In appendicitis the appendix should, if possible, be removed during the first 24 hours. When this could not be done, the Ochsner treatment should be given, supplemented by the hypodermic administration of veratrum. Acute salpingitis was usually treated by hot and cold local applications to influence the circulation. These were valuable, but the circulation could be more profoundly affected with veratrum, and it was, therefore, more valuable. Local treatment could, however, be used at the same time the veratrum, was with advantage. In the treatment of postoperative peritonitis free purgation was of the greatest importance, and should never be neglected. But in some cases, after the bowels had been thoroughly evacuated, the exceedingly rapid action of the heart indicated that that organ would exhaust itself before convalescence could be established. In this condition there was no drug equal to veratrum. It was superior to strychnin or digitalis because, while they might stimulate the heart to act for a time with renewed vigor, it made the work of the heart easier, and gave it a chance to rest between beats. Although veratrum had been used for 30 years in the treatment of eclampsia by a considerable number of practitioners without a fatality, it was acknowledged by every one who has given it a thorough trial to be superior to chloroform, morphin, or any other drug in general use. Obstetric textbooks, almost without exception, failed to recommend it with any enthusiasm. Valuable papers had been presented to the American Gynecological Society on the use of this drug by Jewett and Reamy; also a paper by A. B. Isham on the general use of the drug before the Cincinnati Academy of Medicine.

[*To be continued.*]

Pure Food Examinations.—The records of the Treasury Department show that up to the close of business, September 19, the total number of importations of various kinds which were ordered held up for examination under the pure food act was 302. Eleven samples were ordered sent to Washington without holding the whole shipments. In 28 cases collectors were unable to procure samples, and in 56 cases the goods were ordered released after examination. Entry and delivery were refused in 3 cases, and parts of shipments were refused in two others. The number of cases now pending is 224. Of the total number of shipments 200 were held up at New York; the others were at San Francisco, New Orleans, and other ports.

CLINICAL NOTES AND CORRESPONDENCE

[Communications are invited for this Department. The Editor is not responsible for the views advanced by any contributor.]

IS THERE ANY GOOD IN OSTEOPATHY?

BY

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An Italian peasant woman was brought to this country in the early seventies by General Stewart L. Woodford, of Brooklyn, N. Y., who called herself Madame Dolchin. This person asserted that diseases are caused by slight deviations or displacements of the bones of the skeleton and professed to be able to cure these diseases by manipulations and exercises, by which means she pretended that she restored the improperly placed bones to their normal relations. She alleged that she had learned these facts from manipulating animals in her youth, and had perfected her methods of treatment by experiments upon animals. She had also acquired an exquisitely sensitive touch, so that she could detect slight irregularities in the bony parts, however deeply placed, and could correct them by her skilful manipulation.

She was at this time an old woman; probably 70 years of age. Her fingers were covered with rings, after the manner of her class. She could neither read nor write; nor could she speak a word of English. She had treated by her method, and, it was thought, had benefited, a daughter of General Woodford's, and, as has been said, the General had been instrumental in bringing the woman to this country. She opened an office in, I believe, Gates avenue in Brooklyn, N. Y., and practised there for a time about 1876, treating a large number of patients. The theory of practice outlined is in a nutshell a statement of the socalled science of osteopathy. By what name the Italian woman designated her peculiar style of treatment, I do not know.

It is alleged that on account of her wonderful skill and success in the treatment of disease, she had been accused of witchcraft or necromancy, and had suffered imprisonment on this account three times in Europe.

This history, of the truth of which I have abundant testimony from a number of reliable people, one of whom had consulted Madame Dolchin professionally, proves beyond all question that Dr. A. T. Still, of Kirksville, Mo., is not the discoverer of the socalled science of osteopathy. It is stated in the *Journal of Osteopathy* for 1902 and 1903 under the head "Definitions," that this discovery was made in 1874. Norman D. Mattison, D.O., informs us, in a pamphlet issued recently, that "the science of osteopathy was discovered by Dr. A. T. Still, of Kirksville, Mo., in 1874. The original discovery was only the principle, its development required years of research, study, and experiment. Dr. Still's first students were his sons, whom he began teaching in 1887. The American School of Osteopathy of Kirksville, Mo., was founded by Dr. A. T. Still and chartered by the State of Missouri in 1892."

There is little probability that the ignorant Italian woman was the sole discoverer or originator of this system of treating disease, and if she was not, it is more than likely that both she and Dr. Still acquired the knowledge of it from some common source. It is probably like Hahnemannism, a revival of some one of the quaint conceits or paradoxic theories which delighted the monks and quasimedical writers of the middle ages. A relic of the times when medicine and alchemy were interchangeable terms, and when the functions of a man's liver were alleged to be controlled by the sign of the Zodiac under which he was born.

Just as Hahnemann was not the true author of the doctrine expressed by the wellknown dictum *similia similibus curantur*, so Still is not the true author of the alleged science of osteopathy, and inasmuch as he claims to be such, he is an impostor and unworthy of credence.[1]

The testimony in the case of "Nelson *vs.* the State Board of Health of Kentucky" shows that the "American School of Osteopathy," at Kirksville, Mo., had in 1900 a faculty of 14 teachers, only one of whom wrote M.D. after his name, and he happened at that time to be under indictment for felony in 2 different States. It was proved that anatomy was not taught in this school by dissections or demonstrations upon the cadaver, but by studying a few skeletons and anatomic plates such as are used in ordinary high schools. Dr. Still, the president of the school, claimed to be a graduate of an old Kansas City medical school during the 40's. He could not, however, give the name of this school, nor the exact year of his graduation. In point of fact, there were no medical schools in operation in Kansas City in the 40's. It was proved that the course of study in this Kirksville school was only 2 years in duration, and there was no question that the instruction was of the crudest and most inadequate nature, as compared with a proper and comprehensive medical course.

It is not my purpose to quote at length from the testimony brought out at this trial, nor from the opinion of the learned judge who tried the case. Anyone interested may read the case *in extenso* in the issue of the *Journal of the American Medical Association*, January 13, 1900, p. 86 *et seq.*

I think I have said enough to show that it is impossible to acquire a sound medical education at such an institution as the school at Kirksville, Mo., which has neither dissecting-room nor laboratories, and of which the faculty is made up of the style of men indicated. If, irrespective of educational facilities, we examine for a moment the theory upon which this sect bases its practice, we find, that briefly stated, it is practically identical with that professed by the Italian woman quoted, to wit: The imputation of congenital or acquired malformation or malposition of the bones of the human skeleton as the cause of disease, and the assertion that by manipulation and by using the bones as levers these malpositions can be remedied and the diseases cured. The advocates of this theory assert that often the blood or nerve-supply is cut off or impaired by these displaced bones, and that the functions of the soft tissues are thereby interfered with. They also claim to possess so exquisitely delicate a touch that they can detect a human hair under 20 sheets of paper; the acquirement of this "superfine" touch being one of the principal results of the course of study at Kirksville, Mo. They appear to attach particular importance to the third cervical vertebra, which is alleged to be frequently slightly displaced, and to require their especial care and attention. Perhaps this may be from a superstitious veneration for the cabalistic value of the number "three," or perhaps because the upper cervical sympathetic ganglion lies contiguous to the body of the third cervical vertebra, or because most of the fibers that make up the phrenic nerve pass out of the spinal canal above and below the body of this vertebra. It is idle to consume time arguing against such allegations. Anyone can convince himself by looking at a skeleton that it is impossible to move or rotate an individual vertebra so as to slip it into or out of place. And it is equally absurd to claim that any touch, no matter how delicate, could detect slight differences in the positions of the vertebras. In short, both theoretically and practically, osteopathy is, as Dr. Bodine asserted in the case already quoted, the *ne plus ultra* of absurdity. As has been wittily said, one might as well expect to move a house by swinging the doors rhythmically as to cure an infectious disease by stretching and rotating the arms or legs of the patient. And yet it must be acknowledged that of all the modern irregular systems of practice, this one has probably achieved the largest measure of success. Perhaps there are more eddyites in the Eastern and Middle States than believers in osteopathy, but taking the whole United States one would probably find more believers in osteopathy than eddyites.

Why is it that osteopaths have made such strides into popular favor when, as we have shown, their pretensions are so absurd and their education so inadequate? There may be several reasons for this. In the first place, probably every system of quackery has something of more or less value in its practical application; and osteopathy is apparently no exception to this rule. Second, sick people in general, and especially *les malades imaginaires*, care very little for the theoretic or historic aspects of regular medicine, its glorious past, or its brilliant future. They are looking for relief and will patronize the worst quack almost as quickly as the most reputable physician;

[1] Gassaver, a wild medicine man or priest, of Switzerland, treated diseases exclusively by manipulation in the eighteenth century, and he is said to have been the original osteopath.—(Journ. Amer. Med. Ass'n, January 18, 1903, p. 98.)

especially if the quack gains their confidence by his magnificent pretensions. Third, this socalled system is new and striking, and possesses all the charm of novelty. And fourth, it has been pushed with astonishing persistency and assurance, and as Pliny observed many years ago, "Anyone with a sufficient stock of impudence, may reasonably well pass for a physician."

There seems, however, to be no question that these practitioners do by some means benefit a considerable proportion of those applying to them for relief. Leaving out of consideration the acute cases in which recovery would take place in any event, and the large percentage of patients who are benefited by mental suggestion, and to whom each new system of quackery as it comes along is a revelation and a source of delight, there are many more or less chronic and irresponsive cases, which are ameliorated at all events temporarily by the osteopathic practitioners. Right here it behooves the profession to look into the matter a little carefully. If these irregular practitioners can help any considerable number of patients by their peculiar treatment, it is not only to our interest, it is our duty to study their methods as thoroughly as possible in order to ascertain not what they claim to be able to do, but precisely what they can do, and whether they have facilities and powers for the treatment of disease and the relief of suffering which we do not possess.

Ambrose Paré did not dislike a quack so long as he could learn anything from him. Let us not make the mistake of being too proud or too narrow-minded (nearly synonymous terms) to learn from any source, no matter how humble. We have seen that the osteopaths profess an absurd and impossible theory, upon which, however, they base a logical system of practice. Alleging that one or more of their patient's bones are out of place, they set to work to pry and twist and rotate the displaced part back to where it belongs. Generally after sufficient pulling and twisting, a sound is heard similar to the small reports elicited by cracking our knuckles, which used to delight us in our boyhood. Then the patient is triumphantly informed that his misplaced bone has been put back in its proper place, but that a number of further treatments will be required to keep it there and to restore the functions of vessels, nerves, or what not that have been interfered with or suspended by the pressure of the misplaced bone. The osteopaths, it must be admitted, have also done a great deal of harm, as might be expected of people who submit tuberculous, rheumatic, cancerous, injured and hysterical joints all to precisely the same treatment. Cases of injury from their treatment have come to my knowledge, and doubtless their number will increase rapidly as the craze extends and more victims offer themselves to these charlatans for treatment. And there is danger that the public and the profession learning of these unfavorable results, may too sweepingly condemn this method of mechanical therapeutics and relegate the whole system with whatever good it may contain to oblivion.

Can we, as conscientious physicians promise relief by this, or a similar mechanical treatment, to any considerable number of patients, despite the fact that we are deprived of the powerful auxiliary of the mental suggestion, which these enterprising gentlemen make such good use of? I think there is no doubt that we might, if we would, insist upon severe physical manipulation in many cases of neurasthenia, rheumatism, lithemia, hypochondriasis, etc. Is not a large share of chronic diseases dependent upon a faulty metabolism due to superalimentation, and want of fresh air and muscular exercise? Are not nine-tenths of our patients living in greater or less disregard of hygienic laws? And will not this forcible passive exercise by promoting proper assimilation and healthy metabolism often benefit them more than the administration of medicine? To take an example, the main benefit derived from colchicum, our sheet anchor in the treatment of gout and rheumatism, is its cathartic action. Now the physical culturists have emphasized, what we have always known, that exercise will overcome constipation and leave the body in far better condition than a course of purgatives. Again, who of us dares treat an attack of gout by rubbing and exercise? And yet so good an authority as Balfour[1] assures us that this is precisely what we should do. He says further that practically all of us, after middle life, are gouty and are more or less liable to paroxysms of the disease. Here again is a wide and as yet largely unoccupied field for the practitioners who rub and twist and fearlessly manipulate the aching limbs of the gouty. Madison Taylor has pointed out[1] that in treating the neck stiffness of senility by powerful manipulations when 2 structures become once loosened and elastic, 2 special sense organs—the eye and ear—were notably improved, and the throat and voice showed improvement. The blood-supply to the brain was increased with resulting mental improvement, etc.

If the special senses in such unpromising conditions as Parkinson's disease, of which Dr. Taylor was writing when he made the assertions just cited, can be improved by manipulations of the patient's body and neck, it seems reasonable to believe that they can be improved by similar means in other bodily conditions. And doubtless the claim of the osteopaths, that they can enable any one to dispense with spectacles by their treatment, has, in some cases, a foundation in fact. Certain cases which have come to my knowledge would seem to lend color to these claims, and in some instances patients were able, after osteopathic treatment, to lay aside glasses which had been prescribed for them by competent oculists.

We cannot for want of time take up *seriatim* the different diseases that passive exercise has been found to benefit. The number, however, is large. Hyperchlorhydria, cholelithiasis, diabetes and locomotor ataxia might be especially mentioned as in this class as well as a long list of nervous and mental diseases. In fact, we may safely say that any chronic afebrile disease may be benefited by judicious and properly applied passive exercise, which is only second in value to voluntary exercise, and in some cases for obvious reasons surpasses it.

Whatever permanent good the osteopaths do, they do by mental suggestion, followed by massage and manipulation, and in some cases by hydrotherapy and the use of heat and cold. They probably accomplish more than ordinary masseurs because they are fiercer and bolder in the application of their methods. The lesson they teach is that the human frame cannot only endure, but can be benefited by maneuvers, which are usually regarded so severe as to be dangerous. To teach people the necessity of bodily exercise, if they wish to enjoy good health, has been and still is a difficult and discouraging task. But the people are learning their lesson for all that: and the osteopaths are contributing (albeit unwittingly) their share to the fund of human knowledge. As Solomon has told us, "Better is he that ruleth his spirit, than he that taketh a city;" so we might amplify the proverb without violence to its full meaning and say, "Better is he that ruleth his spirit and his body than he that taketh a city."

That the osteopaths should be allowed to treat cases indiscriminately is preposterous, but that they might under the supervision of qualified physicians apply their methods to selected cases with advantage, is unquestionably true. And from the exploitation of their claims and their impudent efforts to be allowed all the legal privileges and rights of properly educated physicians, I believe good will eventually come. Because this line of conduct has brought them very prominently before the public and has caused their methods and their pretensions to be quite fully discussed, and from this discussion many will learn the truth, which it is the object of this paper to inculcate, namely, that the application of massage may be advantageously extended to a greater number and variety of cases than has hitherto been believed practicable.

[1] The Senile Heart.

New Form of Hog Cholera.—A report has been received by the Department of Agriculture from E. A. de Schweinitz and M. Dorset, both of the biochemic bureau of that department, in which the discovery is announced by them of a new form of hog cholera which is not caused by the ordinary hog cholera bacillus. It is claimed by the discoverers that the disease is highly contagious, and that healthy animals allowed to come in contact with infected ones invariably contracted it. Other animals than hogs on which experiments were made did not contract the disease, and the discoverers were therefore of the opinion that it was distinctively confined to that species of animal.

[1] Proceedings Philadelphia County Medical Society, June 30, 1903.

WAS IT WISE FOR THE AMERICAN MEDICAL ASSOCIATION TO CHANGE ITS CODE OF ETHICS?[1]

BY

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of Baltimore.

Author of the Book on "The Physician Himself," etc.

At the last annual meeting of the American Medical Association, held at New Orleans, May, 1903, its old code of ethics was changed by the following action: The Special Committee on "Revision of the Code of Medical Ethics," composed of Dr. E. Elliott Norris, Dr. William H. Welch, Dr. J. S. Bryant, Dr. Nicholas Senn, and Dr. T. J. Happel, after agreement with a larger committee, composed of one member of the House of Delegates from each State, submitted a preamble that provided that whatever might be the form of the document adopted to replace the old code, its sphere should be suggestive and advisory only, and not compulsory. This preamble was unanimously adopted.

The same committee then submitted a body of medico-moral precepts entitled, "Principles of Medical Ethics." The Association, through its House of Delegates, also promptly adopted these Principles by a unanimous vote, which was followed by great and prolonged applause, showing complete unanimity on the subject, and today one of the questions before all thoughtful medical men is: Was it wise for the American Medical Association to change its code of ethics?

That this change inaugurates a better and wiser policy for the profession of our country, I am quite sure, for the following reasons:

Although the moral sentiments of the old code had done good in the early years of its existence, by binding our profession together and drawing a line that excluded many unworthy persons from recognition, yet the conditions that then existed have gradually changed, until now our only opponents of any number are the homeopaths, a body of educated men, physicians under the laws of the various States, men of good professional character, correct morals, and much esteemed by those who know them best. In dealing with such men the old method of 1847 was no longer the wisest plan and chiefly on this account from these principles, the nonconsultation clause was omitted, thus relegating to each and every physician the right to follow the guiding impulses of his own judgment whenever the subject of consultation arises.

The reason why we could not previously consult with outsiders was that since 1847, consultation with them was specifically forbidden by the code of ethics of the American Medical Association, and every member waived his natural right to do so when he joined that body or any subordinate society. This restriction being now removed, every individual's right to consult with whom he pleases is again restored, and our new principles encourage the exercise of this right in the following words: "The broadest dictates of humanity should be obeyed by physicians whenever and wherever their services are needed to meet the emergencies of disease or accident."

Among the chief reasons for this change from "code" to "principles," was that the old code's authority and its usefulness had decreased year after year until many of the best of our number had become either lukewarm or hostile toward it. Many good men had never even read it, and everybody knew that it no longer stood as an honored and efficient guide. Besides, the chief evils it was intended to correct had either disappeared or got beyond its reach. Indeed, had its boycotting features been set aside 40 years sooner, it would have saved our profession many dilemmas and many mortifications, for medical boycotting is a bad thing when it does not work, and the events of these 40 years have proved that it was an unwise method in dealing with the homeopathic portion of our foes, and one that had a directly opposite effect from that which was intended—namely, to exclude all who held to Hahnemann's or anybody's else dogmas from membership to our societies, and thereby prevent dogmatists from gaining a foothold with the public. This all our enemies forthwith stigmatized as "persecution," and *we* were at once everywhere denounced as "allopathic persecutors."

I shall surprise you by the following statistics of what their battle against this socalled "persecution" has done for our homeopathic brethren in the United States. All other countries *protested against it*, while we were the only country in the world which built a "Chinese wall" *against them*.

The *North American Journal of Homeopathy*, for September, 1903, tells us that in the year, 1900, there were in the world 10,635 homeopathic physicians distributed as follows: In Great Britain and Ireland 201, in France 211, in British America 87, in Uruguay 7, in Switzerland 22, in Australia 29, in Spain 118, in Belgium 41, in Holland 17, in Denmark 8, in Mexico 32, in Brazil 33, in Barbadoes 5, in Italy 42, in Argentina 6, in Russia 66, in Portugal 3, in India 41, in China 2, in Venezuela 1, in Cape Colony 1, in Alaska 1, in the Hawaiian Islands 1, and in Germany, where both Hahnemann and Homeopathy were born, *he* in 1755, and *it* about 1790, there were in the year 1900, in all Germany, only the ridiculous number of 290, or 1 to every 194,000 inhabitants, while in our United States of America, where our profession adopted a nonintercourse policy almost as soon as homeopathy had reached our shores, we had in 1900, no fewer than 9,369 persons who called themselves homeopaths, or 1 to every 8,000 inhabitants—88% of all in the world; all fat, all thriving, and all fervently hoping that our *good old prohibitory clause* would long continue to assist, but, alas, this was the chief knot on which our Alexanders used their swords in May last at New Orleans.

We, of today, can easily see that if, instead of making this question a cause for rejection or expulsion, our predecessors had welcomed into fellowship such of these men as were educated and lawfully qualified, when they were but a handful, homeopathy would never have been raised into the dignified position of a rival school, and we would never have had to ask the public to choose between them and us; because they could not have raised the cry of "persecution," and without this there would be today no existing homepathic medical societies, no homeopathic medical colleges, no homeopathic medical journals, no homeopathic hospitals, and the puzzling question how to deal with them would not be now confronting us. Even had we done this 30 years ago, neither the homeopaths, nor the eclectics, nor any other important rival would now exist, except in the forgotten pages of history.

This change of base is the most momentous step the American Medical Association has ever taken, for it removes the restriction that separated the ins from the outs in consultation, and gives back to our specialists, our surgeons, our professors, and all other medical men, the right to consult, or not consult, with Dr. Heterodox, Dr. Homeopathy, Dr. Eclectic, or Dr. Anybodyelse, whenever any sufficient motive prompts.

In such consultation we nonsectarians can hereafter meet our rivals face to face everywhere, whether in city, town, village, or rural districts, and incidentally show our superiority where we are superior, fearlessly depending for the final solution of the question of kind, on the irrefragable law of the survival of the fittest.

But, Dr. Doubter or Dr. Oldcode may ask: If the Principles of Medical Ethics have no binding force, what is their use? My reply would be: These principles are intended to give correct and uniform suggestions and advice to the host of new members who are constantly entering the profession, and to all others who may feel the need of their admonishing precepts.

This being their only function, in my opinion, a better title and one that would plainly show to the whole world their original and their nonproscriptive character would be: "*Ethical Principles that Should Govern the Medical Man.*" FORMULATED BY THE AMERICAN MEDICAL ASSOCIATION.

I also believe their features should be improved and made more modern by expurgating the paragraphs on Visits to the Sick, Respect to Seniors, Tenderness to Patients, Arbitration in Consultation, Attending One's Own Family, etc., and adding other tenets more abreast of twentieth century conditions. The document should also be simplified by abolishing the chapter arrangement, and the subtitles, and by rearranging and numbering its various paragraphs.

[1] Read at the one hundred and fifth semiannual meeting of the Medical and Chirurgical Faculty of the State of Maryland, September 24, 1903.

Now, barring the consultation question, what did our governing code do for us during its last 25 years that the unwritten law that governs gentlemen could not have done? Or I will put the thought in a different way: Can anyone show me a medical man who, previous to the seventh day of last May, could be depended on to do the right thing with a code hanging over his head, who cannot now be depended on to do it without one? No, because no code can specify unfailing rules for being a gentleman or put correct principles in anyone's heart if the instinct is lacking. On the contrary, so far as my observations extend, ungentlemanly acts are far less frequent in all circles in which a sense of personal honor is the incentive; and if this be so, individual responsibility for personal deportment will henceforth be felt among medical men more strongly than ever, and a more refined and gentlemanly intercourse will surely follow.

The paragraph of the code interdicting consultation with outsiders was always contrary to the judgment of the press, the bar, the pulpit, and the people, and all our arguments were never able to efface the general belief that we were a narrow-minded and illiberal sect who held *ethics* above humanity, and no one ever assigned "*the code*" as a reason for refusal to consult, that convinced a suffering man or anybody else that this restriction was not brutal and unfeeling, and it was not our code's fault that a larger portion of the public did not desert from us to "the persecuted."

Above all else, this change of base frees us from the old charge of bigotry, and brings up new and nobler issues, for this was the vulnerable spot in our armor at which our enemies of every kind directed their partisan attacks. Indeed nowhere in the annals of human invective is recorded a more vehement, or a more continuous, or a more successful attack than the combined armies of all these "persecuted martyrs" made on this paragraph year after year, with the public as judges, with "allopathy," "old school," "crucifixion," "persecution," "jalap," "calomel," "salivation," "bleeding," "manslaughter," and a whole hatful of other fulminating nouns and adjectives added.

But all their literature was as nothing compared to the unfair partisan tales told at the bedside, in the parlor, and on the curbstone to every man, matron and maiden who would listen.

They even carried their attacks into all public questions; and contested for army appointments, naval appointments, and political appointments; everywhere crying "persecution;" and so deeply did their missiles penetrate the public heart that some of those who were lured away from us 40 years ago are today a hundred times more bitter toward "allopathy" and the "allopaths" than their medical attendants are, and would trust their lives to an empty-headed outsider a thousand times sooner than to the best "allopath" in the world. And there are at this moment people in every large community who would almost rather die under the care of an irregular than to get well under the hands of a regular. Why? Chiefly because that paragraph shut out the eclectics, homeopaths, thompsonians, and others, and kept them incessantly appealing to public prejudice, and in this way the code acted constantly and powerfully in favor of the very ones it was intended to destroy. These terrific attacks on us caused hundreds of thousands of valuable lives to be entrusted to irregular care, and millions of dollars to go into their pockets, while our clansmen, "Megafied" by an overdose of "Magna Codex" sat in their arm chairs and slept as unconcerned as Rip Van Winkle, and thrice as long.

With popular sympathy doing so much in their favor for fifty years, can we now expect our fat rivals voluntarily to abandon their banner unless new conditions make it more profitable to do so? Ask a merchant, or a mechanic, or a bootblack, or anyone else to desert a lawful occupation that is yielding him a good income, and what will his answer be? Never, unless something better offers.

More especially were homeopathy's camp-followers, and the eclectics and the host of irregulars of other creeds who were poorly equipped in the essentials of medicine, satisfied with the partisans and the full purses our "Chinese wall" brought them, and also with the Gibraltar it afforded their defects, against the exposure that consultations and comparison of scientific equipment would bring. This great step on our part will now compel every opponent to stand or fall by what he is, and will force expansion on all among our rivals who can and will expand beyond a limited creed. It will also bring Chinese stagnation to those who cannot or will not, while to the interests of unfettered medicine it will be like a ladder let down from heaven.

Hahnemann's followers have certainly thrived most where most assailed, as the profession of New York, Philadelphia, Boston, and other parts of New England, Baltimore, Cleveland, and elsewhere can all attest. Now, with this battered target removed, our profession in America will be rid of its greatest hindering weight, and our worthy opponents of today will be gradually transformed into friends, possibly their societies, and colleges, and hospitals, and medical journals into auxiliaries, and we will finally see a union of all true physicians from ocean to ocean.

No honest man can compromise on a question of principles, but a consultation, whether with Dr. Newkind, or Dr. Oldkind, is not a question of principle at all, but clearly a matter of humanity and business combined. If we nonsectarians be qualified and honest men, the half we supply in a consultation will be both rational and valuable, and if the half our confreres supply is either erroneous or valueless, it is their fault and not ours.

When we recognize an outsider as a physician it does not require us to endorse either his crotchets or his dogmas, nor has any honest man practising a limited creed anything to fear from meeting one who does not, as truth wherever found has nothing to fear from error. We as nonsectarians, with the boundless field of therapeutics before us, naturally stand on a broader vantage ground and see much to contemn in our opponents, but gentlemen, withal, let us be modest in our claims, for we ourselves are not yet scientifically perfect, our enemies find much in us for criticism, and there is not a specialist or a surgeon or consultant of any kind anywhere who has not discovered by actual experience that ignorance of this or that well-known medical truth is not confined entirely to irregulars.

As to the moral aspect of mixed consultations: What physician does not come in frequent contact with the vile, the vicious, and the ignoble? Is anyone thereby necessarily contaminated? Not at all! Would it not be equally foolish, or even more so, for anyone to say that if a well-qualified physician gives his advice or his aid to an ignorant one, or even to a medical fool or a knave, and thus aids him in preventing suffering or in saving life, he thereby necessarily descends to that man's level, or degrades our noble calling. To all such assertions I would answer—nonsense!

The occasions will probably be few in which the patrons of a well-equipped regular physician will ask him to call a sectarian in consultation, but if such a course becomes necessary it should be done without passion or prejudice, and with but one end in view, the good of the patient. After a while, when things change and animosities have died out, we nonsectarians will probably be frequently called to meet every variety of outsiders, and these opportunities for making a more accurate diagnosis, or detecting complications, or pointing out errors, or suggesting better therapeutics, or giving manual aid in difficult cases, or adding good of any kind cannot fail to save thousands of valuable lives, and to show our better equipment and our greater usefulness, and thus nine discerning people will be brought toward us where one will turn away, and the oftener this comparison is made the sooner will all doubts as to which is best, be banished.

How will our change of code affect society membership? According to the estimate of Dr. Simmons, there are today in the United States, 77,000 physicians who for one cause or another, do not belong to medical societies of any kind. Of these each State has its full quota, and one of the benefits that should follow our change of code is an increased membership in this faculty and also in our local societies, because there are numerous persons who are perfectly eligible who doubted their ability to measure up to the code's requirements; others who dissented from this restriction or that feature, and would not affiliate; others knew the code was binding on every member of every society, and would not put themselves under its yoke for fear of unwittingly rendering themselves liable to

trial by rivals or enemies; others wished to keep out of code wrangles, and to hold themselves responsible to their own conscience alone, and therefore kept aloof from fellowship; others had no respect for the effete nonintercourse laws of long ago, and would not fraternize under them, as shown twenty years ago by the angry split in the State of New York. Now, after this great and mollifying change we ought to have improved unity everywhere, and see increased membersnip. Where is the Welch, or the Osler, or the Ashby, who will essay this task among those who are delinquent in Maryland?

There will be another important result: The code has for years kept many who hold but loosely to similia from making its therapeutic bugaboo a secondary matter, and entering our broader nonsectarian field. We all know that the majority of the prominent men who are now known as homeopaths are much more lukewarm toward its restricting tenets than their predecessors were, because their education, talents and dispositions are too liberal to remain confined to the limits of any one creed, and many of these will now gradually throw off their sectarian shackles, and finally be found enjoying the wider field with us, because they are no longer ostracized, the finger is no longer pointed, and the cry of "outlaw" is no longer heard. Indeed we and their more scientific representatives are even now not nearly so far apart as many suppose. At the annual meeting of the American Institute of Homeopathy, held at Cleveland, Ohio, June, 1902, in a learned annual address on "The Present Status of Homeopathy," the eminent president, Professor James C. Wood, after enumerating 7 different classes of cases, each presenting indications for therapeutics, not homeopathic, concludes by saying: "The legitimate sphere of action of homeopathy is—the curing of diseases which are curable by the principle of substitution."

To put it all in a paragraph: The president of the chief homeopathic medical body of America, divides the structure of therapeutics into numerous stones and merely claims that similia is one of these, not that it is the foundation stone, not that it is the keystone, but only that it is one of the stones.

I ask in the name of Hippocrates, what regular physician on earth would object to his next door neighbor, or even to his own brother, for holding these tenets if he wishes, or for following any therapeutic lines he chooses; but, were he our brother we would probably lay our hands gently on his shoulder, and beg him for humanity's sake not to chain himself to any one segment of the therapeutic circle.

The educated homeopaths of today differ radically from their predecessors in many ways and are now shoulder to shoulder with us everywhere, in obtaining and maintaining salutary medical laws to shut out ignorance and quackery, and are fast approaching us in many other respects. The truth is, the chief difference between the majority of their 9,369 and us today is in name and affiliation, and I firmly believe an honest show of liberality on our part will do much to make these disappear, and to cause many to drop their dogmatic titles and throw off their sectarian chains and enter the broader and better sphere expressed by the single word, *physician*.

Every thoughtful son of Æsculapius knows that true medicine is an unfettered profession; therefore while we earnestly desire unity, our mountain cannot go to anybody's Mohammed, because Section 1, of Article 1, of Chapter II of our "Principles of Medical Ethics," says: "It is inconsistent with the principles of medical science, and it is incompatible with honorable standing in the medical profession for physicians to designate their practice as based on an exclusive dogma or a sectarian system of medicine." Let us be liberal in all else and this broader and better course in therapeutics will finally be adopted by all.

I am neither an enthusiast nor a rainbow chaser, nor do I believe abolishing the code will at once bring prodigious results, but as sure as day follows night, results great and good will come, and those who are working in the Æsculapian field 15 or 20 years hence will see the great benefit that will result to us from the passing of the conditions created by our old code.

The American Medical Association has left to the State organizations discretionary powers in deciding who are, and who are not, eligible to membership in them, and in their subordinate societies. It also leaves them the right to adjudicate for themselves all other ethical questions, and among the first duties now before us is promptly to put The Medical and Chirurgical Faculty of Maryland in line with our great national body.

Finally, the sooner you and I, and every other physician in America do our part to let the whole world know that our profession has changed the tomahawk for the olive branch, the sooner will we create a vastly improved public opinion, and the sooner will we enter on a long era of peace, good will, and prosperity.

But medicine is a diversified profession, and in its rank are naturally found, many men of many minds, and no reasoning person can expect all to agree fully that it was judicious to change our grandfather's code, and some may even think it was a huge mistake, but I believe that it was an exceedingly wise act, and in concluding I humbly predict that it will have at least 5 excellent results: It will free us from the old charge of bigotry; it will kill the old cry of persecution; it will have a great and far-reaching effect on our material interests; it will everywhere promote and foster professional unity; and, far above all else, by putting an end to partisan agitations it will increase the good repute of every worthy medical man in America.

ARTIFICIAL GONORRHEA.

BY

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of New York City.

Simulation of disease has been, and still continues to be quite extensively practised in certain countries of Europe, with the purpose of escaping military service. The diseases simulated are legion, and it is conceded even by acute observers that often the highest skill in acting is displayed by the pretender, making detection a problem of no small difficulty. Defective eyesight is a favorite pretext for obtaining dispensation from duty, and numerous ingenious methods for exposing the "sham" have been devised by oculists. Epilepsy is occasionally feigned, but it requires more than ordinary histrionic talent to produce a seizure at will. Spurious "chancres" are brought about by rubbing the penis with sandpaper until an ulcer is formed.

The peculiar demand has in time created a supply, and certain individuals are in repute for their skill in producing imitations of disease to order. These specialists often call forth genuine diseases, which, like the spirit evoked by Faust, prove too mighty for them to control. Thus hernias of various kinds are produced, prolapses of the rectum made, ocular inflammations established, which carry the victim far beyond his intended goal, and impress him with the truth that the game is not worth the candle. By escaping military duty he often becomes a cripple for life.

Some time ago a patient found his way to me, giving the following interesting details:

For the last 2 years he has been suffering from gonorrhea which he had not, however, acquired in the natural manner. Being a native of Russia, he was drawn, when 21, into military service. There he attempted to avoid duty by feigning sexual disease, and succeeded in gaining admission to a military hospital. In the latter he met a number of feigned patients, and for a time all went well, until it became known that a strict examination would be made by a physician. Frightened by the severe penalties awaiting pretenders, our "patient" resorted to a knowing comrade who undertook, for an appropriate fee, to avert the impending danger. Accordingly, he soaked a piece of cigaret paper in gonorrheal discharge, and inserted the small roll into his victim's urethra. Three days later a highly satisfactory result crowned the experiment, and when the attending physician at last made the examination, he found sufficient numbers of genuine gonococci to warrant his further detention in the hospital. This unnatural gonorrhea is running its indefinite course to the present day.

Army Recruits not up to Standard.—General Bates is credited with the following statement: "At the inspections of the various commands and during stay of inspector at posts, it was observed that the character and general physical appearance of recruits are not up to the same standard as compared with those of former years. The number of undeveloped youths appeared especially noticeable."

ORIGINAL ARTICLES

ONE YEAR'S WORK IN APPENDICITIS.[1]

BY

JOHN B. DEAVER, M.D.,

of Philadelphia.

The amount of time allowed for this paper does not permit adequate discussion of any of the phases of appendicitis. It is my intention, therefore, to present the results in the last 566 operations which I have performed for appendicitis, both acute and chronic, with some critical comments upon these results.

It is commonly remarked that statistics are misleading and may be used to further any purpose whatever. One reason for the truth of this statement is the formulating, by those with the limited experience of 30, 40, or even 100 cases, of rules for treatment and deductions regarding the time for operation. If I were to dissect my own statistics I could find many series of 40 or 50 cases of acute appendicitis without a death.

To plunge at once into the subject matter of this paper, in the 566 cases herewith reported, the patients were operated upon from September 1, 1902, to September 1, 1903. The total mortality was 5% of the entire number.

It is not necessary to review the history of the cases in this series, and I have made but few statistics, except the findings at the operating table. It suffices to say, that even a hasty glance at the case records tells again the old and oft-repeated story. The mortality is in direct proportion to the extent of the extraappendicular involvement, the latter being dependent upon the duration of the disease and the character of the infection. While every surgeon of experience is urging the need of early operation and impressing the evils of delayed operation upon the general practitioner as well as many surgeons, yet nevertheless, case after case is sent to us reeking with pus or slimy with exudate.

Before detailing the operative findings and postmortem results, I wish to state that I divide the series into 3 classes.

1. Those cases in which the patients were suffering from general or diffused peritonitis.

2. Cases in which an abscess was present, localized, and usually filling the right iliac fossa, pelvis, or both, and in many instances extending up to the liver; the latter organ has been found ulcerated. The appendix was also perforated and necrotic, often gangrenous as well.

3. Cases in which the disease was confined to the appendix with stricture, ulceration, and sometimes necrosis of the mucous membrane. In many cases pus was found in the appendix after its removal. In some instances a small area of adhesive peritonitis was present outside of the appendix, but no pus. In many cases the appendix was densely imbedded in organized exudate.

The term "catarrhal appendicitis" merely serves as a pitfall to some surgeons or as a too convenient peg to others. Appendicitis is solely the result of infection. The expression "chronic appendicitis" has also but little meaning. Every appendix which has once been the seat of inflammation, is the seat of interstitial changes, and except in the rarer cases of hydrops or when adhesions are present, the organ is harmless until an acute process is engrafted upon it.

Particular attention has been paid to the mortality list, careful notes, and in every case an autopsy, were made.

General peritonitis is a very fatal condition and was experienced in 16 cases with 5 deaths, a mortality of 31%. Immediate operation offers the best outlook for recovery.

In one of these fatal cases the patient was moribund on admission, and died within a few hours after operation.

In 1 patient a pelvic abscess containing a pint of pus was present, in addition to the general peritoneal infection. He was very septic at the time of operation.

In 1 case recovery seemed assured, but unfortunately 3 weeks after operation a cecum, which at operation was necrotic and gangrenous, broke down, a fecal fistula developed, leaked internally, and set up a fatal peritonitis.

Two cases were in children, who, though able to resist infection better than adults, are more influenced by shock and more susceptible to the anesthetic.

This brings us to the second class—appendicitis with abscess. In my series there were 183 cases of this type, with 22 deaths, 12% mortality. Six of the patients developed intestinal obstruction, five of these were operated upon with 1 death, and there was 1 death without operation.

In 163 cases the abscess was so situated that it was necessary to open the peritoneal cavity to reach and deal with the collection.

In 20 cases the abscess was merely opened by an extra peritoneal incision, and the pus evacuated. There were 3 deaths, 15% mortality.

One of these was performed under cocain anesthesia, and it is interesting to note that this patient also suffered from an infectious parotitis of both glands. This case terminated fatally.

The question of treatment of patients with abscess has attracted much attention of late and we are confronted by a delusion that threatens to undo the immense labor by which many American surgeons have hammered into the intellects of the profession that the treatment of appendicitis is operative. The issue before us is not the treatment of suppurative peritonitis, but of appendicitis itself—the cause, not the effect.

The pathologic role intraperitoneal appendiceal abscess is capable of playing can only be understood by those who have studied a large number of cases, both at the operating and autopsy table. To trust to peritoneal absorption is uncertain and hazardous and can be compared to nothing other than faith cure. Nature's attempts to cure are not at all convincing and do not compare with the results of the aseptic scalpel at the opportune time.

The peril of waiting for the interval is not only due to the evil caused by the accumulating pus, but in a far greater measure, to the danger into which such teaching may lead the medical man or layman.

I believe that the mortality in the practice of those with large experience in this disease is dependent upon the virulence of the infection, the lowered resistance of the individual, and to the procrastinating treatment which many physicians practise and some surgeons essay to teach. If immediate operation was universally practised, there would be no necessity to devise methods to restrict the spread of infection. In the early hours of the attack, the removal of the diseased appendix eliminates the source of infection before the latter event has taken place, and the surgeon has merely treated a case of appendicitis, a trifling matter, and not one of virulent peritonitis.

It is with relief that I turn to that class of cases in which the lesion is confined to the appendix, either from the mildness of the infection or the sagacity of the attending physician; 367 cases with 3 deaths or 0.8% mortality. (In order to avoid being misunderstood, I might state that 173 were of the type which I have heretofore reported as chronic cases, and of these there were *no deaths*. In 194 cases the appendix was swollen, edematous, and inflamed, but not perforated. There was a periappendicular peritonitis present, either in the shape of firm adhesions, organized exudate or soft exudate covering the appendix. There was no abscess,

[1] Read before the Pennsylvania State Medical Society, York, Pa., September, 1903.

though pus was frequently found within the appendix; 3 deaths occurred in this class, 1.5% mortality.)

These three deaths were as follow:

I.—A man, aged 28, was admitted upon the fourth day after the onset of the attack. A swollen edematous appendix containing pus was found, with the omentum adherent to the appendix and cecum. The structures in the right iliac fossa were adherent. The omentum was ligated at its adherent points and the appendix excised. The patient suffered considerable shock after the operation, which was subsequently found to be due to hemorrhage, probably from the slipping of a ligature on the omentum. At autopsy a large blood clot was found, which had become infected.

II.—A man, aged 32, had experienced several attacks reaching an interval after each attack. He was very thin, anemic, physically weak and a constant user of morphia. Two days before admission an acute attack was experienced. Operation revealed an appendix strictured and with a club-shaped tip filled with pus. The appendix was adherent at its base to the floor of the iliac fossa and the cecum was brought into the wound with difficulty. The patient was highly neurotic after operation, constantly asking for morphia, and vomiting persistently without apparent cause. He died 5 days later with the symptoms of mild sepsis. A partial postmortem showed beginning gangrene of the head of the cecum.

III.—A man, aged 39, was admitted 8 days after the onset of his attack and with an appendix inflamed, edematous and surrounded by exudate. The structures in the right iliac fossa were firmly adherent to each other. He was septic at time of operation and died 6 days after from absorption of toxic products from a gangrenous colon. Twelve centimeters from the cecum a perforation in the ascending colon was found, well protected by adhesions.

Time does not permit of further remarks, and I conclude with the tiresome, but necessary statement, that

TABLE I.

Peritonitis, general	16	5 deaths	31 %
Abscess cases	183	22 deaths	12 %
Appendicitis	367	3 deaths	0.8%
	566	30 deaths	5.3%

TABLE II.

Adults, acute	344	26 deaths	7.56%
Adults, chronic	164	.....	.....
Children, acute	49	4 deaths	8.16%
Children, chronic	9	.....	.....
	566	30 deaths	5.3 %

an early operation, preferably in the stage of appendiceal colic, is the only rational procedure and is the only treatment which will reduce the mortality in acute appendicitis to insignificant figures. Furthermore, no patient should be permitted to have a second attack of acute appendicitis, however mild the first.

Confidence in various forms of medical treatment, local applications, starvation, purgatives, lavage, etc., in the hope of tiding over to the interval stage, is too often misplaced and responsible for a mortality.

Tuberculosis among Indians.—Dr. D. A. Sanford, an Episcopal minister, who has labored for many years among the Cheyenne and Arapahoe Indians, says that tuberculosis, in some form or other, is rapidly increasing among them. He states that 35 years ago, when these Indians led the ordinary out-of-door life common to such people, tuberculosis was unknown among them, while at the present time nearly half of the deaths is shown to be some form of tuberculosis. These tribes are both decreasing in number. According to the official report from 1892 to 1902, the Cheyennes decreased 10% and the Arapahoes 17%, and it is alleged that tuberculosis is largely responsible for this increased mortality.

ON THE INFLUENCE OF POTASSIUM SODIUM TARTRATE UPON THE CIRCULATION.

BY

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of New York City.

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A considerable difference of opinion exists in regard to the effect of potassium salts on the circulation when injected intravenously, and also in reference to the influence from a clinical standpoint of the potassium ion on the human subject, when salts of potassium are ingested.

Thus Traube,[1] and also Aubert and Dehn,[2] working with various inorganic salts of potassium, found, with one exception, that these salts in small doses caused a rise in

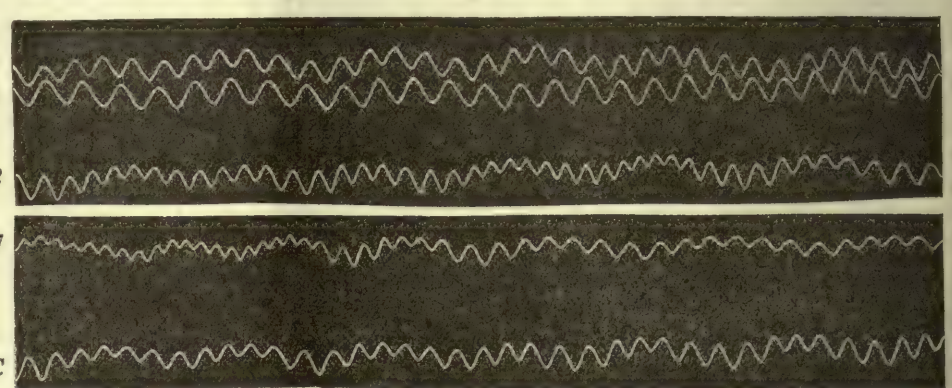


Fig. 1.

pressure with a slowing of the heart's pulsations. By small doses a quantity corresponding to less than 3 mg. of potassium per kilogram weight of the dog was meant.

Wood[3] on the other hand, doubts whether this rise in pressure is a direct phenomenon caused by potassium, and maintains that our knowledge is very imperfect as regards the action of small doses of potassium salts upon the circulation, and that further investigation is necessary.

In regard to the effect of moderate doses, as well as large doses, investigators agree that these progressively lower arterial pressure, eventually causing the death of the animal, death being due as shown by Dogiel[4] to the direct action of the potassium ion on muscle fiber, the sensitive muscular structure of the heart being affected first.

Binz,[5] as well as Ringer and Hare,[6] is of the opinion that potassium salts exert a depressing influence on vital processes in the human subject, whereas Bunge states that even in comparatively large quantities, potassium salts are innocuous when taken by the mouth. In regard to the influence of sodium, Aubert and Dehn[7] found in their experiments on animals that sodium was either without effect or caused a fall in blood-pressure. The following experiments were carried on with salts of tartaric acid.

According to Cushny[8] tartrates and citrates injected directly into the blood seem to act as heart poisons, but he adds that very little is known in regard to this point.

In the experimental work the blood-pressure was determined by means of a mercurial manometer. The apparatus employed was the kymograph of Ludwig.

Dogs were used in making the tests, and in each case the animal received an injection of .02 gm. (⅓ gr.) morphin sulfate, ½ to ¾ hour before beginning the administration of ether. The cannula was invariably introduced into the carotid artery, and the salt was injected into one of the crural veins.

Experiment 1.—Weight of dog, 5.5 kgs. There were injected into the vein 5 cc. of a solution containing 2% of crystallized potassium sodium tartrate ($C_4H_4O_6KNa + 4H_2O$) which corresponds to 13.5 mg. per kilo of the salt ($C_4H_4O_6KNa$). An

almost immediate fall in pressure occurred. The tracing marked A (Fig. 1) was taken 2 minutes after the injection. In this figure N is the normal tracing and X the abscissa. (In order to economize space the abscissæ have been omitted from the various cuts.) The actual fall in pressure amounted to 12 mm. of mercury. With the fall in pressure the heart-beat became slower. During a definite period of time pulsations were reduced 21%, with a gradual return toward normal, and as the

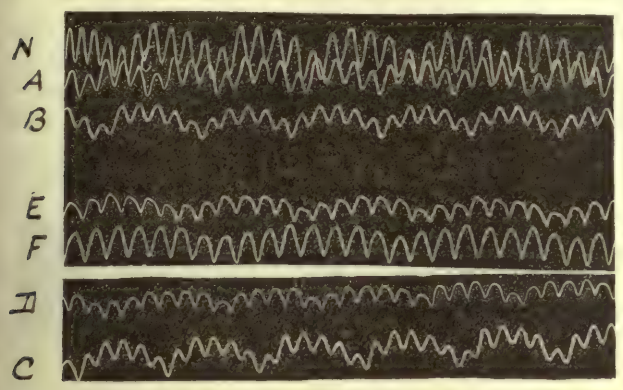


Fig. 2.

tracing was continued it showed that there also was a tendency toward a return to normal pressure.

The tracing marked B (Fig. 1) was taken 2 minutes later than A, and shows a marked irregularity in the heart's action. The pulsations had become more rapid than normally, the increase amounting to 37% in the same definite period of time. A second injection of 4 cc. of a solution containing 5% of crystallized potassium sodium tartrate was then made. This corresponds to 27.0 mg. per kilo of the salt. The tracing marked C

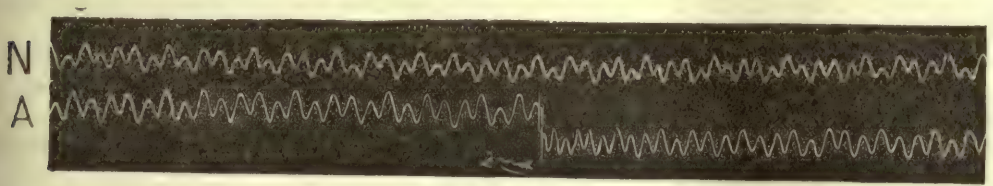


Fig. 3.

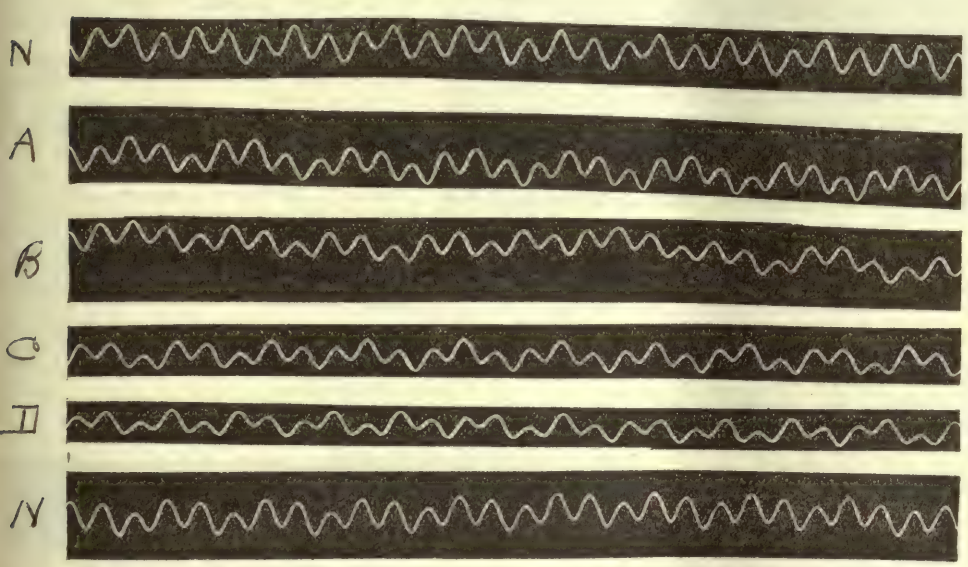


Fig. 4.

(Fig. 1) was taken 2 minutes after this injection, and shows the irregularity of the heart's action.

A third injection was then given, using the same quantity of solution as above, and the tracing marked D, taken 10 minutes later. The irregularity and rapidity of the pulsations as compared to the normal activity of the heart can be observed.

Experiment 2.—Weight of dog, 8.4 kgs. There were injected into the vein 4 cc. of a solution containing 10% crystallized potassium sodium tartrate, corresponding to 35.5 mg. of the salt per kilo. This caused an almost immediate fall in pressure. Three minutes later tracing marked A (Fig. 2) was taken. In this figure N is the normal tracing and X the abscissa.

The actual fall in pressure at this time amounted to 18.2 mm. of mercury, and the tracing shows that the injection had no influence on the rate of the heart's pulsations, and indicates the weakened heart's action. As the tracing was continued, there was a tendency toward a return to normal pressure.

A second injection of 4 cc. of the same strength of solution as above was then given. Again a fall in pressure occurred, and the heart-beat became slightly accelerated. Tracing marked B (Fig. 2) was taken 3 minutes after the second injection, and shows the character of the beats.

A third injection of 4 cc. of the same solution was then given. Here again at moment of injection a drop in pressure occurred. Tracing marked C (Fig. 2) was taken after this injection.

A fourth injection of the same quantity of salt was then given and tracings marked D, E, and F were taken at intervals of about 30 seconds. The heart beat had now become slower than normal and diastole was prolonged, as seen especially in tracing E.

These several repeated injections had depressed the heart to such an extent that a slight additional amount of the salt was sufficient to paralyze the heart completely and cause the death of the animal. Reference will be made to this later.

Experiment 3.—Weight of dog 10.0 kgs. There were injected into the vein 4 cc. of a 10% solution of crystallized potassium sodium tartrate corresponding to 29.8 mg. per kilo of the salt. This caused an immediate drop in pressure. In Fig. 3 tracing marked N is the normal tracing, which in this case shows irregularity in the heart's action. Tracing marked A was taken 5 minutes after the injection. The pulsations had become somewhat slower and the same irregularity is noticeable.

At point marked 2nd a second injection of 4 cc. of the same solution as the foregoing was given. A further drop in pressure occurred almost immediately. Tracing marked B (Fig. 3) was taken 3 minutes later. Pulsations became slightly more frequent than after the first injection.

A third injection of 4 cc. of the same strength of solution was then made. A further fall in pressure occurred at once with recovery, however, in about 2 minutes. Owing to some trouble with the apparatus at this point, no further tracings could be taken.

Experiment 4.—Weight of dog 9.1 kgs. An injection was made of 4 cc. of a 2% solution of the crystallized salt, which corresponds to 6.6 mg. per kilo of potassium sodium tartrate, and a tracing taken while the drum was permitted to revolve without interruption. Almost immediately after injection a fall in pressure occurred. The pulse-rate remained almost constant, the most noticeable effect of the injection being the gradually increasing irregularity in the oscillations and the weakness of the heart's action.

In Fig. 4, N is the normal tracing. A was taken 20 seconds after the injection, and B, C, and D were taken at intervals of 20 seconds later.

Experiment 5.—Weight of dog 10.0 kgs. An injection was given of 4 cc. of a 10% solution, corresponding to 29.8 mg. per kilo of potassium sodium tartrate. This caused a marked irregularity and an increase in the pulsations of the heart (Fig. 5, tracing A).

This tracing was taken 2 minutes after the injection. In 5 minutes after the injection irregularity of heart's action was not marked, but the rapid pulsations continued, as seen in tracing marked B. Tracing marked C was taken 5 minutes later than B after again injecting 40 mg. per kilo of the salt. In this tracing the number of heart-beats per unit of time is almost identical with the number in the normal tracing and the marked weakening of the heart as compared with the normal activity can be observed.

Experiment 6.—Weight of dog 12.5 kgs. There were injected into the vein 6 cc. of a 25% solution corresponding to 89.4 mg. per kilo, of potassium sodium tartrate. Almost at once a marked fall in pressure occurred. For a few seconds the heart hesitated

and then a final fall in pressure occurred, with cessation of pulsations. Respirations, however, continued for several moments longer.

In order to determine now whether the fall in pressure, the irregularity in rhythm, the change in rate, and the paralysis of the heart, which was observed in the foregoing experiments, could be ascribed to the potassium ion alone or whether the sodium ion or the tartaric acid

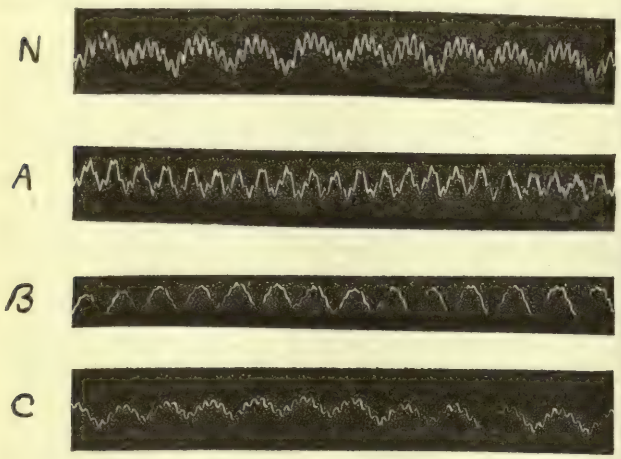


Fig. 5.

radicle exerted a noxious influence, a series of experiments were made with neutral sodium tartrate ($C_4H_4O_6Na_2$).

These tests proved that the sodium tartrate had a distinctly stimulating effect on the heart, an effect as

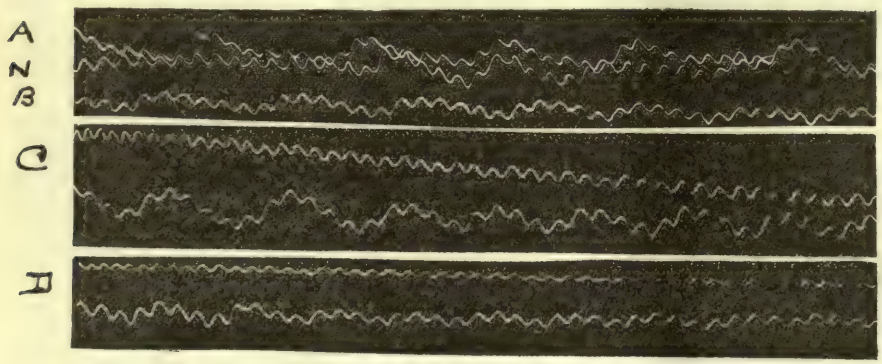


Fig. 6.

marked as the depressing influence of the potassium sodium tartrate.

Experiment 7.—Weight of dog 5.7 kgs. There were injected into the vein 4 cc. of a 10% solution of neutral sodium tartrate, which corresponds to 70.2 mg. per kilo of the salt. A momentary fall in pressure occurred, followed in a few seconds by a rise. Tracing marked A (Fig. 6) was taken 10 seconds after the injection.

The rise in pressure amounted to 4 mm. of mercury. At the same time there was a slight acceleration in the pulse-rate. Gradually there was a return toward normal pressure.

There were then injected 4 cc. of a 10% solution of crystallized potassium sodium tartrate, corresponding to 52.3 mg. per kilo of the salt. A fall in pressure below normal occurred at once, with a decrease in pulse-rate. The fall in pressure amounted to 11.2 mm. of mercury. Another injection of 4 cc. of a 5% solution of crystallized potassium sodium tartrate was then given. This caused a further fall in pressure, making a total fall of 13 0 mm. of mercury below normal. The pulse-rate was practically the same as the normal pulse-rate. Tracing marked B (Fig. 6) was taken within 10 seconds after this injection.

An injection of 4 cc. of a 10% solution of neutral sodium tartrate was then given again. A momentary fall in pressure followed by a rapid rise occurred, with a marked tendency to return to the original pressure. Tracings marked C (Fig. 6) indicate this rise. A similar result was obtained by a further injection of 4 cc. of a 10% solution of sodium tartrate. Again a rapid rise in pressure occurred, but the tendency to return to the original pressure was now less pronounced. (See tracings marked D, Fig. 6.)

Experiment 8.—Weight of dog 8.4 kgs. An injection was made of 4 cc. of a 10% solution of neutral sodium tartrate, corresponding to 47.6 mg. per kilo of the salt. This was followed almost immediately by a rise in pressure amounting to 15.6 mm. of mercury, with a slight increase in pulse-rate. Five minutes later the stimulating effect of the injection was still marked. Then 8 cc. of a 15% solution of crystallized potassium sodium tartrate were injected. This corresponds to 106.4 mg. per kilo of the salt. A fall in pressure occurred amounting to 14.2 mm. of mercury, calculated from the normal pressure, the total fall being greater than this. A comparatively quick recovery occurred. At the same time the heart's action became more rapid.

In Fig. 7, tracing marked N is the normal tracing. A was taken 30 seconds after injecting the sodium tartrate. B was

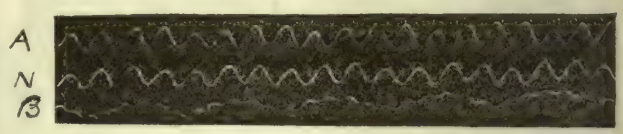


Fig. 7.

taken immediately after injecting the potassium sodium tartrate. Then 4 cc. of the 15% solution of potassium sodium tartrate was injected without any immediate effect. This was followed by another injection of 4 cc. of the same solution. A few seconds later the heart ceased beating, although respirations continued for a short time longer.

Attempts were made to learn whether the depressive action of the potassium ion could be as readily observed, if instead of injecting the salt directly into the circulation it was permitted to be absorbed through the alimentary tract of the animal.

Two experiments were made with this end in view:

In one case in an animal weighing 12.5 kgs., 22 cc. of a 25% solution of potassium sodium tartrate were injected through the rectum, as high up into the lower bowel as possible. Trouble was experienced in introducing the fluid owing probably to an impaction of fecal matter. After 25 minutes a tracing was taken which showed practically no change compared to the normal tracing.

In a second case, in a dog weighing 8.4 kgs., after the heart of the animal had been depressed by repeated intravenous injections of potassium sodium tartrate (see Experiment 2) 50 cc. of a 10% solution of potassium sodium tartrate were introduced by a high rectal injection. Within a minute a marked additional drop in pressure occurred, the heart-beats became exceedingly slow, and within another minute the animal had expired, the heart having stopped in diastole. Tracing Fig. 8 was taken about 1½ minutes after the introduction of the salt per rectum.

No definite conclusion can be drawn from these two experiments, but the positive result obtained in the last experiment is at least suggestive.

The question of the effect of the potassium ion when

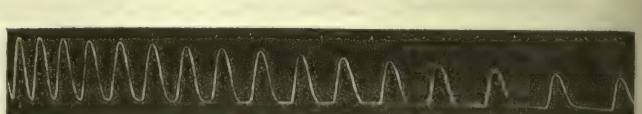


Fig. 8.

introduced into the circulation by absorption will be reported on in a later paper.

To summarize the results obtained these experiments prove:

1. That potassium sodium tartrate when introduced intravenously in small amounts (up to 30.0 mg. per kilogram of dog) causes a fall in blood-pressure and an irregularity in the rhythm of the heart's action. This

may be accompanied by a primary slowing of the heart's beat, but the dominant action is to cause an increase in the rate of pulsation. The fall in pressure occurs even though the quantity of salt injected contains less than 3 mg. of potassium per kilogram of dog. If the amount introduced is larger and yet insufficient to cause complete paralysis of the heart, the fall in blood-pressure is accompanied by a slowing of the heart. If the salt is introduced in comparatively large quantities, the animal quickly expires, owing to paralysis of the heart, respirations continuing for some moments after the heart has been arrested in diastole.

2. That neutral sodium tartrate when introduced intravenously in moderate amounts (about 50 mg. per kilogram) stimulates the heart, causing a rise in blood-pressure with a slight increase in heart-rate.

3. That the depressing factor is the potassium ion, and that the sodium and tartaric acid ions are without influence in causing the depression.

I desire to acknowledge my indebtedness to Dr. William Salant, and also to Mr. G. W. Cottis, for their assistance in carrying out this investigation.

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THE INTERRELATIONS OF DIABETES AND OTHER CONSTITUTIONAL STATES.

BY

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The great error dominating conceptions of disease in its clinical and therapeutic aspects is that which fixes upon one symptom as a test of disease rather than the symptom-complex. Perhaps in no disorder is this better illustrated than in diabetes. The predominant symptom of diabetes is glycosuria. This condition may not only be an expression of many diseases, but may at times be merely the result of an excess of carbohydrates. Glycosuria occurs in all the neuroses not as a complication but as an expression of metabolic instability resultant on nerve disturbance. The vasomotor nerves of the liver have their origin in the floor of the fourth ventricle and pass through the cervical and upper dorsal regions of the spinal cord, the rami communicating opposite the fourth or fifth dorsal vertebra to join the sympathetic and enter the liver as the hepatic plexus. Injury of the fibers at their origin in the fourth ventricle, in any part of the spinal cord, or of the sympathetic itself is followed by glycosuria. Conditions such as express themselves in glycosuria and allied suboxidations readily occur in the neuroses. For instance, hysteria may be complicated with glycosuria of transitory or prolonged duration, which may eventuate in coma of an apparently diabetic type, but which disappears with the disappearance of the most marked hysteric symptoms. The great neuroses, paretic dementia, locomotor ataxia, and epilepsy occasionally display temporary glycosuria.

With delirium tremens and the confusional insanities temporary glycosuria may at times be coincident. Every one of the febrile conditions may be glycosuric. Conditions in which respiration is involved are often accompanied by glycosuria. Pregnancy, being a condition in which there is over-nutrition, faulty elimination and resultant imperfect oxidation, is often attended by glycosuria. The patient may be glycosuric only during pregnancies. Glycosuria may come on during pregnancy and be present only during the period, or it may occur immediately after pregnancy is terminated and may recur some time after, remain for a long time, and then suddenly disappear.

Gout and insanity of the autotoxic types frequently alternate with glycosuria. During the mental disease, or during the gout, glycosuria is absent; its reappearance is an indication of recovery, while its disappearance is the precursor of an attack. What is true of glycosuria is likewise true of the states allied to it, acetonuria, etc. Everyone of the acids from sugar metamorphosis may be formed in the urine in depressed mental states, and after the apoplectiform and epileptiform attacks of paretic dementia, the crises of locomotor ataxia and the status epilepticus.

Independent of the symptom-complex diabetes, there are states, of which glycosuria is a symptom consequent on suboxidation, which they produce that are temporary in character and have not the permanency characteristic of the disease diabetes. Many neuroses, however, are an expression of the suboxidation states constituting diabetes. In all of these glycosuria may disappear just previous to cerebral complications. The disappearance of glycosuria very often is an expression of imperfect elimination through renal insufficiency rather than a disappearance of sugar from the system. In a severe state of hyperglycemia in a diabetic, sugar may be absent from the urine, yet the patient may pass into acidosis with resultant coma. Neurotic manifestations of diabetes comprise lesions of motility, of general and special sensibility of the intelligence, and of trophic functions. Among the most marked motor manifestations are fatigue, lassitude, and deprivation of muscular energy which does not depend upon muscular weakness pure and simple, but may strongly suggest a medullary affection. It is not always well marked. It may suddenly disappear, to return as suddenly, and may first occur in consequence of a slight traumatism. Apoplexy with complete coma may occur, followed by hemiplegia, recovery from which may be rapid and complete.

Sometimes there is sudden loss of consciousness, which disappears so rapidly without resulting paralysis as to suggest epileptic states. Vertigo sometimes occurs alone and sometimes precedes paralysis. Paralytic symptoms occur without loss of consciousness. Hemiplegia may be attended by very bizarre phenomena. In one case a left hemiplegia was accompanied by monoplegia of the right eyelids. Monoplegias are very frequent in diabetes, and are apt to be extremely transitory. Paralysis of the right arm and face, ptosis, pupil dilation, strabismus, and hesitancy in speech may follow glycosuria. While speech disorders are generally due to buccal dryness, yet true aphasia occurs, and aphonia from laryngeal paralysis is far from exceptional.

Imperfect muscular coordination in the dark attended by formication in the extremities may lead to a suspicion of locomotor ataxia. Cramps of the akinesis algida type frequently attack the lower extremities, especially at night, and play an important part in the production of insomnia, being often the first indication of cerebral circulatory disturbance, and may be precursors of serious complications. Convulsions may be associated with coma, or may accompany paralytic phenomena. At times they present the monoplegic epileptic character and alternate with transitory paralysis of the same side.

Diabetic vertigo often assumes an epileptoid character. Asthma, exopthalmic goiter, and other respiratory neuroses are not infrequently temporary expressions of diabetes. Underneath them and many diabetic neurotic states, lies the "air hunger" of the tissues, which is simply their expression of the need of oxygenation.

Diabetic absorption of oxygen, as Voit, Peltenhoffer, and others have shown, is much less than the normal, and decreases until toward the end of the disease, when it is hardly half the normal quantity. The carbon

dioxid exhaled is reduced proportionally. This oxygen decrease, Sajous ascribes with much plausibility to suprarenal disorder. Increased suprarenal activity, as Croftan has shown, can so augment the ferment-producing power of the pancreas as greatly to increase sugar elimination through increase of the amylolytic ferment supplied by the pancreas, which converts the liver glycogen into dextrose. Herein lies the explanation of neuropathic glycosuria and of diabetic neuropathics. In neuropathic glycosuria the cause is primarily in the cerebrospinal system. In diabetic neuropathics the hepatopancreatic splenic adrenal system is first affected, and the resulting toxic products because of disordered oxidation cause the nervous symptoms.

The most serious symptom of diabetes is coma. Under this title are included many conditions varying from mental depression through apathy to stuporous states with or without absorption and with agonizing dreams or delusions. One of the most distressing conditions of partial stupor is that attended by psychic nausea, in which the nausea conception is intense, but unattended by gastric disorder. Cases of this type often occur just after seeming coma, the patient refusing treatment because he believes his stomach is too squeamish to retain medicine. As the mental state is attended with loss of determining will power, like most depressional, stuporous, and apathetic conditions, this psychic nausea and its effects are readily overcome by large doses of a saturated solution of sodium bicarbonate. Tablets should not be given, as they irritate the throat, thereby increasing the strength of the psychic nausea. Nearly all the mental features of coma and its concomitants just mentioned, center, like all depressional mental states attended by acidosis, around the medulla oblongata. This is the origin of the cardiac, pulmonary, and gastric instabilities which occasion such alarming features in the comatose and apathetic conditions of diabetes. The starting point of these disorders is central, not local. The cerebral centers of the lungs, heart, and stomach being disturbed, local excitomotor ganglions have undue play, and become exhausted. Resultant local disorders underlie the diabetic endocarditis, diabetic myocarditis, diabetic bronchitis, diabetic gastritis, etc. The skin and tissues in the diabetic are, moreover, predisposed to microbic attack.

The etiologic importance of coma, comatose, and stuporous states, lies first in the condition of the patient at the time of the attack, and depends largely upon the condition of the emunctories. The kidneys may be in good condition themselves, yet because the intestines are acting imperfectly with fecal resorption, the kidneys are overworked, which is shown by the presence of an excess of indican and urea in the urine. Secondary to this occurs renal insufficiency with resultant acidosis from retention of imperfectly oxidized sugar products.

Given the muscular changes which produce B. hydroxybutyric acid, acidosis production with decreased elimination is intensified. The skin in diabetes is very deficient in eliminative power which adds to the work of the kidneys. The lungs cannot quite supply the oxygen needed ordinarily, not to speak of the increased amount required in diabetes, much less can they oxidize products unphysiologically eliminated through them. The lack of oxygen increases depression and apathy, which in turn cause decrease of cardiac and lung energy. The liver has its nerve energy lessened, while it has increased poison-destroying work thrown upon it. The diabetic, when elimination is lessened is in a very serious and unstable condition which the slightest shock will jar into coma and epileptiform or apoplectiform convulsion. The premonition of these is generally given by lessening polyuria, suppression of urine, or by the finding first of cylindroid, then of hyaline or granular casts. Albuminuria *per se* often means merely the urethral or prostatic irritations of diabetes. These, as predisposing to microbic attack, are of serious augury, but not as to coma, etc. The sudden disappearance of sugar or sugar-acids with increased casts is ominous of renal insufficiency and renal toxemic cerebral states.

Another phase of etiologic moment is the condition of the arteries, whether due to diabetes, age, lues, rheumatism, gout, the exanthems or mental or school overstrain. Apoplectic extravasations during the coma, epileptiform or apoplectiform states may here lead to permanent mental or nervous disorder.

Hereditary defect may show itself in the etiologic moment peculiarly at the periods of stress: 2 to 6, 12 to 14, 14 to 25, 45 to 55, and from 60 on, when the system is undergoing evolution or involution.

There are many eye, ear, nose, throat, gum, skin, and genitourinary phenomena found in diabetes which bear some relationship to the disease. They are an outcome of diabetes and modify it, or are modified by it; finally, they may be mere coincidences.

The common erroneous assumption that morbid states occurring during a diathetic state are due to it, is peculiarly accepted as to diabetes. While there is more truth than usual in the assumption as regards diabetes, still treatment of these local conditions will often do as much to relieve diabetes as treatment of diabetes does to relieve them.

The socalled "reflex" disorders exert their influence on the general constitution through continuous nerve irritation producing nerve waste and resultant autotoxemias, which, as has been shown, are a peculiarly dangerous addition to the general burden of the diabetic. Treatment of all these conditions is required not only from the local standpoint, but likewise from the constitutional. This is especially true of the eyes, ears, skin, gums, and genitourinary system, disorders of which are certain to add to the atmosphere of worry, resultant nerve waste, and consequent toxic strain on the emunctories, of which the diabetic is the victim.

Clinical study demonstrates beyond doubt that most cases of diabetes are at first expressions of nutritional and assimilational instability. In consequence of the overstrain on the liver, adrenals, pancreas, spleen, and kidneys, what at first might be merely biochemic changes in these organs, become permanent pathologic lesions, continuing constantly in excessive sugar manufacture without proper oxidation or elimination.

CARDIAC COMPLICATIONS OF INFLUENZA.

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In the number and protean character of its complications and sequels, influenza probably ranks second only to typhoid fever. The frequency of formidable and dangerous pulmonary complications during the febrile stage of the disease is well known, but it is not so well recognized that the heart often suffers serious damage from which it may never entirely recover. Only a want of recognition of the cardiac dangers in influenza can account for the common practice of administering such large and frequently repeated doses of the coaltar preparation; drugs, which in a man over 40 are probably as dangerous in influenza as in pneumonia. Months after an attack of grip a man still complains of unusual weakness, he is short-winded and sweats on slight exertion, his pulse-rate is easily disturbed, perhaps irregular; physical examination reveals no sign of organic disease, yet he is suffering from cardiac weakness, either functional, in which case complete recovery is probable, or due to muscular change with a loss of cardiac power that may be permanent. The cardiac complications of influenza may be divided into: (1) Organic changes in the heart; and (2) functional disturbances of the heart.

ORGANIC CHANGES IN THE HEART.

1. *Pericarditis.*—Grippal pericarditis is either primary, when it complicates influenza without other organs being affected, or secondary, when it occurs in association with pneumonia or pleurisy, the latter form being much more frequent than the former. Like other forms of pericarditis it occurs with or without effusion; the former may be serofibrinous or purulent, or even hemorrhagic; the latter dry.

The anatomic changes are similar to those found in other forms of the disease. It must be noted, however, that in grippal pericarditis purulent effusion is relatively frequent, and that myocarditis is commonly associated with it. De Batz, of Bordeaux, in 8 autopsies, found the liquid purulent in four, hemorrhagic in one. Bacteriologic examination of the pus revealed the specific diplobacillus of influenza; also the pneumococcus, streptococcus, and staphylococcus in the various cases.

Clinically the cases may be divided into 2 classes: (1) Those in which the symptoms are similar to those presented by pericarditis due to other causes; and (2) the latent type, in which no symptoms of the disease are manifest. Menetoier affirms that pericarditis is so frequent in the pneumonia of influenza that it is probably often latent, and refers to 6 cases, in all of which there was found at the autopsy abundant evidence of pericarditis, without a single symptom during life. Grippal pericarditis is especially grave owing to its frequent complication with myocrarditis and its tendency to take on a purulent character.

2. *Endocarditis.*—Endocarditis is generally considered to be a rare complication of influenza. From the number of cases reported, and the frequency with which an attack of grip is the sole antecedent history in cases of recently discovered valvular lesion, one is inclined to think that influenza is by no means so rare a cause of this condition. Grippal endocarditis is rarely primary. In the great majority of cases, as pointed out by De Batz, it is secondary (15 out of 20 cases), and in nearly every instance secondary to pneumonia. Anatomicly, the changes are similar to those met in endocarditis of rheumatic origin; the left side of the heart is most frequently involved, and the mitral more often than the aortic valves. The infective agents are the pneumococcus, streptococcus, staphylococcus, and the bacillus of Pfeiffer. Austin, of Baltimore, has reported three cases of endocarditis in which microorganisms with the characteristics of the influenza bacillus were found on the cardiac valves.

The endocarditis of influenza may be, (1) simple, or ulcerative or malignant. Simple endocarditis may present the usual symptoms of endocarditis from other causes, and may be easily recognized. On the other hand the subjective symptoms may be so slight and unobtrusive that the diagnosis is very difficult.

A man of 35, was examined by his physician for insurance in October, 1901, and his heart found normal. In January, 1902, he passed through a severe attack of influenza, characterized by chills at the onset, high fever (104° to 105°), severe headache and general pains, rapid pulse, harassing cough, and marked prostration. On the fourth day his temperature was 99°, and he was comparatively comfortable, but was extremely weak. His pulse was 110, quick and irritable, and unduly accelerated by sitting up in bed. The first sound of the heart was impure and muffled. Two days later a soft blowing systolic murmur was heard at the apex. His recovery was slow, and characterized by exhaustion with dyspnea on exertion and rapid pulse. Today he is apparently well, but his heart apex beat is in the fifth space, just inside the mammary line; the cardiac dulness is increased; there is a blowing systolic murmur at the apex, transmitted to the axilla, and the pulmonary second sound is sharply accentuated.

Huchard states that primary, simple, grippal endocarditis may give rise to permanent valvular lesions, but he thinks this is rare. He considers that cases of simple endocarditis occur generally in persons subject to old valvular disease. It is well known that the victims of chronic valvular disease bear grip badly, and in many the recovery is incomplete. A chronic, latent heart lesion may be so influenced by influenza as to produce most serious symptoms, and thus for the first time reveal itself during or after the grippal attack.

Malignant endocarditis as a complication of influenza has been observed by many writers. It occurred in 4 of De Batz's 20 cases, and a most interesting example has been recorded by Tickell. In this case symptoms first appeared during convalescence from an attack of influenza, the patient dying after an illness of 2 months. The autopsy showed extensive vegetations on both the aortic and mitral cusps with superficial ulceration dilation of the cavities, infarcts in the spleen, and puriform emboli in the kidneys, several branches of the mesenteric artery and both brachials. During his illness the patient suffered from sudden abdominal pain with vomiting and diarrhea, which Tickell explains as the result of the mesenteric emboli.

Ulcerative endocarditis has been observed during the course of the influenzal attack, but most frequently in the convalescing period. According to Huchard it is usually secondary to pneumonia, and most generally comes on about the defervescence of the latter, or within a few days after.

3. *Myocardial Changes.*—Degenerative changes in the myocardium are common in the acute infections generally, and especially so in diphtheria, influenza, and pneumonia. The influenza bacillus elaborates a poison, which, when circulating in the blood in sufficient quantities, acts as a powerful heart depressant and modifier of the nutrition of the heart muscle. By the constant irritation of this poison there will develop gradually degenerative changes in the muscle fibers, impairing their vitality and tonicity (myocarditis or degeneration, with usually dilation). So long as these patients remain in bed they may suffer from their influenzal symptoms only, and the complete rest which they maintain enables the heart to perform its work. But when convalescence has set in, and the patient rises and begins to take exercise, the heart muscle, already enfeebled by the action of the influenzal poison, is no longer able under the increased stress to perform its functions without unusual and often conscious effort. The myocardial lesion is now manifested by palpitation, dyspnea, extreme weakness, and perhaps collapse and syncope. Hence, though the heart may be attacked during the acute stage of the influenzal attack, it is not until a later period that the cardiac complication becomes manifest.

Huchard thinks that the fatal cases of myocarditis are usually due to obliterating endarteritis of the coronary vessels, and records such a case. Hay reports an interesting case of fatty degeneration in a young man of 23, who died of cardiac failure 3 months after the onset of an attack of influenza. At the autopsy the heart showed both macroscopically and microscopically the characteristic fatty changes in its muscle fibers, with healthy coronary vessels. Such an example of true fatty degeneration in so young a subject must be very rare. On the other hand I believe that toxic myocardial degenerations in varying degrees of intensity are quite common in influenza, and are responsible for the profound cardiac weakness shown by so many patients, and followed in some instances by fatal syncope. On January 10, 1903, a vigorous, healthy lady of 38 was seized with chilliness, headache, general pains and nausea. Her temperature at no time exceeded 101°; her pulse ranged from 84 to 100, was soft, regular and compressible. Her case appeared to be a mild attack of influenza. On the third day her temperature was normal and pulse 80, but weak. She attempted to rise to the floor and fainted. Her pulse fell to 50, was regular, but very weak, and continued slow and feeble for several days. Twice during the following week she fainted on attempting to assume the sitting posture in bed. The cardiac dulness during this time extended to the left of the nipple, the impulse was feeble and diffuse, and the first sound short and weak;

there was no murmur. She has apparently completely recovered after a very prolonged convalescence. Another case seen during the same epidemic, in a physician of 54, ran almost the same course, with the exception that his pulse was rapid and irritable, and for 3 months was irregular and unduly accelerated by ordinary exertion. These cases I take to be examples of toxic degeneration of the myocardium, with resulting loss of vitality and acute dilation. Fortunately, both individuals were healthy before the attack, and neither had taken any coaltar preparation. Had they been debilitated before this illness, or had depressant drugs been administered, I fear the result might have been fatal in both cases. The case of the lady shows that there is no definite relation between the intensity of the influenzal attack as shown by the temperature and general symptoms, and the development or severity of the cardiac lesion.

The disastrous results which we have all seen follow the cardiac complications of this disease should enjoin us to exercise the same watchful care over the heart in influenza, in mild as well as severe cases, as we do in rheumatism or pneumonia. Sternal oppression or pain, palpitation, dyspnea or sense of faintness, especially with pallor, should call for a careful examination of the heart.

A small, feeble pulse, usually slow or rapid, with a short feeble first sound and later weakening of the second, a weak cardiac impulse with increased deep dulness should make us think of beginning myocarditis with dilation. Muffling of the heart sounds with the later appearance of a blowing murmur announces a commencing endocarditis. A rare combination is cardiac thrombosis, of which 2 cases are reported by De Batz, and one by Reynolds. In all 3 cases a large, firm, pale clot was found firmly adherent in the right auricle, extending from the auricular appendix into the pulmonary artery. All 3 patients died suddenly with extreme dyspnea; one in addition complained of intense sternal pain. Huchard has shown that in patients suffering from angina pectoris the attacks are aggravated by influenza, indeed, the influenza may precipitate the first seizure.

FUNCTIONAL DISTURBANCES.

The changes already referred to are, no doubt, the result of the direct action of the influenza bacillus, or its toxins, on the endocardium, or on the muscular fibers of the heart wall. In the second class of heart affections in influenza are included those functional disturbances in the cardiac rhythm so commonly met after this disease, in patients who present absolutely no signs of organic disease in the heart. These symptoms must be attributed to the action of the influenzal poison on the cardiac nervous mechanism, either on the vagus or the cardiac ganglia. Indeed, Sansom holds that in nearly all the heart disturbances of influenza the primary cause is an affection of the nervous apparatus. Probably in no other acute infectious disease are nervous phenomena so prominent as in influenza, and of these nervous disturbances none is more important or alarming than those of the circulatory system.

Among the functional cardiac disturbances following influenza are palpitation, irregularity, bradycardia, and tachycardia. Postgrippal palpitation is very common, and may for months be so severe on the slightest exertion as to render the patient totally unfit for business. Irregular action of the heart may occur during the influenzal attack, or may not appear until convalescence is established. The irregularity may be constant or appear only on exertion. In some cases there is an intermission which may occur at regular intervals. Bradycardia and tachycardia are not infrequent complications of influenza, the latter being more common than the former in my experience. Both may occur in young and robust individuals without the slightest sign of endocarditis or myocarditis, and may appear during the attack or not for a considerable period afterward. Unduly rapid action on exertion may continue for weeks after convalescence has set in. According to Sansom, symptoms of Graves' disease are often associated with the tachycardia.

Of the 4 disturbances mentioned bradycardia is the most dangerous, as it sometimes leads to fatal syncope. Oppenheimer observed that it is usually accompanied by a subnormal temperature, though there is no necessary relation between the range of the temperature and the pulse-rate. Prostration is very marked, and according to the same writer is inversely proportionate to the frequency of the heart beats.

Fortunately the functional disturbances usually disappear in a few weeks, but in some instances they have persisted even for years. To differentiate a functional from an organic case may be extremely difficult. Well-marked examples of myocarditis have been discovered at autopsy on cases which presented no symptoms or even signs of cardiac disease during life.

As a rule, however, in addition to significant subjective symptoms, physical examination will show a feeble, diffuse cardiac impulse with a weak first sound, and in many cases an increased area of dulness. The strength and character of the cardiac impulse and sounds are of much greater importance than the presence of a murmur or an irregularity in rhythm.

Personal observation and study of the subject lead me to the conclusion that influenza is a potent, and by no means an uncommon factor in the production of serious cardiac disease. Degenerative changes in the heart wall are probably present to some extent in many cases of influenza, and in debilitated subjects, or in men past middle life whose cardiac muscles may be badly nourished, owing to changes in the coronary arteries, these changes may rapidly lead to grave symptoms.

Though I do not propose to take up the treatment of influenza I feel that in consideration of the dangers of cardiac complications, the routine treatment of the disease with such drugs as phenacetin, acetanilid, etc., cannot be too strongly condemned. Certainly in patients past middle life the use of such drugs must be considered dangerous.

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SPECIAL AIDS TO THE EARLY RECOGNITION OF PULMONARY TUBERCULOSIS.[1]

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Although it can hardly be considered within the scope of this subject to enter into a discussion of the ordinary diagnostic aids, it is entirely proper, I believe, at least to mention the unduly high value placed upon percussion and auscultation findings, as well as upon the presence of certain symptoms—cough, expectoration, and shortness of breath upon exertion—in making a diagnosis of pulmonary tuberculosis in its incipiency.

The results of percussion are frequently very deceptive, even when practised by the most skilled. There are so many factors that may give rise to a falsified note that their complete elimination is almost an impossibility. When all errors in technic are excluded, the change in the percussion note, although associated with auscultatory phenomena, is frequently insufficient in early tuberculosis to make a diagnosis. On the other

[1] Revised from paper read before the Buncombe County Medical Society, November 18, 1901.

hand, it certainly would be a great mistake to refrain from making a diagnosis just because no recognizable change in the percussion note can be elicited; in the true incipiency there is no appreciable difference in the percussion resonance. The recent eruption of tubercles in a limited area causes no difference in the quality or pitch of the note; it requires the later infiltration of the tissues—a truly pneumonic condition—or a correspondingly dense eruption of tubercles, to bring about any such change. The diagnosis must be made before these changes take place, otherwise the disease has not been recognized in its ideal incipiency. At this period the auscultatory phenomena, while of more value than those of percussion, as they are more fruitful of hints and suspicions, are usually insufficient for a positive diagnosis and inadequate to warrant urgently advising immediate cessation of business and a change of climate. It requires a large number of miliary tubercles to produce even a recognizable change in the respiratory murmur.

The presence of subcrepitant rales, interrupted inspiration, increased vocal fremitus, diminished resonance, etc., as justification for a diagnosis of tuberculosis is all well enough; but who is going to make a positive diagnosis in a patient with a slightly harsh inspiration and slightly prolonged expiration, especially when there is a history of a pneumonia or previous bronchitis? Yet at one period in the development of the disease in every case these are not only all the phenomena that were present, but more than were present.

Unfortunately, cough, expectoration, and shortness of breath on exertion have become so intimately associated with our conception of pulmonary tuberculosis that in the great majority of instances examination of the chest is not thought of unless one or more of these symptoms is present.

He who waits for percussion change, cough, expectoration, etc., before making a diagnosis of pulmonary tuberculosis must needs bear the responsibility of many shortened lives, and will rarely have the satisfaction of having recognized the disease in its easily curable stage. The disease must be apprehended before the essentially pneumonic aspect of tuberculosis has given rise to these changes and symptoms if the most satisfactory results are to be obtained.

Before passing to the socalled special aids, it will not be amiss to give a moment to that very important aid, the temperature curve. The importance of temperature variations as an early evidence of tuberculous disease does not seem to be fully appreciated, and never will be so long as deductions are made from an occasional use of the thermometer during the professional visit. If assistance is to be received from this source the temperature must be taken at frequent, regular intervals (preferably every 2 hours) from 8 a.m. to 10 p.m. The patient should be given a good thermometer, instructed carefully in its use and directed to take his temperature and record it every 2 hours. With such a record for two or more consecutive days we have material from which deductions may be made. Variations that are to be looked upon as suspicious are: (1) A slight midday or evening rise; (2) subnormal morning temperature with normal or slightly elevated evening temperature; (3) rise as result of slight exertion, fatigue, or mental excitement; and (4) variation due to change in external temperature conditions.

We have long been told that external temperature conditions do not affect the bodily temperature; that this is not true in tuberculous individuals is a matter of common experience, so far as mouth observations are concerned. I have been able to demonstrate that the rectal temperature also varies with the external temperature, although not to the same degree. Dr. Bluhm has recorded a series of observations in which she has made every effort to exclude sources of error; she concludes that these variations do take place; that they are not proportionate to the external temperature conditions and are different at different times in the same individual. That these variations do not stand in relation to the state of nutrition appears certain. Whatever the explanation, I believe that all such cases should be considered especially suspicious. In my own experience I have found that nearly all such cases are tuberculous. We must bear in mind that Penzoldt demonstrated that slight exertion sometimes caused a rise in temperature in anemic and fat individuals who were not suffering from tuberculosis.

Examination Chart.—The first of the special aids—the ascultation chart—might be designated as a special aid to an ordinary diagnostic aid. I do not refer to the ordinary systematic notes and records that every progressive medical man should keep, but to a special chart of what is heard in every area of the chest wall. The necessity of expressing in writing, that which one hears, presupposes a very close attention. If what is heard in each area is committed to writing while the tubes of the stethoscope are in the ears—while listening to the respiratory murmur—a much more accurate idea of the murmurs heard will be obtained, not only for the present needs, but for future reference and for comparison with subsequent examinations. The importance of the chart as a matter of record is not what I wish to emphasize, but as an essential aid to recognizing variations from and modifications of the normal respiratory murmur. He who has not tried to make out such a chart will be surprised how frequently he will detect a slightly harsh or rough inspiration, a prolonged expiration, or perhaps a few crepitations at the extreme end of the inspiratory excursion, which he would have otherwise overlooked. It is not so much bad hearing or ignorance as lack of concentration that is responsible for errors in chest diagnosis—the chart will convert many an indifferent observer into a clever physical diagnostician. I am convinced that the systematic use of the chart will be the source of suspicions which will lead to many definite diagnoses that would not have otherwise been made.

Sputum Examinations.—The recognition of tuberculosis in the closed stage is of the highest importance. That tubercle bacilli cannot gain access to any expectorated mucus before an open surface exists is self-evident to any one familiar with the histologic structure of the tubercle. It is a wellknown fact that even when an open surface exists, oftentimes so few bacilli are present that they escape the most careful microscopic examination. A catarrhal secretion from some part of the respiratory mucous membrane may be the source of expectoration when no open surface exists, or may so dilute the discharge from a small open surface that the examined portion, or even the sediment from a centrifuged sputum, may contain no bacilli, or so few that they escape detection. Furthermore, the tinctorial properties of the bacilli present may vary so much from the usual that they do not readily take the stain, or are decolorized by the acid. The presence of tubercle bacilli in the sputum is, of course, conclusive evidence of an open tuberculosis. On the other hand, their absence or the failure to find them is of *no significance* and *never* warrants a negative diagnosis.

Why, I do not know, but it is a matter of common experience with those who make many examinations of sputum for different physicians, that not infrequently is the return of a report of "no T. B.," the only foundation for the patient's being informed that he has no tuberculosis, although he may have every physical evidence of the disease. It is for this reason that I have often made the statement that the microscope is one of our greatest barriers to the early recognition of tuberculous disease of the lungs—and, I might add, sometimes to the recognition of the later stages of the disease.

Numerous instances are on record in which the most careful examination of the sputum has been fruitless and yet the inoculation of animals with the same sputum has been followed by the development of the disease. I

will briefly relate two personal experiences which illustrate the valuelessness of negative sputum findings.

1. Early stage case; physical signs slight; expectoration slightly mucopurulent and small in quantity. Repeated sputum examinations negative, even after a resort to the centrifuge. A guineapig received 0.5 cc. of the sputum subcutaneously; when killed 4 weeks later extensive tuberculous lesions were found in the lungs and other organs.

2. An old cavernous case; profuse expectoration. Repeated examinations of centrifuged specimens obtained at intervals over a period of 4 months were negative. A guineapig was given a subcutaneous injection of the sputum and killed 6 weeks later; numerous tubercles containing typical tubercle bacilli were found; examination of pus of abscess at seat of injection was negative.

Blood Examinations.—Up to the present time we have received no aid from this source. There is an enormous statistic material which goes to show that the blood in early tuberculosis approximates surprisingly the normal in hemoglobin percentage, in number of red and white cells, and in the proportion of the various white elements. The "degenerative" changes observed in the leukocytes are not in any particular characteristic of this disease.

Serum Test.—The great success and value of the Widal test in typhoid fever has stimulated numerous investigators to work out a similar diagnostic test for tuberculosis. The results of the investigations of Arloing and Courmont would seem to justify the belief that, with a proper technic and with properly grown cultures of the necessary virulency, we have a highly reliable diagnostic resource in this test. The great difficulty in securing the proper culture material (the *sine qua non*) would almost entirely exclude the use of the test as a routine measure—certainly for those without ample laboratory facilities and experience. On the other hand, the efforts to control the work of Arloing and Courmont have resulted in a mass of such conflicting reports, as to both the significance and the reliability of the agglutination, that, whatever the final decision, the test has been demonstrated to be impracticable for the present at least. The modifications of Koch and of Behring, while they remove many difficulties of the test by simplifying the technic and culture material, have not given sufficiently uniform results to establish its diagnostic reliability or to determine its significance.

It is most sincerely hoped that further investigation will give us a reliable and practical serum test, for thereby a reliable means for the early diagnosis of tuberculosis would be placed in the hands of those who, either through timidity or through prejudice, do not make use of the tuberculin test.

Tuberculin Test.—Since the reaction which followed the optimism of the first tuberculin era, it has been difficult to convince the profession that anything but harm can come of either therapeutic or diagnostic use of tuberculin. It is not my purpose to defend at length the safety of the use of tuberculin as a diagnostic resource, suffice it to say that a long laboratory experience with the experimental use of culture products of the tubercle bacillus and a not small clinical experience in the institution treatment of tuberculosis have convinced me that the careful and proper administration of tuberculin as a diagnostic resource is justified and is practically free from danger in those cases in which a positive diagnosis cannot be established by other means. In those cases in which the physical signs and temperature record are sufficient to make a positive diagnosis, or in which the sputum examination reveals the presence of the tubercle bacillus, the use of the tuberculin test must be condemned as a *meddlesome procedure*. On the other hand, when a suspicion of a pulmonary tuberculosis exists, and the diagnosis cannot be established by other means, I believe the interest of the patient demands that the test be made. As a rule, the more difficult the establishing of the diagnosis, the more easily curable the case. A delay of 1 or 2 months till more characteristic sounds have developed or till a closed tuberculosis has passed into the open stage when tubercle bacilli are found in the expectoration, means that the individual must certainly make a harder fight for his life, and many times that every chance of recovery has been lost.

It is a matter of the greatest importance to determine the reliability of this test, but more particularly of the positive reaction, and fortunately it is upon this point that we have the most data. In passing upon the reliability of positive and negative reactions, because of the opportunity of subsequently making autopsies in every case, we are almost wholly dependent upon veterinary statistics. However, in making use of such statistics we must discriminate most carefully as to the trustworthiness and capabilities of the reporters. A. Fraenkel (Badenweiler)[1] has collected 8,000 cases from four reliable sources, in which the test results and autopsy findings were at variance in from 2% to 3%. As autopsies were made, it is safe to presume that these were cases in which positive reactions were not confirmed by postmortem findings. This small error, he says, is accounted for by the veterinarians by the ease with which small foci may escape detection in the section of such large animals. Fraenkel believes that the failure to make careful examination of the lymphatic ganglia will explain at least a part of such discrepancies. Improper dosage and lack of persistence will explain the failure to react in a large number of those cases in which a negative result is obtained in animals otherwise proved to be tuberculous.

Numerous instances are on record in which syphilitics have responded to the test, also occasional cases of actinomycosis. In nearly all such cases opportunity to prove the presence or absence of tuberculous disease does not present itself. Occasionally such cases have come to the autopsy-table, and in some instances have been shown to be tuberculous—for example, Friedrich,[2] of Leipsic, in 1896, reported a case of actinomycosis of the liver which reacted; the patient died shortly after, and at the autopsy a tuberculous focus was found in the lung.

The reliability of the positive reaction in the human being is supported and would seem to be well established by the reports of many competent observers. Of 2,508 cases tested in the Institute for Infectious Diseases in Berlin, 371 that were already known to be tuberculous all reacted. Of the 2,137 remaining cases, diagnosis in all doubtful, 54% reacted; 423 of the doubtful cases were considered suspicious because of apical catarrh, pleuritis or glandular enlargements, of these 364 reacted. Beck [3] concluded from a careful study of this material that in every reacting case a tuberculous focus is contained somewhere in the body.

On the other hand, the literature contains instances in which many supposedly nontuberculous cases have reacted to large doses, some to moderate doses, and a very few to small doses. Because of the absence of an opportunity to make postmortem examinations in more than a few of these cases there must needs always remain a doubt as to the certainty of the freedom of the vast majority from hidden foci of tuberculous disease, but that some of these cases were nontuberculous must be considered as beyond the pale of reasonable doubt. These very exceptional cases may be divided into 3 classes: 1. Patients hopelessly ill of other diseases; the organism being already overloaded with disease products, the least increment to the burden of the failing vital forces assumed a very serious role. 2. Persons in good health in whom only very large doses produced positive reaction phenomena. 3. Very exceptional healthy individuals who were affected by small doses. As tuberculin is never used in the first class, and as large doses are not resorted to for diagnostic purposes, the first two classes have no bearing upon the question, while the third class, which is by far the smallest, falls into relative insignificance, especially when we consider the enormous disproportion between the number of such cases and the multitude of tubercu-

lous cases that would escape recognition in the easily curable stage without resort to the tuberculin test. Further, experience shows that the very early cases are especially sensitive to extremely small doses. There is no other instance in medicine in which we have such an immense fund of evidence in support of the reliability of a diagnostic measure.

I have so frequently been asked just how a tuberculin test is made and how a positive reaction is recognized, that I believe no apology is necessary for a presentation of every detail of the test, from a consideration of the agent to the recognition of what constitutes a positive reaction. The deeply-rooted prejudice in the American profession against tuberculin as a therapeutic agent has been responsible, I believe, in a large part, for the indifferent or antagonistic consideration of tuberculin diagnosis in our texts and treatises on general medicine.

Tuberculin is a preparation that is very stable when preserved undiluted in glass-stoppered bottles and protected from the light. I was recently able to demonstrate this from the use of a sample procured in Berlin in 1891; 2 mg. were sufficient to produce a marked general reaction. The same cannot be said of the dilutions; a 10% solution preserved in dark bottles will keep without appreciable loss of toxicity for 6 months, while a 1% solution must be discarded a month after dilution.

Samples of tuberculin vary very much in toxicity on account of the varying degrees of virulency of different cultures and generations of the tubercle bacilli from which it is made. Since we are in possession of no accurate method, chemic or physiologic, of standardizing this product, no reliance can be placed in the uniformity of any socalled standardized tuberculin, unless perchance the samples come from the same stock bottle.

The stability of the preparation, the small amount required for one or even a hundred tests, and the insignificant cost make it therefore highly advisable that sufficient be procured at one time to last over a long period in order that experience gained from each test may be at the service of the physician for each subsequent use of the agent. Another personal experience will illustrate this point: An apparently healthy member of a family in which there was a victim of tuberculosis became apprehensive lest she had become infected and sought an examination; physical signs and temperature record were not sufficient to make either a positive or a negative diagnosis; tuberculin test was advised; 5 mg. of one sample of tuberculin produced neither a recognizable local nor a fever reaction; after the usual interval a second injection was given, but of another sample which was known to be especially toxic, of this only 2.5 mg. were given; a marked general reaction was produced. This shows that the second preparation, though prepared in exactly the same manner, was at least twice as toxic as the first, and is sufficient to demonstrate that the advice given is not without foundation and should be followed until sufficient experience with the test has been gained to give the physician confidence and the power to discriminate.

The unfamiliarity of the American profession in general with the metric system of weights and measures and the chances for error in computation, make it advisable for the physician to supply himself with a small graduate of 5 cc. or 10 cc. capacity, graduated in tenths, for making dilutions, also with a hypodermic syringe of exactly 1 cc. capacity, graduated in tenths. However, I will append for the benefit of those who are so situated that they cannot secure the measure and hypodermic syringe, a list of formulas for dilutions and equivalents in the prevailing system.

I would like to emphasize, as an additional guard against error the necessity of carefully labeling the dilutions. Although familiar with the metric system which I use almost to the exclusion of the ordinary system, I make it a practice to write plainly on the label the dilution, the equivalent and the date after which the preparation must not be used.

For the diluent either 1 : 200 carbolic acid solution or 1 : 400 orthokresol or trikresol solution should be used. The convenient dilutions are as follow:

Tuberculin * 0.5
Carbolic solution (1 : 200) q.s.ad. 5.0

Thoroughly mix in graduate and transfer to amber-colored, glass-stoppered bottle. Label: 10% tuberculin solution. 1 cc. = 100 milligrams. Do not use after . . . . (six months after date of dilution).

10% Tuberculin solution † 0.5
Carbolic solution (1 : 200) q.s.ad. 5.0

Thoroughly mix in graduate and transfer to amber-colored, glass-stoppered bottle. Label: 1% tuberculin solution. 1 cc. = 10 milligrams. Do not use after . . . . (one month after date of dilution).

After having been unable to clear up the diagnosis of a suspicious tuberculosis by every other means at our command, give the patient a good clinical thermometer and temperature chart and direct him to take his temperature regularly every 2 hours from 8 a.m. to 10 p.m., also to record the temperature immediately after taking. After he has a complete record for four consecutive days, let him present himself at the office for final examination. At this time the physician should make a complete auscultation chart of what is heard in every area of the chest wall; if an area is normal mark it so; if the respiratory murmur is harsh, rough, bronchial, if the expiration is prolonged, if rales or crepitations are present, indicate on the chart exactly the position and nature of the abnormal sounds. A careful percussion chart should also be made, although percussion gives us very little assistance in recognition of local reactions.

We now have an accurate record of the temperature and of the auscultatory and percussion phenomena and are ready for the administration of the first dose.

How much shall we give? As we are presumably inexperienced and making our first test, I propose to take an ultraconservative position at the expense of convenience and time of both physician and patient. A wider experience and a thereby gained confidence will direct when and where larger doses may be used at the risk of occasional inconvenience and possibly of alarm of the patient from high temperature and miserable feeling. We will, therefore, begin with an initial dose of half a milligram, which very rarely produces a stormy general reaction—frequently not even a recognizable local reaction. If only a local reaction is produced it will give the inexperienced operator the opportunity of becoming personally acquainted with a local reaction.

Again to avoid error, it is better to measure out in the small graduate 0.5 cc. of the 1% tuberculin solution and add enough sterilized water (or 1 : 200 carbolic solution) to make 5 cc. and thoroughly mix. One cubic centimeter of this represents exactly 1 milligram of tuberculin.‡ One-half cubic centimeter, therefore, should be injected deep into the loose subcutaneous tissue, preferably, of the abdominal wall, buttock, intrascapular or infraclavicular region. The patient continues to keep a 2-hour temperature record. As the reaction usually takes place between 8 and 16 hours after the administration, the injection should be so timed that the patient may be conveniently seen about 12 hours later. At this time the temperature record should be inspected and the chest be carefully gone over and any changes noted on the percussion and auscultation charts made at the time of the injection. If a marked local reaction has occurred

* Tuberculin . . . . . 15 minims
Carbolic solution (1 : 200) q.s.ad . . . . . 150 minims
Thoroughly mix, etc. Label: 10% tuberculin solution. 16 minims = 100 milligrams. Do not use after . . . . . (six months after date of dilution).

† 10% Tuberculin solution . . . . . 15 minims
Carbolic solution (1 : 200) q.s.ad . . . . . 150 minims
Thoroughly mix, etc. Label: 1% tuberculin solution. 16 minims = 10 milligrams. Do not use after . . . . . (one month after date of dilution).

‡ To 15 minims 1% tuberculin solution add enough sterilized water (or 1 : 200 carbolic solution) to make 150 minims; 16 minims of this will represent 1 milligram.

the experienced physician may make a positive assertion and without hesitation advise the patient accordingly; if a general reaction has resulted the patient will more fully realize the accuracy of the diagnosis and will be in a very receptive mood for the physician's advice for the future.

If neither a local nor a general reaction has resulted, the patient should be cautioned to continue keeping the temperature record and to give notice of any rise during the next 24 hours (delayed reactions occasionally appear as late as 36 hours).

In the complete absence of either a recognizable local or general reaction a second injection of 1 mg. should be given 3 to 7 days later. If 1 mg. is followed by no reaction a third injection of 2 mg. is given after another period of 3 to 7 days. Two milligrams failing to produce a reaction a fourth injection of 5 mg. is given after another similar interval. If this produces no reaction a fifth injection of 7 mg. to 10 mg. may be given. Not having produced a reaction with these doses, we may rest reasonably assured that the patient is free from tuberculosis—at least we have done everything within our power to exclude tuberculosis. However, if the physical signs are marked it is wise to caution the patient and have him return to the office from time to time for examination when any change in the physical signs can be noted by comparison with the original chart, for it must be remembered that the reliability of the positive reaction has been well established but not the infallibilty of the negative reaction.

We must now outline what constitutes a reaction, local or general. A local and general reaction differ only in degree; a local reaction may be produced without a general reaction, but a general reaction is always accompanied by the local manifestation. The phenomena of a local reaction may be concisely stated as those of engorgement and swelling, frequently all the five cardinal symptoms of inflammation. If the tuberculous area is where it may be seen, the local manifestations are readily recognized, especially in lesions of the skin and the mucous membrane of the larynx; if in an accessible lymph ganglion the swelling and tenderness are unmistakable. In the lung the local reaction may usually be recognized by a careful comparison of the auscultatory phenomena before and after the injection. For the detection of a slight reaction a chart is almost an absolute necessity. Only the experienced should depend upon the local reaction for a positive diagnosis of pulmonary tuberculosis. Here as in other localities the changes are purely those the result of engorgement with the associated swelling and exudation. To guide the unaccustomed ear the usual changes produced are noted below. In the first column are murmurs heard before administration, in the second the changes *usually* produced by local reaction:

Slightly harsh or harsh inspiration.	Harshness increased, may contain a rough element with interruptions and a prolongation of expiration. Sometimes moisture sounds.
Slightly rough or rough inspiration.	Roughness increased, with sense of moisture or actual crepitations. Interrupted inspiration and prolonged expiration common.
Harsh inspiration and expiration.	Harshness of inspiration increased, with a prolongation of expiration which frequently takes on a rough character. Inspiratory moist sounds common.
Clear inspiration with prolonged expiration.	Inspiration takes on harsh or rough character while expiration is still more prolonged.
Crepitations and rales.	Crepitations become more abundant, especially at the end of inspiration, or may become more moist. Rales are either uninfluenced or become abundant, depending upon their primary cause.
Bronchial.	More intensely tubular, usually a harsher inspiration and expiration.
Nearly clear.	More distinctly harsh or rough.
Clear (contiguous to abnormal areas).	May become slightly or distinctly harsh or rough.
Interrupted respiration may appear in any area without apparent relation to previous murmurs.	

Areas where there has been a pure vesicular murmur may show signs of engorgement. In these localities, the probabilities are that a few isolated tubercles were present, but not in sufficient numbers to make an appreciable difference in the murmur until engorged by the tuberculin.

The presence of diminished resonance over reacting areas will depend upon the size, location, and depth of areas, and upon the severity of the reaction.

We can dispose of the general reaction very quickly, and briefly, because the subjective and objective symptoms are so marked that there is little chance for error. Eight to 16, rarely as late as 24 to 36 hours after the injection the temperature begins to rise. Coincident with or just preceding the rise the patient experiences a feeling of malaise, of chilliness with aching in back, extremities and head—in short, he feels "grippy." This usually increases till the temperature reaches a maximum and subsides with the temperature. A rise of 1° must be looked upon as a positive result; a rise of .5° if associated with the general symptoms and a local manifestation is an almost equally positive reaction.

At this point I must call attention to an anomalous reaction which sometimes occurs and which I have observed only 3 times. Instead of rising, the temperature falls to subnormal, a feeling of general weariness and depression is present, aching not marked or absent, local reaction more or less marked. I am unable to give an explanation of this phenomenon. In the cases observed by myself the local manifestation was undoubted. Whether a second and larger dose would have produced a rise of temperature or not, I am unable to say, for being positive of my diagnosis I did not feel justified in sacrificing my patients to satisfy my curiosity upon this point. I do not believe that these cases should in any way be confused with the unfortunate case reported by Heron at the British Congress on Tuberculosis.

The reacting patient should be ordered to bed at once and required to remain there till the temperature has returned to the normal and all the subjective symptoms have disappeared. Sodium salicylate, antipyrin, and phenacetin are reputed to cut short the reaction and give the patient relief from the more distressing symptoms. On the rare occasions when I have resorted to medication, I have usually prescribed gram doses of sodium salicylate, each dose to be followed by a large glass of water.

In making use of the tuberculin test some of the things to be remembered are:

1. The dose of tuberculin which does not produce a reaction temporarily increases the tolerance of the patient to subsequent doses; therefore, the smaller the increase in dose, the greater must be the interval between doses.

2. The smaller the dose required to produce a reaction, the more reliable the diagnosis; therefore, the importance of searching for the local manifestations after all doses over 5 mg.

3. The salicylates, probably all the chemical antipyretics and some other drugs interfere with the test; therefore, all drugging must be omitted during the test.

CONCLUSIONS.

1. The full appreciation of the value of percussion and auscultation findings and of symptoms is dependent upon the recognition of the limitations of the significance of their presence or absence.

2. Deductions from temperature may be made from only frequent, regular observations.

3. An auscultation chart made while listening to the sounds is an essential aid to accuracy of both observation and record.

4. Negative sputum findings are never sufficient ground for negative diagnosis.

5. Blood examinations throw no light upon diagnosis of tuberculosis in its incipiency, except in excluding those conditions in which the blood findings are characteristic.

6. Significance and reliability of agglutination are not yet fully established.

7. The tuberculin test is a safe, reliable, practical, and justifiable diagnostic resource in those cases in which its use is indicated; that is, in those cases of suspected early tuberculosis in which all other means have failed to clear up the diagnosis. When a positive diagnosis can be made without the tuberculin test, its use is to be condemned as a meddlesome procedure.

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ANTISTREPTOCOCCIC SERUM IN THE TREATMENT OF INFLAMMATORY RHEUMATISM AND OTHER DISEASES, WITH REPORT OF CASES.

BY

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Antistreptococcic serum has been on the market for some years, but has been indifferently used by the medical profession, apparently from a lack of confidence as to its therapeutic value and a fear that it might do harm. This can probably be accounted for because it is often given as a last resort in malignant streptococcic infections when it is too late to obtain results and from a natural indisposition to use new, untried remedies which are a radical deviation from recognized treatments.

That antistreptococcic serum has therapeutic value is well illustrated by the following cases:

Mr. J. W., aged 40, had repeated attacks of erysipelas on the following dates: May, 1899; April, 1900; March, 1901; November, 1901, and February, 1902. Each of the first three attacks lasted one week and the fourth two. It will be observed that the later attacks were at shorter intervals and more severe than the first. His last attack had about one day's start when he called at my office showing a well-marked erysipelatous inflammation near the nose. From previous experience he knew what the trouble was, and having heard of my using antistreptococcic serum in these cases, he desired me to use it on him. I gave him one dose and asked him to return the next day. When he returned the inflammation was much reduced, but I deemed it advisable to give him another dose. One day later he was entirely cured, and has had no attack since.

Mr. H. J. H., aged 42, is a man of good habits and previous good health. When I first saw him he complained of headache and some pain over the right temple which in a few days developed into what appeared to be a mild attack of erysipelas. By the fourth day the swelling had extended partly over the forehead and right side of the face, but still appeared to be of a mild character, showing but little redness over the swollen parts. By the sixth day, however, its mild character had disappeared. Both eyes were swollen shut, temperature 103°, with delirium setting in. Palliative remedies were no longer considered sufficient and antistreptococcic serum was resorted to, 20 cc. being given as the initial dose. The serum treatment was continued during the seventh day, giving three doses of 10 cc. at eight-hour intervals, while the swelling was still spreading and the temperature going up to 103.5°. By the eighth day his head and face were enormously swollen, and he was continually delirious, with a temperature of 104°. Dr. E. M. Houghton was called in consultation, and through his suggestion mercurial soap was applied as a local antiseptic. The serum treatment was continued. On the ninth day the temperature was 103.6°, and the swelling over the right side of the face was receding. Dr. M. Stewart was called in consultation. After considering the case we decided to continue the serum treatment. From the eighth day the temperature kept going down until the twelfth day, when it became normal and remained there until he recovered. By the fourteenth day I noticed a peculiar baggy feeling under the scalp, which proved to be due to a sloughing of the tissues between the scalp and periosteum. The sixteenth day I made four incisions through the scalp, and found that it was entirely loose and undermined with pus. I inoculated a number of culture-tubes with this pus, which afterward was found to contain streptococci of a very virulent nature. From the sixth to the twelfth day I gave the patient 13 doses of serum. The remarkable thing in this case is that there was no rise of temperature and that the pulse was normal after the twelfth day, while the scalp was undermined with a virulent pus. This condition can only be explained on the ground that the serum treatment immunized the system against further infection. His hair all came out, and for a time I feared that it would not return, but a new crop appeared in due time. After some weeks' treatment his scalp healed and he made a complete recovery.

These two cases are interesting. The first one shows the advantages of giving the serum early, and the second what can be accomplished, when enough is given, in severe cases during the later stages. I have given antistreptococcic serum in all the stages of erysipelas always with good results in proportion to the time and amount given, however obtaining the best results when given early.

Mrs. B., aged 22, apparently a strong, well-developed woman, complained of headache, fever and having had two chills. She feared she would have a miscarriage. I found her temperature 105°, pulse 140. She was restless and had an anxious expression. Upon examination I found a gestation of about two months, a bloody purulent discharge from the womb with no opening of the os and no labor pains. I felt some apprehension, and upon my suggestion Dr. Ernest Tappey was called in consultation. After considering the various phases of the case we decided to give her 20 cc. of antistreptococcic serum and to have a bacteriologic examination made of the uterine discharge. She told me she had another chill a few hours after I gave her the serum, followed, she thought, by a higher fever than the previous one.

The report next day from the Detroit Clinical Laboratory showed diplococci in great numbers; no streptococci, no gonococci. The next morning she felt much better, temperature and pulse normal, but the uterine condition remained the same. In the afternoon of the same day she had a temperature of 102°, when I gave her one more dose of serum. The next day her pulse and temperature were normal and remained so. The bloody, purulent discharge from the womb, however, continued for six days with the os closed, when the labor pains started, and in due time the entire uterine contents were voluntarily discharged. On the fourth day I had a second bacteriologic examination made of the discharge, the report of which confirmed the finding of the first examination. No other medicine was given.

Why was the antistreptococcic serum given in this case before the nature of the infection was determined? To give the patient the benefit of the doubt. Antistreptococcic serum is most efficient when given early, and to have waited in this case for a microscopic examination would have been dangerous. Beside giving the patient the benefit of the doubt we also got a clear indication that antistreptococcic serum is beneficial in diplococcic infection.

Modern investigators are agreed that acute inflammatory rheumatism is caused by a germ, but whether it is a diplococcus, streptococcus, or diplostreptococcus has not been definitely determined. A comprehensive review as to what has been done in this direction may be obtained in the March number of *Progressive Medicine* for 1901, 1902, and 1903, and a paper by Dr. George W. Webster in the *Journal of the American Medical Association* for January 10, 1903.

Practical experience in the treatment of acute inflammatory rheumatism extending over a period of twenty years has taught me that the usual remedies are often unsatisfactory, if not useless. When the results of bacteriologic investigations satisfied me that the streptococcus or diplococcus is the cause of inflammatory rheumatism I determined to use antistreptococcic serum in my next case, knowing from previous experience that it could do no harm if it did no good. I will report the following cases in the order the patients came to me, giving dates to indicate the length of time they have been under observation.

Case I.—Mr. L. M., aged 28, having no previous history of rheumatism, consulted me on March 19, 1902, concerning a severe pain in his right knee. He attributed the origin of the pain to a bump he received a few days previously. Examination revealed no signs of an external injury, but the knee was considerably swollen, with effusion under the patella. It was tender to the touch, and would not permit motion of the joint.

It pained him so much that he had no sleep the previous night. Temperature and pulse were normal. I prescribed morphin .02 gram (⅓ grain) every three hours until relief was obtained. The next day his knee was more swollen and painful, the morphin having given no relief. Temperature was 99° and patient was perspiring freely. Morphin was continued at shorter intervals. The third day his knee was badly swollen, extending half way up the thigh and down the leg with effusion into the joint. The pain was intense, he having had no sleep regardless of the morphin he had taken. Meantime a pain in the left hip developed so he could not move his leg. Temperature was 101°. There was no longer any doubt about the case being inflammatory rheumatism. I gave him 20 cc. of antistreptococcic serum, and continued the morphin. On the fourth day the temperature was normal, the pain in the left hip gone, and pain in the knee less. A dose of 10 cc. of serum was given. On the fifth day the swelling was much less, pain less, he slept some and had no fever; the dose of 10 cc. of serum was repeated. On the sixth day he was improving nicely, swelling was still going down and pain much less. He had a good night's sleep, and had taken but three doses of morphin, but no serum had been given this day. On the seventh day his knee was hurt while changing the bed. He had considerable pain, took two doses of morphin, but no serum was given. Eighth day, temperature 99.4° He had considerable pain in the knee, and pain shoots down to the foot, had no morphin, but was given 10 cc. of serum. Ninth day, temperature normal, took .02 gram (⅓ grain) of morphin, there was some pain in the foot and knee. I gave him 10 cc. of serum in the morning and 10 cc. in the evening. Tenth day, pain less, one dose of morphin during the night, swelling about all gone except some effusion under the patella; 10 cc. of serum was given in the morning and 10 cc. in the evening. Eleventh day, pain nearly all gone, 10 cc. of serum was given. Twelfth day, knee getting along nicely, but an urticaria appeared all over the body. I prescribed sodium salicylate .65 gram (10 grains) every two hours. The urticaria disappeared in a few days. On the sixteenth day he thought the knee was not quite well, and fearing a relapse I gave him two more doses of serum and discontinued the salicylates. After this the pain all disappeared. One week later he was able to work, and has had no trouble since. During the sixth and seventh days the serum was discontinued. Meantime, the knee got worse, but improved again after the serum was pushed. I think if the serum had not been discontinued during these two days he would have made a more rapid recovery.

CASE II.—Mr. J. H. H., aged 30, on May 15, 1903, called me to treat him for rheumatism. He had been confined to the house most of the time from the previous December, having done but two weeks' work during that time. He claims he had been bothered with boils and after they healed he got rheumatism. His stomach was in a bad condition, his medicine nauseated him and he had no appetite. When I first saw him his right elbow and wrist were badly swollen and the left elbow was just starting to give him pain. His temperature was 102°, there were no heart complications. I gave him 20 cc. of antistreptococcic serum for the first dose. The next day his condition was not improved, left elbow and wrist were also swollen and painful, and he had no sleep. Temperature was 102.4°, and 10 cc. of serum was given. Third day, pain less, had some sleep, temperature 101°, 10 cc. of serum was given. Fourth day, not much change over previous day. Temperature 100.6°, 10 cc. of serum was given. Seventh day, he could use both arms, not much pain left, rested well, a slight urticaria appearing, 10 cc. of serum was given. On the eighth day a marked urticaria was present; the itching kept him awake all night, the rheumatic pains had nearly all gone. I prescribed sodium salicylate, .65 gram (10 grains), every two hours, to be taken while the urticaria was present. By the thirteenth day he still had some pain in his elbows and wrists. I gave him a dose of serum on the thirteenth and fifteenth days, after which all symptoms of rheumatism rapidly disappeared. He has had no trouble since.

CASE III.—Mr. G. H., aged 44, is very corpulent, weighing 220 pounds, but has no rheumatic history. He consulted me on July 21, 1902, for a pain in the right elbow and shoulder. There was some swelling and considerable pain when moving the joints. Temperature was 100°. A diagnosis was made of rheumatism of a mild character. I prescribed sodium salicylate, .65 gram (10 grains), every two hours. Next day he felt worse, pain in both elbows and shoulders worse, temperature 102.2°, pulse 120 and weak, capillary circulation sluggish. Joints were swollen considerably. Fearing to push the salicylate further on account of a weak heart action, I persuaded him to let me use antistreptococcic serum. First dose was 20 cc. The next day his pulse was 105, and much improved in character. Temperature 101°. The arm was about the same as on the previous days and some pain was felt in the left knee. A dose of 10 cc. of serum was now given. Fourth day. Pain in arms less and swelling gone down, and he had some sleep. Some swelling in the left knee but not very much pain. Temperature normal and pulse 90 with good volume, 10 cc. of serum was given. Fifth day. Temperature and pulse normal. He can use arms with but little pain, left knee is still swollen and painful when moved. He had a good night's sleep. Sixth day. Left knee is better, swelling rapidly disappearing and pain almost gone, 10 cc. of serum was given. By the ninth day he walked about in the house and a week later worked at his trade. He has had no trouble since.

On August 17, 1903, after having had good health for a year I was called again to treat him for rheumatism. It yielded promptly after five days' treatment with antistreptococcic serum giving five doses of 10 cc. each.

CASE IV.—Mrs. F., aged 40, on July 28, 1902, called at my office complaining of pain in the right elbow and not having been able to sleep on account of it the previous night. I found the elbow-joint considerably swollen and tender. Her temperature was 100°. I prescribed sodium salicylate, .65 gram (10 grains), every two hours, and requested her to let me know how she was getting along. Two days later, July 30, her husband asked me to call at the house, stating she was much worse. She then had both her arms in slings, with elbows and wrists inflamed. She had had no rest the previous night, temperature 102.2°. I gave her 20 cc. of antistreptococcic serum and discontinued the salicylate. The fourth day, July 31, her temperature was normal, pain less, and she had had some sleep. I gave her 10 cc. of serum. Fifth day, August 1, I left the city and asked Dr. A. G. Heugli to see her. He reported that she was doing so well that he considered it unnecessary to give her any more serum. I saw her about two months later, when she told me that her rheumatism rapidly disappeared after the serum treatment. I saw her husband a few days ago, who told me that she has had no return of her rheumatism.

CASE V.—Mr. H. L., aged 27, on November 26, 1902, called me to treat him for rheumatism. He had had an attack of acute inflammatory rheumatism two years before, from which he made a nice recovery with the salicylate treatment. This time he complained of pain in the left shoulder, but there was no fever. I prescribed sodium salicylate, .65 gram (10 grains), every two hours. Three days later he felt much better and at the end of a week was quite well. He worked a few days, and on December 11 called me again for the same trouble. Upon inquiry I found that he was a great meat-eater, eating about 2½ pounds daily. As he was a small man, I felt that this would certainly produce a gouty condition, and treated him accordingly, vegetarian diet, lithia, and cabinet baths. Instead of getting better he got worse. On December 14 I found that he had no sleep the night before, left shoulder, elbow and wrist swollen and painful, and pain in right shoulder. Temperature 101°, the first indication of fever. I changed from the lithia and cabinet bath treatments to the antistreptococcic serum, giving 20 cc. I gave him one dose a day for five more days. The third day after the serum treatment his left knee and ankle were considerably swollen, and his temperature went up to 102°. On December 19, when I gave him the last dose, he was sitting up and claimed to feel quite well. He soon went to work after that, and has had no trouble since. This case shows that an infection may produce the trouble when the diet has been such that uric acid may reasonably be considered the cause.

CASE VI.—On December 16, 1902, I was called to treat H. L., aged 5, for pain in the legs. There was no swelling, but the right leg pained him when it was moved. Temperature 100.2°. The next day the pain in the leg was worse, and temperature was 101°, no swelling. Third day, pain in both legs, principally localized in hips, right leg worse than left, apparently no swelling, will not permit legs to be moved while lying in bed on account of pain. Temperature 102.4°. Fourth day, pain in legs worse and left arm painful. Will not change position in bed, and when changed expresses evidences of great pain, anxious expression, temperature 104°. I gave 10 cc. antistreptococcic serum, and discontinued previous treatment. Fifth day, temperature 100°, pain in legs and arm less, looked bright and felt much better. Gave 10 cc. of serum. Sixth day, was sitting up in bed playing cards when I saw him. Temperature normal, was able to walk, showing little evidence of pain. He has had no trouble since. While there was no marked swelling of the joints in this case, yet the pain in the joints was so severe when moved that the rheumatic nature of the case becomes apparent.

CASE VII.—On January 7, 1903, I was called to see M. G., aged 8. She had fever and complained of pain in her legs. Temperature, 102.4°. I prescribed phenacetin. The next day the pain in her legs was localized in her ankles, which were distinctly swollen, showing the characteristic redness and tenderness of inflammatory rheumatism. The phenacetin had reduced the temperature to 101°. Dr. John W. Harrison saw this patient with me and concurred in the diagnosis. I gave the child 10 cc. of antistreptococcic serum. The phenacetin was discontinued. Next day she got out of bed alone and walked across the room. Her temperature was 99.6°. I gave her one more dose of serum. Two days after this she was entirely well and has had no trouble since.

CASE VIII.—Mr. W. A. D., aged 26, called at my office on January 4, 1903, complaining of pain in his shoulder and ankle-joints. He was still working, but with difficulty. Examination revealed no swelling and there was no fever. There apparently was no acute inflammatory condition of the joints which would lead one to believe that there was an infection. I prescribed lithia and cabinet baths. A week later he called again and said he felt somewhat better. The same treatment was continued. On January 18, 1903, he called me to his house, claiming his rheumatism was worse. I then found his left knee badly swollen and very painful with considerable effusion under the patella. Temperature, 101°. He also had pain in

both shoulders. I gave 20 cc. of antistreptococcic serum. The next day his temperature was normal and pain in the knee much less, swelling was somewhat decreased. Shoulders were better, but there was some pain in the right wrist. I gave him 10 cc. of serum. Third day. Knee improving nicely but right wrist swollen and painful. Temperature, 100.2°. Gave 10 cc. of serum. Fourth day. Knee and wrist improving nicely, pain in shoulder and ankles gone, had a good night's sleep. Temperature normal, 10 cc. of serum given. Fifth day. Swelling in knee all gone except effusion under patella, very little pain left, pain and swelling in right wrist much less, 10 cc. of serum given. Sixth day. Is improving nicely, no serum given. Did not see the patient on the eighth day. On the ninth day he felt quite well. There was no more swelling of the involved joints and but little pain. I gave him one more dose of serum. One day later a general urticaria appeared. He went to work on February 2 and continued working until February 11, when he complained of pain in his shoulders and ankles. At this time both shoulder-joints and ankles were somewhat swollen and his temperature was 99.5°. I gave him 20 cc. of serum. The next day he felt some better. I gave him 10 cc. of serum. Did not see him the third day. The fourth day he could move his arms quite freely, swelling was gone and temperature normal. There was still a slight pain in his shoulder and ankles. I gave him 10 cc. of serum. On February 17 he called at my office. The pain in his ankles and shoulders was not all gone, so I gave 10 cc. more of serum. He went to work again and after working a few days carrying sacks of seeds and grain in a basement complained of pain and swelling in his ankles. I gave him four more doses of serum at two-day intervals and advised him to do lighter work. He appears now to have fully recovered.

To me this case is especially interesting. I think no one would have suspected that the pain he complained of in his shoulders when I first saw him was due to an infection, but subsequent developments seem to indicate that it was. I feel now had I given him the serum when he first called at my office, his illness would have been cut short and he could have continued at his work without interruption.

Case IX.—Mrs. W. B., aged 45, previous good health, had never had rheumatism, but her mother had suffered with it for many years. On February 4, 1903, she called me to treat her for rheumatism in her right elbow. The elbow was swollen and had the characteristic redness of the skin and tenderness of inflammatory rheumatism. There was no fever. She had had no sleep the previous night on account of pain in her arm. I gave 20 cc. of antistreptococcic serum. Next day she felt better, had slept all night, and complained of pain in her arm only when moving it. Gave 10 cc. of serum. Third day, elbow still improving, swelling going down, no fever, 10 cc. of serum given. Fourth day, swelling in elbow nearly all gone and but little pain left. No serum given. Fifth day, second joint of right thumb swollen and painful. Elbow same as previous day. Gave 10 cc. of serum. Sixth day, swelling extended from thumb to about one-half of wrist, temperature 99.4°, elbow getting along nicely. Gave 10 cc. of serum. Seventh day, slight urticaria, thumb and wrist doing nicely, temperature normal, no serum given. Did not see her the eighth day. Ninth day, swelling in wrist and thumb nearly all gone, no pain except when moving joints. Gave 10 cc. of serum. Tenth day, report by telephone, general urticaria, otherwise feeling quite well. Report by telephone during twelfth day complaining of muscular pain in lower extremities. Advised dry heat applications. Saw her on the thirteenth day when she was walking about the house, feeling quite well. She has had no trouble since.

All these cases with possibly one exception give a typical clinical history of inflammatory rheumatism and some showed early evidences of more than the usual severity. There were no cases of prolonged convalescence or general debility after the rheumatic symptoms disappeared. A characteristic feature of all these patients was the evident good condition of the digestive organs as shown by their general expression of having a good appetite and being able to eat well after the serum was given. None of the patients developed heart complications, the disease being cut short before heart involvements usually take place. While the serum treatment was used no other treatment was resorted to. No baths, no dieting, and no local applications.

When we consider the results obtained in these cases from a marked improvement after the first and second dose to a complete recovery in a comparatively short time the therapeutic value of antistreptococcic serum in treating inflammatory rheumatism becomes strikingly apparent.

Usually there is but little swelling at the point where the serum is injected after the first few doses but when a point is reached at which urticaria appears more swelling is noticed. More experience is necessary to determine just how much serum should be given and how hard it should be pushed in the start to obtain the best results.

The question naturally arises: What influence would antistreptococcic serum have on muscular, sciatic, and chronic articular rheumatism? If these forms of rheumatism are produced by germs like those causing the acute inflammatory variety only involving different parts or the same parts in a different manner, antistreptococcic serum certainly would be of benefit. At all events a trial could do no harm and might lead to great results.

In looking up the literature on this subject I find that Dr. R. J. Chipman of Portland, Oregon, reported the case of a patient with pyemia and nonsuppurative joint inflammations, in the *Medical Record*, February, 1902, whom he treated with antistreptococcic serum. The case seems to have been a serious one and the serum used as a last resort. Seven doses were given, resulting in a cure.

The *Journal of the American Medical Association*, August 19, 1902, gives a review of Menzer's experience in treating a large number of patients with acute and chronic cases of articular rheumatism with a serum derived from large animals immunized by bouillon cultures of streptococci obtained from the tonsils of rheumatic patients.

Editorial reference is also made to Menzer's work by the *Medical Record*, September 6, 1902 and November 8, 1902. It appears the results obtained while beneficial were not as marked as mine. It may be that in his attempt to obtain a specific serum for rheumatism by making cultures with streptococci obtained from rheumatic patients he failed to get germs virulent enough to produce a highly efficient serum.

Chloroform Instead of Glycerin in the Preparation of Vaccines.—According to the Chicago *Chronicle*, Dr. Charles W. Behm, of the Health Department of that city, has discovered a new vaccine, superior in many respects to that now used by physicians. One of the chief objections to the vaccine now used is the long time necessary for its application. It often takes 30 minutes and 40 minutes to inoculate a person with the virus because of the glycerin with which it is mixed. This disadvantage is obviated by the results obtained by Dr. Behm. Instead of mixing lymph with glycerin in order to secure a virus he has discovered that chloroform will accomplish the same result.

Ship Surgeon Sues the Captain.—Suit to determine the right of a captain of a naval vessel to order the ship's surgeon to perform other than his professional duties, has been set down for trial before Judge Andrew Kirkpatrick in the United States District Court in Newark, N. J., October 5. The action in which no damages are specified, is brought by Dr. R. N. Sheppard, a surgeon formerly employed on a United States revenue cutter against Captain Voelker, the commander of the vessel. According to the surgeon's contentions, the ship was detailed to carry a party upon a geologic survey to foreign coasts, and he was asked by the captain to take part in making the soundings. He demurred, whereupon, he alleges, he was ordered to do so and refused. When the cutter returned to American waters he was discharged by the government authorities upon representations of the captain.

The Venom of Serpents.—The Carnegie Institute has granted an appropriation in aid of the investigation of snake poisons now going on in the pathologic laboratories of the University of Pennsylvania. The investigation is conducted along lines suggested by Dr. S. Weir Mitchell, who has made a thorough study of the subject. Many experiments are being made with rattlesnakes, cobras, copperheads, and other venomous snakes, and the effect of their poison on animals is closely noted, the object being to find an antidote in each case. The experimenters find that alcohol is useful as a stimulant, but is not an antidote in any sense, as many people believe it to be. The best remedial agent is what they call the "intermittent ligature," provided it can be used in time. This consists of a band around the wounded limb, which is loosened for an instant at stated intervals, so that the poison can enter the system only in small quantities. Under this treatment the victim of the bite is enabled gradually to resist the effects.

SPECIAL ARTICLES

RELATION OF THE MEDICAL PROFESSION TO PUBLIC EDUCATION.[1]

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This paper will deal more especially with the 12 years of elementary and secondary education. The physical examination of 5,000 to 6,000 boys and young men, and the special examination of thousands of school children during the past 15 years, together with constant supervision of the work of teachers and supervisors during the past 8 years, has thoroughly convinced me that our primary and secondary school children, at the age of 18, are decidedly disappointing from the physical standpoint; that this is more especially the case in the city schools, that the teaching force is not alive to the merits of the case, and that it will not be until its ideals are changed through a different supervision.

Statistics from various creditable sources show that a very large proportion of school children are in some way chronicly ill at the age of 18. If there are those who wish to disprove these statements, I will refer them to the investigations of medical commissions in England, France, Germany, Austria, and more especially in Sweden; to the report of the State Board of Health of Maine, by Dr. A. G. Young; to special investigations made by the Commissioner of Education at Washington; to the laboratory work at Chicago University along these lines, etc. Any unbiased person who can pick out a healthy child can go into our city schools, and in very many rooms he will find great difficulty in securing any considerable percent of thoroughly satisfactory specimens.

Under good teachers children will take a thorough interest in whatever is given them to study, and the continual doing of something under good instruction will always have educational value. It is a serious question, however, whether or not the things which many city children are actually doing, are the things best calculated to promote their physical, moral, and mental welfare. The curriculum of the elementary country schools has been expanded and enriched somewhat for the city school children, but it remains essentially the same as that of our fathers. Is this right? It may or may not have been the best thing for the country schools of a generation ago. It may or may not be the best thing for the town or country school of the present, but it is very evident to me that it involves a tremendous loss to the average child of the city. Why?

You are quite familiar with the long rows of dark, dirty tenement houses, with the unhealthy streets, imperfect nourishment, lack of opportunity for normal physical activity, and all of the other conditions which surround the mass of the children of the city. In a section of this character a large school is situated, containing about 2,000 poor children. This building is large, dingy, poorly lighted, and contains no system of ventilation. On the majority of school days many Standard Oil Refinery smokestacks envelop the building with dense smoke, and when the windows are opened, as they must be, for this is the only method of admitting fresh air or fresh smoke, as the case may be, teachers and children are enveloped in an atmosphere in which growing human beings do not become strong and vital. It is seldom that pupils of this school possess good complexions. They are thin, anemic, and in every way undeveloped. The school grounds are 90 feet front by 270 feet in depth, and contain two large buildings. The children are not given recess, because there is no place to play. We grind these children in number work for about an hour a day during the 8 years of the elementary course, assuming to teach them the accurate or mathematic relations of the things which they can see and handle, and at the end of the course the children are still wofully inaccurate in the most common every day observations. True, they can work many examples in arithmetic; for instance, they can tell how many gallons a cistern contains which is $9\frac{3}{4}$ feet deep, $7\frac{1}{2}$ feet across the bottom, $6\frac{3}{4}$ feet across the middle, $2\frac{5}{11}$ feet across the top. But we do not have cisterns in Cleveland, the city authorities would not allow us to build and maintain them. While our children can do some stunning mathematical tricks of this description, they do not exhibit mathematical common sense under any great variety of circumstances, and while their minds are struggling with these tremendous oldfashioned problems which were the delight of the hale and hearty country boy, their emaciated little bodies and smoke-infiltrated lungs, their sallow complexions and lackluster eyes are a spectacle for gods and man to behold with pity.

Even in the better sections of the city a large proportion of girls are thin, nervous, undeveloped individuals at the age of 17 or 18, with very little vitality as compared with the more robust girls of the country and towns. On the other hand, the habits of study of the high-school girl in many of the smaller towns are such as to leave her practically undeveloped from the physical standpoint. Further, among the ignorant and foreigners, thousands of defective children are found in every city school system, whose logical goal is a place in the dependent classes, under present educational influences.

The following test in grammar and language was given a seventh grade school recently, and the large majority of the children worked from 8.30 to 12 o'clock on it!

1. Write the possessive plural of attorney, German, fife, noose, cupful, daughter-in-law, mosquito, ox, sheaf, and man servant.—10 credits.
2. Give the rule for the use of the possessive sign to show separate possession of different things by several persons, and also to show joint possession.—10 credits.
3. Point out the errors in the following sentences:
   (*a*) This is Macauley the celebrated historian of England's greatest work.
   (*b*) Have you Webster and Worcester's Dictionaries?
   (*c*) The mayor of the city's office was thronged with people.
   (*d*) Jame's father's uncle's estate was valued at $25,000.—8 credits.
4. Tell the uses of nouns and pronouns in the following:
   (*a*) The flag-pole is one hundred feet high.
   (*b*) We paid the men four dollars.
   (*c*) The earth weighs many tons.
   (*d*) The day being delightful, the pupils were given a holiday.
   (*e*) 'Twere worth ten years of peaceful life.
   One glance at their array.

   Note: "Holiday" is probably the object of the passive form "was given." This word is not to be counted.—15 credits.
5. Write five each of the following:
   (*a*) Abstract noun denoting name of a quality.
   (*b*) " " " " " condition.
   (*c*) " " " " " an action.
   (*d*) Collective noun.
   (*e*) Common noun derived from proper.—10 credits.
6. To what class or classes does each of the following nouns belong: Group, sky, city, politeness, wright, Canadian, Clevelander, working, to swing, Italy.—10 credits.
7. Write three simple sentences, two complex sentences, and one compound sentence.—10 credits.
8. Define preposition, adverb, phrase, clause, and analysis.—10 credits.
9. Choose the proper pronoun and tell why:
   (*a*) (Who, whom) do you think will be elected?
   (*b*) I would not play if I were (her, she).
   (*c*) For (who, whom) was the present intended?
   (*d*) Between (you and I) or (you and me) there should be no disagreement.
   (*e*) (He, him) that honoreth me will I honor.—10 credits.
10. Diagram or analyze.
    But just as we were gliding along a beautiful pathway paved with golden sands, and bordered with bright flowers, we awoke to find ourselves still floating above the dark blue ocean.—7 credits.

Thus far I have not been able to find that the present generation of school superintendents and school supervisors possess any large comprehension of the situation. They are sympathetic in individual cases, and in sympathy, in a vague and general way, with movements to better the physical conditions of children in the schools, but when it comes to every day work their energy expends itself in stimulating teachers to cram the children with the subject matter of the antiquated country school course, and in looking after tests and examinations in order to make certain that the little victims are well up to the old standards in all these matters. In other words, "The habits of the old dogs are fixed qualities," and I can not see that we may hope for any radical changes in the humanizing of our city schools unless they are to come from another source. In proof of this statement I will say that lists of test questions are given to the children which require from 4 to $4\frac{1}{2}$ hours of continuous work on the part of the pupils. To my mind this indicates that in cities at least physicians will be called upon to assume, not only general duties on school boards, but responsibility for reconstruction of school courses and the superintendence of the common schools. This appears to me to be the only logical outcome of the situation.

[1] Read at the meeting of the State Medical Association, June 2, 1903.

The technical schools, particularly the medical schools have been doing the finest and most thorough teaching, the most practical in its results of any class of schools. By the side of these, the college of liberal arts, secondary schools and graded elementary schools seem quite frivolous in their method of education. Our profession has set the standard for thorough and effective work. It is time for us to examine critically the methods which have been wasting the energies, and leaving undeveloped the bodies of our children. Throughout the country we should initiate an organized movement in the profession for sufficient school funds so that the housing, seating and desking, lighting, heating and ventilating, playground and gymnasium questions can be properly solved. The lack of facilities in all these lines is a disgrace to our country. In our own State this association should cooperate with the State Board of Health in influencing the passage of school legislation within the next year or two which will insist upon radical changes in both the school environment of city school children and in their courses of study.

The State has no right to force a child, by a State law, to sit in a room 25 feet x 35 feet with 50 or 60 other children and breathe the vitiated air which accumulates in many of these rooms, while his time, for the most part, is spent upon subjects which in the end are of relatively little worth to him. The State has no right to compel a child to go to school and sit in such a room with two or three dozen children whose bodies are dirty and whose clothing stinks, with children who are undeveloped, who stutter and stammer, who have nervous difficulties, such as chorea, with children whose hair contains lice. Yet all this, many parents are compelled to put up with unless they are willing to assume the extra expense of sending their children to private schools, which, although more exclusive, are not in many instances so well taught as are many public schools. Thousands of our leading grade teachers, thousands upon whom really falls the burden of work, while they scarcely dare say so, will agree most heartily with me in these statements.

You will recollect the abbot and the monks (Mark Twain's "The Yankee in King Arthur's Court") who had been forbidden to take baths since the convent well sprung a leak and went dry. When the Yankee performed a miracle and healed the well, with a dose of cement, and then informed them they could bathe again, you will recollect the delight with which this ancient custom was reestablished. If some of the ancient educational filth could be washed from our public school system, thousands of teachers who have the useless work to do, would be equally delighted. It is for physicians, who are absolutely independent and fearless, to use their influence, individually, collectively and ultimately, as the supervisors and guardians of education, to bring about a new order in which not only the sins of commission will be eradicated, but the more numerous and vital sins of omission will cease to exist. An order in which our American boys and girls, when they reach manhood and womanhood, will be strong, hearty, vital people, possessing the vitality and initiative necessary to success in the ever changing kaleidoscope of human endeavor within our cities. People with sufficient vitality and versatility to be beaten several times in the battle of life and still be able to change front, grasp new opportunities, adapt their energies to them, and hew out for themselves success.

Shall we not earnestly and vigorously battle for the best good of the great mass of children with whose physical interests our profession is so intimately connected? Say what you will, there is a standing fight between the *professional* educator and the *professional* physician. The latter stands at the threshold of the child's vitality, and with warning hand beckons the other not to encroach too far. But the former, in his desire to seem brilliant, blames the home and other environments of life for the deficiencies of the child and ruthlessly pushes forward his army of over-fatigued and under-developed children. Is it not time to call a halt and reorganize this army upon different lines?

Announcement.—Dr. John G. Curtis, professor of physiology of the College of Physicians and Surgeons of Columbia University, has been elected acting dean of the college.

THE WORLD'S LATEST LITERATURE

Journal of the American Medical Association.

October 10, 1903. [Vol. XLI, No. 15.]

1. The Evil of Eponyms: Chairman's Address before the Section on Laryngology and Otology. George L. Richards.
2. The Field of the Section on Hygiene and Sanitary Science. Chairman's Address before the Section on Hygiene and Sanitary Science. Henry M. Bracken.
3. Appendicitis from the Standpoint of the Gynecologist. Henry P. Newman.
4. The Development of the Fusion Center in the Treatment of Strabismus. Nelson Miles Black.
5. Stereoscopic Exercises: With a Series of Pictures: To be Used in Amblyopia and Squint. Albert B. Hale.
6. A Deviation from the Usual Methods of Closing Abdominal Wounds, Including Hernia. O. O. Witherbee.
7. Scarlet Fever. William L. Baum.
8. The Purification of Water Supplies by Slow Sand Filtration. (Continued.)

3.—See *American Medicine*, Vol. V, No. 20, p. 775.

4, 5.—See *American Medicine*, Vol. V, No. 23, p. 905.

6.—Closing Abdominal Wounds.—O. O. Witherbee uses only silkwormgut in suturing any incision. In an abdominal wound he approximates the peritoneum by gut introduced like a subcuticular suture, bringing both ends through the skin near the extremities of the incision. This permits ready removal. The fascia he draws together by figure-of-eight sutures, bringing out the ends from 1½ inches to 2 inches from the line of incision. These ends are passed through notches in the lateral bars of a U-shaped or rectangular framework made of aluminum or hard rubber 3 or 4 inches wide and 4 or 6 inches long, and are tied in pairs with just sufficient tension for perfect approximation, a bowknot being used on one side to allow alteration. A subcuticular suture closes the skin incision. The same tactics are applicable to hernia, except that the peritoneal suture must be quilted back and forth through the neck of the sac and its ends carried well above the internal ring, where they are brought through the tissues and secured to the upper part of the framework. By fastening the gut to a framework we accomplish all that can be done with a buried suture, while subjecting the tissues to much less abuse than when a knot is employed at the point of approximation, thereby creating an unyielding band, which materially interferes with the circulation and lessens the strength of union. Since using this method, the writer has noticed less evidence of shock. In abdominal cases the sutures may be removed from the eighth to the tenth day, in hernia not before the twelfth or fourteenth. In plastic work this method prevents sloughing. The lateral boundaries of the framework should be outlined on the integument by a delicate scratch. [H.M.]

7.—Scarlet Fever.—W. L. Baum analyzes 628 cases occurring under his observation including mixed infections. He discusses the mortality, complications, diagnosis, and etiology. He has found the Klebs-Loeffler bacillus in many cases in which the membranes were soft, loose, and separable, and of a brownish color. A deep destruction of the tissues near the parts primarily involved is more rare in diphtheria than in scarlatina. Obstruction of the larynx is rare, also croupous exudate in the deeper air-passages. He does not wish to lay too much stress on the fact that in the involvement of the larynx by a diphtheric inflammation accompanying scarlatina the clinical symptoms have a characteristic type. The paralysis following true diphtheria is absent in the pharyngeal diphtheritis accompanying scarlatina. In severe cases of scarlatina, necrotic inflammation may be present as early as the first day. After a study of the literature of the disease one is forced to the conclusion that the true etiologic factor is not yet demonstrated. [H.M.]

Boston Medical and Surgical Journal.

October 8, 1903. [Vol. CXLIX, No. 15.]

1. Memorial Meeting to John Homans, M.D. Addresses of Maurice H. Richardson, A. T. Cabot, George B. Shattuck, E. H. Bradford and Robert T. Edes.
2. The Operative Treatment of Umbilical Hernia. J. Collins Warren.
3. Vesicointestinal Fistula. Joshua C. Hubbard.

2.—Operative Treatment of Umbilical Hernia.—J. Collins Warren gives, in detail, the plan of operation, which he pursues in umbilical hernia. The sac is exposed by 2 slightly

curved incisions in the median line, each immediately above and below, and are sufficiently long to expose the outer walls of the sac and the surrounding aponeurosis; the sac is opened, the contents, which are always omental at first, are freed from adhesions, and, in case of matted omentum, it is excised, or, if bowel, it is returned to the abdominal cavity. The sac is carefully excised, strict attention being given to the ligation of the vessels. The shape of the opening is an oval with a long diameter at right angles to the linea alba. The peritoneum is separated and sutured separately; the edges of the hernial ring are coapted carefully, which he considers of great importance, and united in separate layers; the skin incision is prolonged to the pubes; and the subcutaneous fat, down to the aponeurosis, is entirely removed in a broad leaflet; the entire wound is then closed. Fourteen cases are reported, 11 of which were operated upon by this method, with but one recurrence. [A.B.C.]

3.—Vesicointestinal Fistula.—Hubbard reports a case of vesicointestinal fistula in a man of 54. There was a stone of apparently secondary origin, but no evidences of carcinoma or tuberculosis of the inflammatory type. The fistula was situated so high up in the bladder that fluid would not pass readily from the bladder into the intestines but freely the other way. The adhesions between the bladder and intestine prevented a satisfactory dilation of the bladder. On March 30 the bladder was opened above the pubes and catheter fastened in the opening. On April 13 the suprapubic opening was temporarily closed and incision made through the left rectus; fistula found high up and closed with purse-string sutures. Delirium developed immediately after the operation which could not be controlled and patient died April 19. [W.K.]

Medical Record.

October 10, 1903. [Vol. 64, No. 15.]

1. Fibrocystic Tumors of the Uterus: Their Etiology. MARY A. DIXON JONES.
2. Copper in Syphilis. A. F. PRICE.
3. Aneurysm of the Transverse Arch, with Obliteration of the Innominate and Left Common Carotid Arteries. U. S. BIRD.
4. A Case of Combined Pyloric Cancer and Phlegmonous Gastritis. G. W. MCCASKEY.
5. Congenital Absence of Rectum with Imperforate Anus. G. W. SQUIRES.

1.—Fibrocystic Tumors of the Uterus.—Mary A. Dixon Jones discusses the etiology of fibrocystic tumors of the uterus and asserts that all abnormal growths are in a pathologic condition and in a state of continuous deterioration, therefore the sooner the tumor is removed, the better for the patient. [W.K.]

2.—Copper in the Treatment of Syphilis.—A. F. Price, after an experience of 35 years in the treatment of soldiers in the army, and after lengthy and repeated experiments, is of opinion that copper is one of the best drugs in the treatment of syphilis. He reports a number of cases which apparently confirm his view, especially in late cases of syphilis and parasyphilitic affections. His conclusions are as follows: 1. The treatment of syphilis in all its stages, inclusive of the cachectic and the parasyphilitic forms, is well founded on copper sulfate in the average dose of $\frac{1}{30}$ gr., aided by such a quantity of blue mass as is borne readily by the patient. 2. In old syphilis in any form, the copper salt must be given in minute doses, and gradually increased as tolerance is established, until the usual dose of $\frac{1}{30}$ gr. is given, when the mercurial should be added in a rather small dose. It is sometimes better to give the medicine only on alternate days. 3. In acute syphilis the copper salt is to be given in the dose of $\frac{1}{30}$ gr. and the mercurial added at once and increased as much as the patient will tolerate, in order that the disease shall be neutralized and eliminated as completely as possible. 4. Iodin, iron, arsenic, and tonics of any sort, while useful, occupy a subordinate place in the treatment of syphilis. 5. Alcohol, and especially tobacco, should be forbidden to syphilitics. [A.B.C.]

3.—Aneurysm of the Transverse Arch of the Aorta, with Obliteration of the Innominate and Left Common Carotid.—U. S. Bird reports the case of a colored woman of 27. Her symptoms and the physical signs plainly indicated an aneurysm in the upper part of the thorax and at the route of the neck. The dimensions of the pulsating tumor were 16 cm. by 11 cm. (6½ in. by 4½ in.), it was elevated 3½ cm. (1½ in.) above the body surface, extending above the clavicle 4½ cm. (1¾ in.). The patient grew rapidly worse and died. Necropsy showed that the sac was situated above and in front of the aorta, communicating by an opening 3½ cm. (1½ in.) in diameter with the transverse portion. The inferior wall of the artery was opened and the inner surface examined without openiug of the branches. Only one could be found, and this proved to be the left subclavian. The left common carotid was blocked by an organized clot, the innominate was obliterated, and ended in a blunt pouch. No anomaly to account for the circulation to the head was found. The conclusion from the evidence is, that with the innominate and left common carotid arteries obliterated, the circulation of the upper part of the body was provided for by extensive collateral circulation. Circulation of the head must have depended upon the interclavicles, the internal mammary and axillary branches. [A.B.C.]

4.—Combined Pyloric Cancer and Phlegmatic Gastritis.—G. W. McCaskey reports that a woman of 29 began to suffer from gastric distress, without relation to meals, 5 months before consulting him, and 2 months prior to normal labor. Two weeks after confinement vomiting set in, and frequently occurred thereafter. Physical signs were negative, except ill-defined resistance to the left of the median line, 3 inches above the umbilicus. Urinary analysis was negative, stomach contents showed absence of hydrochloric acid and presence of lactic acid, and a few pus cells. At times there was considerable pus, cultures from which showed the staphylococcus, and blood examination gave 24,000 leukocytes and 7,000,000 red cells. The patient died of exhaustion and a necropsy showed, in the thickened cancerous structure of the pylorus, an abscess cavity about 3½ cm. (1½ in.) in diameter and occupying almost the entire lumen and the narrowed pyloric extremity. The significance of the symptoms had been largely obscured by the existing pregnancy, else operation had been advocated. [A.B.C.]

5.—Congenital Absence of Rectum, with Imperforate Anus.—G. W. Squires reports that a woman of 28 had given birth to 3 children; the first was a breech presentation, the after-coming head delivered with instruments. There was spina bifida and a hydrocephalic head, and the child died. The second child was stillborn at 7 months, and had supernumerary toes and fingers, with harelip. The child under discussion was the third, and at birth a vigorous male child. On the second day he developed signs of colic with apparent attempts to move the bowels; this continued, exciting suspicion. Examination revealed complete absence of an anus. A colostomy was performed, which gave much relief. The child died on the fifth day after operation. Necropsy revealed entire absence of the rectum, the descending colon ending in a culdesac at the sigmoid flexure. [A.B.C.]

New York Medical Journal.

October 3, 1903. [Vol. LXXVIII, No. 14.]

1. Modern Treatment of Fractures with Special Reference to Lower End of Humerus and Bones of the Leg. H. S. MCCONNELL.
2. The Sources and Methods of Infection in Pulmonary Tuberculosis. J. O. COBB.
3. Essential, or Idiopathic, Spasm. WILLIAM CLARENCE FISKE.
4. A Form of Rational Treatment for Corneal Ulcers. WILLIAM LINTON PHILLIPS.
5. Growths of the Male Urethra, with Report of Three Cases. JOSEPH E. MORROW.

1.—See *American Medicine*, Vol. IV, No. 14, p. 540.

2.—The sources and methods of infection in pulmonary tuberculosis are discussed by J. O. Cobb. He is convinced that the method of infection in bovine, swine, and avian tuberculosis is by ingesta, and probably never by inhalation. He believes that bovine tuberculosis may be transmitted to man, but that tuberculous milk is probably only one of the minor links in the chain of infection to man. He believes human tuberculosis to be conveyed both by inhalation and ingesta, but largely, if not principally, by infected food, the common house fly being the medium of conveyance from the ejected sputum. [C.A.O.]

3.—Idiopathic Spasm.—W. C. Fiske reports such a case in a young man, robust and well physically, so far as strength and development are concerned, but a neurotic from childhood

afflicted with occasional attacks resembling petit mal. The patient was found writhing in bed and in great agony. For a minute he would be quiet, and then would come a spasm that would lift him up in bed, or turn him over on his side, or bring his legs up to the perpendicular, or arch his back. The spasms were confined to his legs, arms, and abdomen, and were at first bilateral, later unilateral. Opium, morphin, bromid, atropin sulfate, and chloral hydrate only stupefied and had but a temporary action. Later, hyoscin hydrobromid, $\frac{1}{100}$ gr. hypodermically, brought on complete muscular relaxation and sleep. The dose was repeated at intervals, being omitted entirely on the eighth day. [C.A.O.]

4.—Treatment for Corneal Ulcers.—W. L. Phillips says it is necessary first to contract the arteries in the conjunctiva and iris: by so doing we check the escape of albumin into the anterior chamber and stop vascularization of the cornea. This will lower tension and restore the nutrition to the cornea by liberating the lymph spaces, and it will also render the deeper structures less liable to infection; to accomplish this he uses suprarenal extract. The conjunctival sac is rendered antiseptic with some mild preventative, such as boric acid. To build up the lymph corpuscles and thus bring about resolution the author uses nuclein solution, 5% (the hypodermic solution being less irritating). The suprarenal must be dropped into each eye 3 times a day, and as the severity of the disease increases, the medicine must be instilled oftener, up to 10 times a day, depending upon the absorption of the drug and its action on the heart. The eye should be kept clean with warm boric acid solution, and the nuclein solution should be combined with and given in the same way as the suprarenal. The conditions which have a bearing upon this disease must also be treated, for a great many times ulcers have their origin in other diseased parts, such as caries, adenoids, hypertrophies of the turbinates, etc. [C.A.O.]

5.—Growths in the Male Urethra.—J. E. Morrow discusses this condition and reports 3 cases. In the first case, 20 growths were removed by the snare, one came away spontaneously, and an interminable number were removed by caustic solutions. The urethra was greatly dilated behind the papillomas and there was considerable damage to the sexual tract. The patient by continuing sexual intercourse after the development of the obstruction induced a seminal vesiculitis, which became chronic. This had on different occasions taken on an acute character, and involved the epididymides and testes, resulting in induration of the epididymides and the atrophy of the testes. Morrow believes that a pedunculated fibroma was the original growth and that its origin was senile disturbance of the prostate. In the second case the growth was also a fibroma. In the third case he believes that gonorrhea was not an etiologic factor but that the growth caused the irritation induced by the gonorrhea to persist. The treatment is only local, by enucleation with the knife, scissors, cautery, loop, or application of strong astringent and caustic solutions. This can be accomplished by external urethrotomy or through the urethroscope tube. [C.A.O.]

Medical News.

October 10, 1903. [Vol. 83, No. 15.]

1. Symposium: The Teaching of Therapeutics. Reynold Webb Wilcox.
2. From Pharmacologic Science to Therapeutic Art. Eli H. Long.
3. Recent Advances in Genitourinary Surgery. James Pedersen.
4. On Last Year's Progress in Surgery. Carl Beck.
5. Recent Advancement in the Therapeutics of the Eye. John E. Weeks.
6. Report on Laryngology. Charles H. Knight.
7. Recent Advances in Electrotherapeutics. William J. Morton.
8. Recent Advances in Orthopedic Surgery. Henry Ling Taylor.
9. Notes on Obstetric Therapeutics. Charles M. Green.
10. Recent Advances in the Therapeutics of Pediatrics. Noble P. Barnes.

1.—The Teaching of Therapeutics.—R. W. Wilcox, from his experience with postgraduate students, finds that therapeutics needs to be taught by demonstration. The results in ward and dispensary must be always open for inspection and verification. Instruments of precision both in diagnosis and treatment and laboratories, both chemic and biologic, are absolutely essential. [H.M.]

2.—From Pharmacologic Science to Therapeutic Art.—E. H. Long believes that third and fourth year studies are not so well taught as they should be because the 2 classes have lectures together, which means a minimizing of individual instruction and opportunity and faulty adaptation to the needs of each class, because clinical interest centers about pathology and diagnosis to the neglect of treatment, and insufficient attention is given to the practical details of the application and prescription of remedies. In the third year there should be a careful development of the principles of treatment of the more important diseases with the application to each of the more important drugs. The ideal method is the Socratic. In the second half of the year there should be one clinical hour per week. Emphasis should be placed on indications and contraindications to the use of each drug. The natural and hygienic methods should be given first place. No attempt should be made to discuss all drugs. In the fourth year the student should learn the art of therapeutics. His need is the ability to adopt, apply, prescribe, and combine remedies to meet the case before him. The wide use of proprietary preparations is due to the fact that the rank and file of physicians are not confident of their own proficiency. Students should be fortified against this tendency. They should be taught to treat the individual, not a class of diseases. The students should be given actual or hypothetic cases and each one required to outline treatment and write one suitable prescription. [H.M.]

3.—Recent Advances in Genitourinary Surgery.—James Pedersen gives a summary of the advances made in surgery during the past year. These, briefly stated, pertain to surgery of the kidney, with special reference to nephropexy and nephrolithiasis, surgery of the ureters and prostate, and the somewhat more medical consideration of the gonococcal infections of the ureter, attempts at asepsis of the genitourinary tract, and means of determining the functional integrity of the 2 kidneys. The heretofore unsatisfactory results in nephropexy, despite improved technic, he attributes to 2 causes: (1) The kidney becomes immovably fixed or abnormally rotated and fixed; (2) the nephroptosis proves to be only a part of an unrecognized splanchnoptosis. Looking to the correction of these failures, he cites the operative technic of Guiteras, B. B. Davis, Carwardine, and others. As to nephrolithiasis, there has been considerable advance, but the hope entertained from the use of Röntgen ray photography, has as yet not been fully realized, the chemic composition of the various calculi interfering somewhat with the shadow cast upon the photographic plate. Improvement has, however, been accomplished in this line and hope for the future is expressed. Young's extraperitoneal method of reaching the pelvic portion of the ureter for the extraction of ureteral stone is regarded as a distinct advance. Surgery of the prostate gland has received much attention. The revived Bottini method has become less popular, and the direct surgical attack upon the prostate by the perineal route is most in favor, though some prefer the suprapubic route, and others the combined perineal and suprapubic route. The operations of castration, vasectomy, etc., have long fallen into disuse. In the treatment of gonorrheal urethritis, the recent introduction of argyrol and other silver salts has marked a distinct advance. The freezing point of the urine with reference to the kidney conditions is also regarded as an advance. [A.B.C.]

4.—The Last Year's Progress in Surgery.—Carl Beck gives an interesting summary of the year's advance in surgery, and states that specially great has been the progress in diagnosis. The value of blood examination in suspected suppuration, and the diagnosis of nephritis and the prognosis in nephrectomy by cryoscopy are mentioned among the advancements made. The subdural interposition of rubber tissue, without removal of the gasserian ganglion, in operation for tic douloureux by Abbe; the diagnosis of thoracic disease by skiagraphy; removal of mediastinal tumors by Porrier; improved surgery of the heart, and incision and drainage for pericardial effusion and cardial abscess; colostomy in all cases of acute intestinal obstruction, due to intestinal tumors with subsequent removal of the tumor and anastomosis of the gut according to Mikulicz; the necessity for the removal of lymphnodes in operations for carcinoma of the stomach, as proved by Langemann; the fact established by Krönlein, based on 264 cases of carcinoma of the stomach, that while without operation

the patient succumbs in one year, with gastroenterostomy in 15½ months, and after extirpation of the growth in 30 months, are all set down as among the surgical events of the past year. The recognition by German surgeons of the work done by American surgeons, particularly in appendicitis, is encouraging. Edebohls' renal decapsulator for chronic nephritis; Waldvogel's proof that transperitoneal nephrectomy should be done in rupture of the kidney; the increasing utility of the Röntgen rays, specially in the diagnosis and treatment of fractures and in the treatment of malignant disease; the advance in genitourinary surgery, particularly with reference to the prostate gland; the work done in surgery of the biliary passages, especially by Mayo and Kehr, are in addition, mentioned among the important events in the surgery of the past year. [A.B.C.]

5.—Therapeutics of the Eye.—J. E. Weeks finds acoin advantageous in removing foreign bodies, as it does not dilate the pupils or interfere with accommodation. Dionin is valuable for rapid resorption of inflammatory products and for prolonged anesthesia in glaucoma, iritis, iridocyclitis, and keratitis. Holocain is of great value in surgery as an anesthetic, as it has no effect on the vessels, pupils, or accommodation. Nargol is pleasanter to use, and less sticky than protargol. A thickened condition of the conjunctiva sometimes follows the use of protargol, requiring the employment of other remedies. Argyrol is as good, if not better. It is one of the most efficient remedies for purulent conjunctivitis of all varieties, and for dacryocystitis. Good results have been reported from collargolum. Trikresol is reliable and unirritating as an antiseptic wash. Thiosinamin has been advocated in corneal opacities. Iodin vasogen is irritating but efficacious in corneal ulcers. The writer has obtained excellent results from mercuric chlorid injections, 1-1,000, in orbital cellulitis. He discusses hetol, iodoform, and serumtherapy. [H.M.]

6.—Report on Laryngology.—Charles H. Knight gives a summary of the year's progress in laryngology, and states that this progress has made itself much more manifest in the surgical than in the medical aspect. Further experience with the subcutaneous injection of paraffin for the correction of nasal deformities has become more thoroughly established as a legitimate surgical procedure, and it has likewise been used to inject between the mucous membrane and the bones or cartilage, in cases of atrophic rhinitis, with asserted success. Comstock has proved that paraffin injection subcutaneously, becomes, to a large extent, organized and bound up with the tissues, thus diminishing the dangers of embolism or thrombosis. The fact has been established that it is not necessary to inject the wax hot and in the liquid state, but it may be done much more conveniently and quite as effectively with the Harmon Smith screw syringe in the semisolid state. Discussion as to the virtue of topical applications in diseases of the upper respiratory tract were dwelt upon. The author holds that attention should be drawn to the dearth of interest in local therapeutics. This is being neglected by rhinologists and laryngologists while perhaps more attention than is requisite is being devoted to the various surgical appliances and surgical treatment for conditions which come under observation. [A.B.C.]

7.—Recent Advances in Electrotherapeutics.—William J. Morton devotes most of his paper to radiotherapy, dealing somewhat with the historic evolution of this therapeutic agent. Long ago solar light was concentrated by means of lenses and used as a therapeutic agent, but he states that all forms of solar, electric, arc, and other artificial lights have been entirely supplanted in their efficiency by the Röntgen rays. It is not impossible that the Röntgen radiation may in turn be supplanted by the Becquerel radiation, or by uranium, polonium, actinium, or radium. The dosage in using the Röntgen rays is discussed at some length, as is the question whether Röntgen ray burns may not really cause cancer. Several cases have occurred within the past year, in which epithelioma developed in the scar of a Röntgen ray burn. The author calls attention to what he terms Röntgen ray histofluorescence. He has been carrying out original experiments in this line, the explanation of which is too lengthy and technical for abstract. In brief, it consists in administering one or more fluorescing drugs internally to the patient while he is being subjected to Röntgen ray treatment. Quinin is mentioned as one of the drugs. It is the hope and belief of the author that these drugs, being distributed in the tissues, acted upon by the Röntgen rays, will augment their favorable influence. If nothing more shall be accomplished than cure for rodent ulcer, some other forms of cancer and lupus, electrotherapeutics has fulfilled a definite mission in curative medicine. [A.B.C.]

8.—Recent Advances in Orthopedic Surgery.—Henry L. Taylor states that the most picturesque event in orthopedic surgery during the past year was the visit and teachings of Lorenz in this country. Battle has been waged between the manual and cutting operations with reference to congenital dislocations at the hip-joint, with the result that within a well-defined age limit, the socalled bloodless method is the one to use, while various cutting operations, especially as applied to the older and severer cases, have their proper field. It should be remembered that by no method does a cure take place in a high percentage of cases. Experience and teachings of Lorenz has shown that the soft parts are much more tolerant of forcible manipulation than was formerly supposed, and that in the absence of evident ankylosis, deformities of the hips, knees, and feet of severe, grave, and long standing, may often be corrected at one sitting, with or without simple tenotomies. The long bones may be readily cut or broken and adjusted wherever necessary to correct deformities. The only remnant of the wellknown operation of Calot for the forcible correction of kyphosis of the spine, which now remains, is the various corrective postures without anesthesia, for the application of jackets in Pott's disease. Treatment of deformities has become more radical, but the tendencies to simplicity are greater. Excision of the knee in childhood is absolutely rejected, except to save life. It is no longer good practice to take months or years to effect a correction that can be done as well or better at 1 or 2 sittings. In orthopedic surgery there has been a marked increase of interest in pathology and a greater reliance on exact diagnosis. Goldthwait and Painter have collected valuable information concerning obscure knee affections of adult life, and in case of chronic rheumatic affections of the joints. Considerable work has been done in bone atrophy following acute and chronic lesions of the limbs. The author calls attention to a recent investigation by Sherman, of San Francisco, that only about one-half of the medical colleges in the Association of American Medical Colleges, affords instruction in orthopedic surgery. [A.B.C.]

9.—Obstetric Therapeutics.—Green reviews the recent additions to therapeutic resources in obstetrics. In the treatment of puerperal infection, antistreptococcic serum has been disappointing. The intravenous use of formalin is not only useless, but is attended with considerable danger on account of the baneful effect of the agent on the blood, causing disintegration of the red blood corpuscles. The most effective therapeusis against puerperal infection is prevention. The value of adrenalin chlorid in intrauterine hemorrhage is worthy of continued investigation. Medullary narcosis is inferior to ether as an obstetric anesthetic. Green believes that scopolamin morphin narcosis is a valuable addition to our obstetric therapeusis, and especially serviceable in primiparas of a nervous, excitable, and hyperesthetic type. The etiology and treatment of puerperal eclampsia are also considered, and the writer affirms that by painstaking attention to diet, to hygiene, to the condition of the nervous system and the functional activity of the eliminating organs, eclampsia may be prevented. [W.K.]

10.—Therapeutics of Pediatrics.—N. P. Barnes advocates the substitution of gauze-covered absorbent cotton pads held in place by a T-bandage in place of the heavy diaper. He has proved the value of thyroids in mammary inactivity. Milk from a mother with diphtheria seems to act as antitoxin for the child. Breast milk should be used to the eighth or tenth month. When the child is older whole cow's milk should never be given except at the same time with other foods to prevent mass curds. Measles and pertussis have been shown to be amenable to serum injection. Lumbar puncture has become a valuable therapeutic and diagnostic measure. In various forms of meningitis it relieves pressure symptoms. [H.M.]

CLINICAL MEDICINE

David Riesman A. O. J. Kelly

REVIEW OF LITERATURE

Nature of the Symptoms in Appendicitis.—James Mackenzie[1] calls attention to the diversity of opinion among medical men as to the cause of certain symptoms in appendicitis, and states that these contradictory views arise because the writers have not grasped the fact that the sense of localization is absent from the viscera, and that when pain arises from disease in the abdomen, such pain is not referred to the actual seat of the disease, but to an area in the external body wall supplied by sensory nerves, which in the spinal cord have an intimate relationship with the sympathetic nerves from the affected viscus. His explanation of the visceromuscular reflex symptoms is as follows: When the increased stimulus from the appendix affects the cells in the spinal center of the motor nerve the contraction of the muscle supplied by that nerve appears. So long as the irritation about the appendix lasts, the muscles remain contracted. The muscles affected for the most part are the erector spinæ and the abdominal muscles, the psoas and iliacus. As the acute symptoms subside in the attack, the contracted muscles gradually relax until, when the patient is at rest all symptoms may disappear, to recur to some extent when the patient begins to move about. In such case the whole rectus abdominis muscle may become very tense and sore, likewise the psoas and iliacus. He states he is fairly confident that in the vast majority of cases where the appendix is supposed to be felt by the examining surgeon it is a strand of the contracted muscle fibers which he feels, and not the appendix, though he believes that that may in rare cases be felt. Occasionally bladder symptoms appear. This is due to the stimulus reaching the bladder from the section of cord which receives the sensory fibers from the appendix and supplies the fibers to the bladder by way of the hypogastric plexus of the sympathetic. [A.B.C.]

Paratyphoid Fever.—H. Kayser[2] describes 2 organisms, which have been isolated from cases of paratyphoid fever, and then reports 3 cases, which manifested themselves clinically as typhoid fever. The agglutination test was negative with *Bacillus typhosus* and with bacteria of paratyphoid group A, but positive in the greatest dilution with group B. He considers it absolutely necessary therefore, to test all cases which clinically seem cases of typhoid fever, with the 3 groups of bacteria, the typhoid bacillus, and the bacilli of paratyphoid fever, group A and B. Of practical importance is the very favorable prognosis in cases of reacting to the paratyphoid bacilli. He objects to the name of "typhoid" for paratyphoid fever as that term is used in many countries to indicate "ileo-typhus." [E.L.]

Banti's Disease, with Diffuse Productive Nephritis.—C. W. Field[3] reports a case in which the pathologic findings were a marked secondary anemia, enlarged spleen due to general hyperplastic interstitial splenitis, diffuse hypertrophic cirrhosis of the liver, and productive interstitial nephritis. The case is classed as one of Banti's disease, although the nephritis extends somewhat the scope of that term and it resembled in some points 3 other closely allied conditions. Field distinguishes these 4 related conditions as follows: Enlargement of the spleen with anemia and subsequent cirrhosis of the liver (1) may be separated from cirrhosis of the liver with secondary enlargement of the spleen; (2) by the fact that the spleen in the latter condition never attains the size that it does in the former. Both these conditions may be separated from splenic anemia; (3) and primary splenomegaly; (4) by the presence of the cirrhosis of the liver, while these 2 latter conditions may only be differentiated from one another after a microscopic examination of the spleen. Field suggests that Banti's disease, splenic anemia, and diffuse cirrhosis of the liver take origin in a common cause emanating from the gastrointestinal tract. [A.G.E.]

Treatment of Chronic Catarrh of the Large Intestine.—L. V. Aldor[4] reports 18 cases of chronic catarrh of the large intestine treated by the following method: The bowel is cleansed with an enema; a wide rubber tube at least 85 cm. (34 in.) long is then inserted for its entire length. Through this tube 1 liter to 3 liters of Carlsbad water, heated to 113° F. is injected. This is followed by applying heat to the abdomen by means of a thermophore for several hours. The lavage should be performed daily for from 20 to 25 days. Aldor has in this manner cured cases that had resisted all other treatment; it may be used in the young as well as in adults. He however advises this treatment only as a last resort after all other methods have failed. It is equally effective whether the catarrh takes the form of constipation or diarrbea. He compares the good results obtained with those obtained by gastric lavage. Boas[1] criticises Aldor's method as follows: He quotes several authorities and give his own opinion as regards the use of a long rectal tube. Such a tube is likely to roll up in the rectum instead of passing up the large intestine for its entire length, and the injection of 3 liters of fluid under such circumstances may be dangerous. Boas believes a short tube is as useful as a long one, if the solution be injected while the patient is reclining; it will thus of its own accord find its way to the cecum. Boas also takes exception to Aldor's statement that his method is equally effective in the opposite conditions of constipation and diarrhea, increasing peristalsis in the one case and inhibiting it in the other. Boas believes the value of Aldor's treatment lies in the high temperature of the injections, a principle that had been reported years ago by other authorities. [W.E.R.]

Diet in Nephritis.—P. K. Pel[2] is opposed to marked restriction in the diet of individuals suffering from chronic nephritis, since no actual proof exists against the use of many articles usually forbidden such as eggs, dark meat, etc. Based upon a large experience Pel is liberal in arranging diets, and believes it to be better to order them according to the patient's psychic and physical state, his blood condition, state of nutrition, heart, etc., than according to the chemical condition of his urine. He warns against all excesses so as to prevent digestive and fermentative disturbances. Alcohol, game, strong cheese and spices he forbids entirely. The value of milk as an easily digestible article of food and one which ferments with difficulty is recognized by him, but when used alone it produces digestive disturbances too easily; it also tends to produce anemia and unhealthy fat. As the amount of water, which the kidneys have to handle during milk diet is very large, its action is often the opposite to that desired. When combined with articles of food like rice, sago, barley, cornmeal, or when given with chocolate, tea, or coffee, he approves milk or buttermilk as an article of diet. In acute nephritis or acute exacerbation of chronic nephritis Pel restricts his patients to milk with such substances as mentioned above. [E.L.]

Taste and Its Relation to the Needs of the System.—P. T. Borissow[3] believes that the sense of taste is a reliable guide in selecting our food. Many apparent curiosities of taste, such as the craving of chalk, coal, acids, etc., find their explanation in actual needs of the system. For instance, children will often eat earth, wall-plaster, and the like, and this freak of appetite usually corresponds to the age when the growth of the bones is most energetic, thus requiring an additional supply of mineral constituents. Again, children frequently show a strong appetite for sweets and farinaceous foods. This is also in accordance with our knowledge of metabolism, the system consuming chiefly carbohydrates during work and production of animal heat. Following this line of thought, the author made some curious experiments with chickens. It is known that hens will eat plaster, egg-shells, and small stones. If there is a definite relationship between this craving and a real need, then roosters, not laying eggs, ought to require less mineral substances, and hence ought to be indifferent to the articles mentioned. This actually turned out to be the case. The rooster does not relish calcareous foods, and the hen eats it only periodically during her laying season. [L.J.]

Research with Radium Rays.—E. S. London[4] reports

[1] British Medical Journal, July 11, 1903.
[2] Deutsche medicinische Wochenschrift, April 30, 1903.
[3] American Journal of the Medical Sciences, March, 1903.
[4] Berliner klinische Wochenschrift, May 11, 1903.

[1] Berliner klinische Wochenschrift, June 1, 1903.
[2] Zeitschrift für diätetische und physicalische Therapie 1903, vii, April.
[3] Russki Vratch, June 28, 1903.
[4] Berliner klinische Wochenschrift, June 8, 1903.

the results of his experiments with the radium rays, showing their physiologic and pathologic significance. He used for all of his tests 30 mg. of pure radium bromid, which was kept in a rubber and metal box covered with mica. He put 21 grown and 6 control mice in glass vessels, 3 in each, and the box of radium was placed on the cover of these vessels, being allowed to remain there from 1 day to 3 days. The control animals were lively and perfectly healthy at the end of 5 days, while the others died in 3 days to 5 days. The first symptoms noticed consisted in redness of the ears and winking of the eyes. Then followed stupor, weakness, coma, paralysis, and other signs of depression of the cerebral nervous system. In 9 hours after the appearance of the first symptoms, there was a complete arrest of the functions of the cerebrospinal system. The most pronounced lesions were in the skin and the nervous system, the exact nature of which the author intends to report in a later article. On the human skin, the radium rays produced a socalled cold gangrene, which had many forms, depending upon the intensity of the rays. The course of the skin lesions was so characteristic that one may call the condition dermatitis radiogenes. Arterial blood becomes dark in color when exposed to these rays. Blind subjects who still retain a slight light perception were made to see when the radium was applied to their eyes; negative results, however, were obtained in cases of absolute blindness. The blind who are still able to distinguish light from darkness are able to see the outline of dark objects when held against a fluorescent screen illuminated with the radium rays. Two lads, who during early life had lost sight through atrophy of the optic nerves, were thus able to recognize such objects as a key, a cross, etc. He also found that when the radium was held within a certain distance from the head, some of his blind patients were able to tell its presence, which fact he believes to be due to excitation of the visual centers by the rays. With the radium rays it is possible to use the microscope in a dark room. [W.E.R.]

Two Cases of Akromegaly.—M. Gadd[1] reports 2 cases of acromegaly, with autopsy, one in a woman 56 years of age, in whom a soft tumor was found in the sella turcica, which macroscopically looked like a sarcoma. The microscopic report is not given. The thyroid gland was converted into an aggregation of colloid cysts. The second case was that of a man 52 years of age, who, in addition to acromegaly, had a pronounced diabetes, and who had died of sepsis following gangrenous furunculosis. The hypophysis was as large as a hazelnut, and occupied an enlarged sella turcica. The sections presented the features of a simple hyperplasia of the glandular portion. [D.R.]

Fish-eating and Leprosy.—J. Hutchinson[2] states that there is no risk from eating sound fish, whether fresh or cured. Danger comes when decomposition commences. It is in hot climates, where fish soon become tainted, where salt is dear, or where the flavor of decomposition is deliberately preferred, that the risk of leprosy comes in. In all places where there is risk of obtaining unsound fish, its use on fast days ought to be forbidden. Wherever Catholic missions in India are successful there is increase of leprosy. Conversion to Protestantism incurs some risks, because it removes the prejudice to animal food. The East Indian vegetarians almost absolutely escape leprosy. There should be total abolition of the salt tax. The government should aid in investigations as to the specific cause of leprosy. Prevention is of far greater benefit than provisions for the care and comfort of the victim. [H.M.]

Landbred Malaria and Malarial Cachexia.—Reckzeh[3] reports in brief 3 cases of malaria which were acquired in Berlin, and one case of fatal malarial cachexia, interesting because of its being complicated with gastric carcinoma. The former cases concerned a servant and 2 children of one family, and from them typical tertian parasites were isolated. They yielded promptly to antimalarial treatment. The origin of the cases was traced to extensive street excavations, which were being carried on in their immediate neighborhood. The individuals were most likely infected by flies which had been feeding in the newly dug-up earth. The fourth case was one of chronic malaria; the progressive cachexia with symptoms of edema, ascites, dyspnea, however, could not be explained by the malaria; the secondary anemia with leukocytosis pointed to the carcinoma, which was found at autopsy. [E.L.]

[1] Finska läkaresällskapets Handlingar, February 7, 1903.
[2] Medical Press and Circular, June 3, 1903.
[3] Deutsche medicinische Wochenschrift, April 30, 1903.

GENERAL SURGERY

MARTIN B. TINKER

A. B. CRAIG C. A. ORR

EDITORIAL COMMENT

The Diagnosis in Cases of Unconsciousness.—The liabilities to confusion of diagnosis in cases of unconsciousness have recently been brought into prominence. Such cases are among those which exercise the greatest influence in making or marring the reputation of a young practitioner. These should utilize every available means of attaining practical diagnostic ability. A man is found lying in a badly lighted street nook, in a state of complete unconsciousness. He may have sustained an injury of the head, or he may be under the influence of alcohol or of opium. The "pin-hole" contraction of the pupils of both eyes until comparatively recent times was regarded as sufficient evidence to separate the opium cases from the alcoholic and the cerebral. But it has been found that fatal hemorrhage into the pons may be accompanied by the same symptom. To have this effect the lesion must be *central* in position, and so related to the nuclear origin of the third cranial (*motor oculi*) nerve as to stimulate (*i. e.*, irritate), but not paralyze it.

Acute Alcoholism.—In uncomplicated cases the *pupils* will be found slightly dilated, and the axes of the eyes tend to diverge slightly also. The *pulse* is *quickened*, and easily compressible; it resists the finger but very slightly. The odor of some form of alcohol is usually perceptible, and those of the various kinds in common use are too familiar to require special description. In all suspected cases, too, the stomach pump should be employed, and the evacuation of the gastric contents will almost surely settle the question, as well as give the most substantial relief to the patient.

Injury to the Head.—The symptoms in the vast majority of instances are those which are due to the degree of injury of the substance of the brain itself. It is very rare, indeed, that the symptoms due to hemorrhage simply, are even worthy of special notice. The amount of blood which escapes from the vessels in cases of injury of the head is nearly always (comparatively) trifling, and its presence in the wrong place is important only on account of the pressure which it exercises on the very yielding and very susceptible brain tissue.

Lesions of the brain, and the functions thereof, which supervene upon injuries of the head are very appropriately divided into two groups—concussion and compression. In the former the brain substance is shaken so violently as to cause suspension of its normal functions without the coexistence of appreciable organic lesion; in the latter, the cerebral substance is affected by pressure of a portion of bone in cases of depressed fracture, of a mass of extravasated blood in cases of intracranial hemorrhage. Such cases, of course, may or may not be complicated by actual laceration of brain substance. In many cases the conditions of concussion and compression coexist; in the vast majority, the characteristic symptoms of one or the other types predominate.

REVIEW OF LITERATURE

Pressure Pouch or Diverticulum of the Esophagus Removed by Operation.—H. T. Butlin[1] reports 8 cases. In a previous communication he has directed attention to the chief

[1] British Medical Journal, July 11, 1903.

clinical symptoms of pressure pouch with the result that since then he has operated on the 8 cases here reported, and has seen a number of others. He lays stress on the symptoms of this condition, and enumerates them as follows: 1. Return fragments of undigested food—not immediately after ingestion, but many hours or even 1 or 2 days. 2. Gurgling of gas from the throat, particularly when pressure is made on the left side of the neck low down. This also causes distress. There may be distinct bulging in this situation when food is taken, but this sign is not constant. 3. The bougie is arrested at about 9 inches from the teeth, and if a curved metal instrument is passed, the end can often be felt in the posterior triangle of the neck, almost always on the left side. Other attendant symptoms, such as wasting, cough, etc., may appear. He performs the operation according to the lines laid down by v. Bergmann. The author states that in order to be sure that there is no stricture of the esophagus below the opening of the pouch, the bougie should be passed into the stomach at the time of operation. If this can not be done previous to the operation the pouch should be exposed and drawn upward out of the wound, and with a little manipulation the bougie can then be passed. Should the pouch be of long standing and of large size, a tube should be passed from the mouth into the stomach and retained there so long as is necessary for feeding. If this can not be done it must be passed over a guide at each feeding. Otherwise almost all of the food will pass out of the wound in the neck. If this can not be done, a tube should be passed into the stomach from the wound in the neck and retained there until healing is nearly complete. No attempt should be made to close the external wound, however carefully the opening of the neck of the pouch has been sutured, for although the stitches always come away at the end of 3 or 4 days, the surrounding tissues are by this time sufficiently recovered to prevent septic inflammation behind and below the site of the pouch. The author has uniformly good results in his cases. The cure appears to be permanent. [A.B.C.]

The Skin as a Source of Wound Infection.—George R. Fowler[1] speaks of the difficulty in protecting the edges of wounds from infection by the skin and gives in detail his method of disinfecting his hands before operation. He uses the following steps: 1. The finger-nails are trimmed and filed as closely as consistent with the preservation of their use in aiding the tactile sense. 2. The hands are then washed with tincture of green soap and warm water, without the aid of a brush, one hand being employed to wash the other. 3. The spaces beneath the nails are scraped with a blunt instrument. 4. The nail spaces are then cleaned by a special nail brush, which consists of a small wire brush stretched in a frame. 5. The ordinary hand brush is then used to scrub the palms of the hands and the ends of the fingers. The backs of the hands and the arms are cleansed with a folded square of gauze used as a wash cloth. 6. All traces of soap are then rinsed off in a lukewarm 1-2,000 mercuric chlorid solution, after which an alcoholic solution of the same strength is used. 7. The further steps of the preparation depend upon the character of work in hand. If the hands have been recently exposed to unusual infection they are immersed for 2 minutes in a permanganate and corrosive sublimate solution. They are then decolorized in a hot saturated solution of oxalic acid followed by ammonia water and then by bichlorid solution. The hands are then again stained in the permanganate and corrosive sublimate solution and this stain is permitted to remain. During the operation it is of supreme importance to dip the hands at least every 5 minutes in a cold solution of sublimate. If septic cases are to be operated upon, the bleaching in oxalic acid before operation is omitted, the hands being simply protected after cleansing by deeply staining them with the permanganate and sublimate solution, which is permitted to remain during the operation. Fowler finds the use of rubber gloves impracticable in cases in which delicate manipulation is required. [A.G.E.]

Two Fatal Cases of Thyroidectomy.—F. C. Madden[2] states that goiter is a common affection in Egypt, and in quite an extensive operative experience with this affection 2 cases which recently occurred are unique. One was a girl of 12 who had a trilobed goiter of but moderate size. There was no dyspnea or dysphagia, but the movements of the neck were impeded. All was removed save a piece of the isthmus the size of a walnut. On the third day the signs of tetany appeared, and a thyroid tabloid of 5 grs. was given twice a day. For 2 days the tetany persisted, and then disappeared. The patient became pale, emaciated, and anemic. The thyroid tabloids having been withdrawn, as deemed unnecessary, on the twelfth day the symptoms of tetany reappeared, and grew worse until the twenty-fourth day, when death occurred. The fatality was ascribed to deficient thyroid secretion. Necropsy showed the portion of the gland which was left had entirely atrophied and disappeared. Another case was an ordinary parenchymatous goiter with considerable cystic change, of 8 years' standing, in a blind man of 24. Operation showed the enlargement confined almost entirely to the isthmus. Soon after the operation the pulse rose to 144, respirations to 52, and temperature to 102°. In spite of thorough opening, drainage and flushing of the wound, saline infusions, etc., unconsciousness came on, and the patient died 28 hours after operation. The cause of death was believed to be a thyroid intoxication from absorption in the wound of the poured-out secretion of the gland. [A.B.C.]

Hematemesis Following Appendicectomy.—This case is reported by G. R. Fowler,[1] the patient being a man of 48. The first vomiting occurred 11 hours after operation, the material consisting of 8 ounces of brown fluid that reacted markedly to tests for blood. Vomiting of a similar material occurred at intervals of 1 hour to 3 hours for a time and then became more frequent until the death of the patient. Autopsy showed the stomach to contain from 200 to 300 small ulcers the size of a millet seed, mainly in the trend of the lesser curvature. Microscopic examination showed thrombosis of the vessels of the submucosa and necrotic tissue containing staphylococci. Fowler is inclined to the view that the staphylococci alone were carried from the appendix to the stomach and there produced thrombi with subsequent embolism. [A.G.E.]

Urethroplasty.—A. A. Berg[2] reports 2 cases. He says an attribute which is of importance in plastic surgery of the urethra is its power of almost complete regeneration from a stump. The experiments of Ingianni prove that regeneration of smaller and larger portions of the urethra can be experimentally obtained; that the parts of the urethra which regenerate are the mucosa and cavernous body, the muscularis taking no part; that a small stump when implanted into one end of an artificial canal made in the skin will grow and gradually line the interior of the entire canal. The elasticity of the urethra is another important attribute which aids in any plastic operation. The types of operation upon the organ depend upon the condition present: 1. The operation of choice is to take advantage of the elasticity, mobilize the stumps, stretch them until the ends meet, and unite them by an end-to-end suture, but for this the defect must not be too large, never exceeding 3 cm. The stumps must be mobilizable and not too firmly imbedded in the cicatricial tissue and not rendered brittle and inelastic by inflammatory processes. 2. Another type of operation would be the restoration of defects, partial or complete, by regeneration from its ends (Guyon's operation). Such regeneration results in the formation of new walls, differing from the normal only in the absence of the muscular layer. 3. Formation of a new canal by skin-grafting or mucous membrane, either from the immediate vicinity or from other parts of the body on the site of the defect, and then uniting such grafts to the proximal and distal stumps of the urethral walls. The author reports operating on 2 cases after the method of Guyon with satisfactory results. In brief, this operation consists in passing as large a soft catheter as the urethral canal will comfortably accommodate through the 2 parts into the bladder. Over this catheter the perineal tissues are approximated by 2 rows of buried fine chromicized catgut sutures and the skin is united with silk. The catheter remains in position 10 days, by which time regeneration has so far occurred as to insure success, after which time the catheter is removed. [A.B.C.]

[1] Brooklyn Medical Journal, July, 1903.
[2] The Lancet, June 20, 1903.

[1] Brooklyn Medical Journal, July, 1903.
[2] Annals of Surgery, April, 1903.

GYNECOLOGY AND OBSTETRICS

WILMER KRUSEN FRANK C. HAMMOND

REVIEW OF LITERATURE

Premature Detachment of the Placenta.—The precipitate detachment of the placenta at its normal site is a rare and dangerous complication of labor, ending almost invariably in death of the child and often jeopardizing the life of the woman. P. B. Gruning[1] reports 5 original observations and offers a few inferences. The first indication of the trouble is usually a small hemorrhage which cannot be accounted for by a placenta prævia or by rupture of the uterus. The bleeding is followed by a profound anemia, out of all proportion to the slight external loss of blood. The uterus increases in size and assumes a round form. It is elastic and makes palpation of fetal parts impossible. Death of the fetus takes place. The labor pains are feeble and favor further hemorrhage. As to treatment the author is inclined toward active interference. In his 5 cases the forceps was used once, version once, in two the bag of waters was punctured, and dilation by means of Braun's colpeurynter was resorted to in the last. Four children were born dead, two in a macerated condition. The one extracted after version survived. All mothers recovered. [L.J.]

Causes of Death of Newborn During or just after Delivery.—M. Hofmeier[3] reports 3 cases to show the difficulty at the time of determining the cause of death during or after delivery. In the first instance, an apparently healthy child, which cried aloud after a normal delivery, in a few moments ceased to breathe and in spite of all customary restorative measures died. The death seemed without cause, but a microscopic examination of the different organs showed degenerative changes in heart muscle, and lung and liver tissues. In the second case the child died during labor but without any perceptible cause. Subsequent examination showed many abnormalities in the placenta, which doubtless were the cause of the fatty degeneration of the heart muscle and the thickening of the septa of the lungs. In the third case, in the tracheal and bronchial tubes there was found meconium which had been inspired intrauterine, causing death. These cases are related to show how cautious one must be in deciding upon the causes of death in cases in which the decision may have an important legal bearing. [W.K.]

Control of Hemorrhage following Pelvic Operations.—J. A. Sampson[2] reports 4 cases to illustrate some important features in the control of hemorrhage following operations in the pelvis. The principal point emphasized is the packing of the pelvis with gauze through a proctoscope, and, if necessary, maintaining counterpressure by packing the vagina. The method of packing the pelvis through a proctoscope, and also of packing the vagina, is given in detail. The instrument is inserted through the lower end of the abdominal incision and all parts of the pelvis filled with gauze by means of a long pair of forceps or a packer. Tight abdominal and perineal binders are afterward applied. The proctoscope should have a barrel about 18 cm. (7 in.) long and 2.5 cm. (1 in.) in diameter. The instrument, as illustrated by one of Sampson's cases, may also be used for diagnosis in obscure cases. Its insertion during the first 24 or 48 hours after operation causes very little pain, and the field of operation may be inspected without causing the patient much shock. [A.G.E.]

A Case of Precocious Menstruation.—C. Wishman[4] records the case of a child of 18 months, who in the course of 16 months menstruated 12 times. The child was remarkably large for her age and well developed, her breasts were well formed and large, the mons veneris and axillas were covered with hair, and the nipples were very prominent. The labia majora were fully formed. The prognosis in such cases must be considered dubious, as malignant tumors of the ovaries, hydrocephalus, and rickets have been known to cause such conditions. [E.L.]

Nasal Dysmenorrhea.—E. Opitz[5] refers to the views of many writers as to the connection between the nasal membranes and dysmenorrhea, and shows that many accepted the opinion that any apparent connection was a matter of suggestion only. But he reports a case in which the influence of suggestion was apparently excluded. A patient, aged 21, complained of the impossibility of nasal respiration and of frontal headache. On the anterior portion of the septum was found a small tumor, which obstructed the nasal passages. A resection of this was made with favorable results, affording free nasal respiration and relieving the headache. The menses, which had previously been somewhat irregular with severe pain the previous day, now became less and free of pain. After a few months the dysmenorrhea returned, and it was found that a tubercle had again appeared on the nasal septum. A slight incision was made to relieve the nasal respiration, but without perceptible result. A complete resection as before was refused and the second operation had no effect upon the menstrual pain. The patient also refused a vaginal examination. [W.K.]

The Influence of Syphilis in Pregnancy.—W. P. Fedoroff[1] ventilates this mooted problem and contributes some new statistical data. He finally sums up as follows: 1. Postconceptional and conceptional syphilis are easily confounded if exact information as to time of infection cannot be obtained. 2. The placenta plays a very important role in the transmission of syphilis from mother to fetus. 3. Syphilis of the mother acquired during pregnancy influences the fetus unfavorably. It is comparatively immaterial whether infection has occurred late or early during pregnancy. In more than half the cases either abortion takes place or the child is born at term but shows the disease. Mercurial treatment of the pregnant woman may, however, do much toward averting the evil issue. 4. When syphilis has been acquired by the mother before pregnancy, the child has better chances, especially if the date of infection is remote. In these cases mixed treatment is indicated. 5. Gummatous syphilis of the mother does not seem to influence the fetus. The children are born apparently healthy though not always quite free from taint. 6. Maternal syphilis without fresh secondary manifestations calls for treatment of the woman with iodids in large doses. The same holds good of paternal syphilis without evident disease of the pregnant wife. [L.J.]

The Therapeutic Interruption of Pregnancy.—Pinard[2] groups the diseases which may necessitate interruption of pregnancy as follows: Uterine hemorrhage, hydramnios, hydatidiform mole, pernicious vomiting, albuminuria, eclampsia, toxic neuritis, grave affections of the circulatory, urinary, and respiratory apparatus. He considers uterine hemorrhage an indication, if the pulse-rate is above 100 per minute. The hydramnios must be producing grave symptoms before pregnancy is interrupted; this is done, however, as soon as a hydatidiform mole is diagnosed. He uses the same rule for pernicious vomiting as for uterine hemorrhage. Eclampsia and toxic neuritis are positive indications for very early abortions. Concerning chronic diseases, if in spite of all treatment the patient gets worse, induction of labor is indicated. Not so, however, with tuberculosis. Pinard has never seen a case of tuberculosis which was checked the least, by induction of labor; he says that some are made worse by it. The children of tuberculous mothers are not always tuberculous, and the only duty the physician has to perform in such a case is to carefully watch the patient and the pregnancy. [E.L.]

Death from Chloroform or Acute Uremia?—F. Hammer[3] gives the history of a woman, aged 30, delivered of a 6 months' living child. An hour later the placenta was removed manually. Puerperium was normal. Four weeks later there was severe hemorrhage which continued at intervals. Under anesthesia there was found a nut-sized placental polyp. After irrigation with 1% lysol solution, while removing the polyp, the patient fell into a deep coma from which she never rallied, although recourse was had to artificial breathing and other restoratives. She died a few hours later. Subsequent section did not show the condition usually found after death from chloroform; but the microscopic examination of those

[1] Journal Akousherstwa, April, 1903.
[3] Münchener medicinische Wochenschrift, September 1, 1903.
[2] Johns Hopkins Hospital Bulletin, September, 1903.
[4] Norsk Mag. for Laegevidenskaben, 1903, lxiv, 306.
[5] Berliner klinische Wochenschrift, September 19, 1903.

[1] Journal Akousherstwa, June, 1903.
[2] Revue Française de Méd. et de Chir., 1903, 196.
[3] Zentralblatt für Gynäkologie, September 19, 1903.

organs showed an albuminoid degeneration of heart, liver and kidneys. There was not a trace of chloroform in the urine, and Hammer ascribes the death to the uremic complication. It seems most probable that the coma originated in the momentary aggregation of the poisonous products in the blood rather than the introduction of any new poison with the chloroform. It is a fact that under anesthesia there is a diminution of blood-pressure, and the consequent retention of the poisonous products of assimilation favors an attack of uremia. Hence the danger of an anesthetic in uremic conditions, and next to heart examination in importance is that of the kidneys. [W.K.]

Perforation of the Uterus with the Curet and the Intrauterine Sound.—Mauclaire[1] reports 3 such cases: The first patient was cureted with a small instrument 3 weeks after an abortion; 6 hours later she was found in collapse. A supravaginal hysterectomy was performed with abdominovaginal drainage. The patient died 12 hours later. In the second patient the perforation was discovered at once; she was not douched, but after placing a drain in the uterus was kept under observation. Peritoneal signs were well marked 24 hours afterward. A laparotomy was performed, the perforation sutured and the pelvis drained. The patient recovered. The third patient was delivered a month before coming under observation. She was already septic, and while examining her the intrauterine sound slipped through the uterine wall. A supravaginal hysterectomy, abdominovaginal and iliac drainage 24 hours later, could not save the patient, who died 17 hours later. [E.L.]

Complete uterine inversion, following labor, is reported by Enrique Nuñez.[2] At first diagnosed as pedunculated myoma, the mass ovoid and smooth, was discovered emerging from the external os and suspended in the vagina. Nothing could be passed into the external os to the side of the tumor, and bimanual examination revealed the absence of the organ in its normal place, the uterus being inverted. The writer advised operative interference by Kustner's method. This involves section of the posterior uterine wall, reposition of the organ, and resuture. Twenty days following this operation the patient in this instance was sufficiently recovered to return home, notwithstanding her previous condition of marked anemia, due to the occurrence of repeated hemorrhages. [T.H.E.]

TREATMENT

Solomon Solis Cohen
H. C. Wood, Jr. L. F. Appleman

REVIEW OF LITERATURE

The Administration of Feculents to Infants.—Méry[3] calls attention to the fact that the salivary and pancreatic ferments do not exist from birth. The ptyalin in the saliva appears about the second month, the ferment of the pancreas about the sixth month, and both of them in small quantities. Feculent and farinaceous food should not be given, therefore, before the sixth month, and practically they should not be permitted before the eighth or ninth month when these ferments are present in considerable quantities. The first 3 farinaceous articles which may be ordered are rice, potato, and arrowroot. These are ordinarily well digested by infants; the grains composing them are small and easily assimilated. One teaspoonful of these starches should be mixed with 2 dessertspoonfuls of cold water and made into a homogeneous paste; then mixed with 5 ounces of hot milk and cooked for 10 minutes. Salt or sweeten to taste. At first this quantity is given once a day, then twice daily, each replacing a nursing or the bottle. [L.F.A.]

Therapeutic Uses of Rarefied Air Baths.—According to Tissier (Pneumotherapy and Inhalation Methods, Blakiston, 1903) rarefied-air baths have been utilized in the pneumatic chamber only in very exceptional cases, because, since the introduction of cable roads and other systems of mountain railroads, equally good results can be obtained by ascending a mountain, without the slightest fatigue on the part of the patient, at a lower cost in money and annoyance, and under better conditions than in the pneumatic chamber. If the results are to be compared, the region of low pressure must be reached with the observance of certain conditions, such as absence of the fatigue that would result from mountain-climbing, *i. e.*, on foot, and absence of large variations of temperature—a condition that is readily achieved in closed carriages. Still, mountains are not found everywhere, and the patient must go where they are found, and must go at certain seasons. Hence it would not be without interest to study rarefied-air baths in a pneumatic chamber from the therapeutic viewpoint. There is no doubt that the mode of action of rarefied air is better understood than that of condensed air. It is known that rarefied air acts especially, if not exclusively, on the intimate processes of cellular nutrition, and the application of the action of rarefied air in most of the affections belonging to the group known as nutritional or metabolic disorders certainly has its attractions. In the treatment of these conditions, however, we have too many therapeutic agents at our disposal to suppose that a single one of them should alone prove efficacious.

The Influence of Digitalis upon the Respiration in Heart Disease.—Ludwig Hofbauer[1] reports a case which he believes has a bearing upon the solution of the cause of dyspnea in heart disease. The patient, a man of 38, suffered from dyspnea and cardiac pain. The heart was rapid, arhythmic; the first sound was loud, the second clear. Respirations were rapid; the sternocleidomastoids were prominent, the lips livid. Digitalis infusion was administered, and the excursions of the chest were studied by means of Marey's cardiopneumograph. The respiratory movement was represented by an acute-angled curve, which became greatly flattened out after the use of digitalis. The orthopnea disappeared in a week. At the end of 10 days a loud diastolic murmur was heard at the apex. The first sound was loud, the cardiac dulness extended to the midsternal line, and the second pulmonary sound was clear. The patient left the hospital in a month, greatly improved. The reduction in the thoracic movement under digitalis is readily explained by the chemic theory as a cause of dyspnea. The defenders of this theory view cardiac dyspnea as a reaction of the respiratory centers due to increased stimulation through the circulation. Hofbauer agrees with Kraus that cardiac dyspnea is not of mechanical origin, but is an effort at increased ventilation and compensation. [J.H.W.R.]

Mucomembranous Enteritis in Young Children.—The mucomembranous enteritis in young children differs considerably from that occurring in adults.[2] In adults the disease is usually torpid and accompanied by little pain or fever. Children present acute febrile paroxysms coming on usually after some acute disease. The patient remains thin, the appetite is capricious, the tongue white; constipation is present, the stools are rare, but contain mucous membrane and blood; the abdomen is painful, relaxed, and soft. This condition lasts from 1 to 3 weeks, then the abdomen becomes tympanitic and more painful, the fever increases to 102° to 104°, the stools become frequent, green and fetid. Proper treatment usually results in cure even in severe cases. This consists mainly of hydrotherapeutic measures. Water should be given by the mouth to the exclusion of all else for a time. Every few days 6 cgs. (1 grain) of calomel may be given and intestinal lavage should be practised until the odor disappears from the stools. If constipation supervenes it may be overcome by injections of olive oil or the administration of feeble laxatives. Milk is badly borne; it may be replaced in older children by dishes of easily-digested vegetables boiled in water, such as rice, etc. The diet may be increased gradually as the attack subsides. [L.F.A.]

Concerning the Influence of Baths and Douches on Blood-pressure in Man.—O. Mueller[3] has attempted to gain a more accurate knowledge concerning the influence on blood-pressure of baths and douches, using for this purpose the Riva-Rocci apparatus. He details his examinations at great length, concluding as follows: Water-baths below the zone of indifference (91.4°–95° F.) produce throughout the entire bath an increase of blood-pressure associated with a fall of pulse-rate;

[1] Annales de Gynecologie et d' Obstetrique, 1903, lix, 122.
[2] Havana Review of Medicine and Surgery, August 10, 1903.
[3] Journal des Praticiens, Vol. xvii, No. 26, 1903, p. 401.

[1] Wien. klin. Woch. 1903, No. 19, p. 555.
[2] Journal des Praticiens, Vol. xvii, No. 31, 1903, p. 492.
[3] Deutsches Archiv für klinische Medicin, Vol. lxxiv, 316.

baths between 95° and 104° produce a primary rise followed by a secondary fall of pressure to below normal; after a time a renewed rise follows. The pulse-rate falls if the bath temperature is below 98.6°; if above this the pulse-rate increases. If the bath temperature is above 104°, both blood-pressure and pulse rise; the body temperature is also elevated. Increase of blood-pressure during artificial Nauheim baths depends more upon the temperature of the bath than upon the amount of CO_2 in the water; pulse-rate is influenced by both elements equally. If blood-pressure falls during the Nauheim bath, the greatest caution is necessary. Sweat baths of all descriptions elevate both blood-pressure and pulse-rate in healthy individuals. Partial baths and surf baths increase the blood-pressure; if the patient moves about the pulse-rate increases, if he is quiet it falls. Douches increase blood-pressure in proportion to the temperature of the water; the pulse-rate increases if the water is above the point of indifference, if below the pulse-rate falls. All this goes to show how the heart's capacity for work may be augmented by the use of a great variety of physical therapeutic methods. Experience has taught us how very carefully these methods must be employed in individuals with organic valvular and muscular diseases and with arteriosclerosis. Patients, with functional heart diseases, must be carefully guarded during these baths, as immediate fall in blood-pressure, increased rapidity of pulse, fainting, etc., have been observed frequently. [E.L.]

Quinaphenin is a new remedy somewhat analogous to aristoquinin.[1] It is obtained by the action of quinin on the hydrochlorate of etoxyphenylcarbamic acid or on etoxyphenylisocyanic ether. Quinaphenin occurs as a white, tasteless powder, feebly soluble in water, and very soluble in alcohol, ether, benzin, chloroform, and acids. Noorden recommends quinaphenin in whoopingcough in doses of from 6 cg. to 32 cg. (1 gr. to 5 gr.) daily. [L.F.A.]

THE PUBLIC SERVICE

Health Reports.—The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended October 10, 1903:

	SMALLPOX—UNITED STATES.		Cases	Deaths
Alabama:	Mobile	Sept. 27-Oct. 3	3	
California:	Los Angeles	Sept. 20-26	8	
Illinois:	Belleville	Sept. 27-Oct. 3	3	
Maine:	Grant Isle	Oct. 2	3	
	Madawaska Tp.	Oct. 2	5	
	Van Buren	Oct. 2	2	
Massachusetts:	Cambridge	Sept. 27-Oct. 3	1	
	Taunton	Sept. 27-Oct. 3	2	
Michigan:	Port Huron	Sept. 27-Oct. 3	3	
Mississippi:	Natchez	Sept. 20-26	1	
Missouri	St. Louis	Sept. 29-Oct. 5	1	
New York:	Niagara Falls	Sept. 27-Oct. 3	1	
Ohio:	Dayton	Sept. 27-Oct. 3	2	
	Lorain	Sept. 27-Oct. 3	1	
Pennsylvania:	Altoona	Sept. 27-Oct. 3	4	1
	SMALLPOX—INSULAR.			
Philippine Islands:	Manila	Aug. 16-22	1	
	SMALLPOX—FOREIGN.			
Austria Hungary:	Prague	Sept. 12-19	3	
Belgium:	Brussels	Sept. 12-19		1
Brazil:	Rio de Janeiro	Aug. 31-Sept. 13	124	64
Canada:	Quebec	Sept. 27-Oct. 3	1	
Chile:	Antofogasta	July 25-31	20	9
France:	Paris	Sept. 12-19		1
Great Britain:	Birmingham	Sept. 12-26	15	1
	Glasgow	Aug. 31-Sept. 25	1	
	Leeds	Sept. 12-26	24	
	Liverpool	Sept. 12-26	6	2
	London	Sept. 12-26	8	2
	Newcastle-on-Tyne	Sept. 12-19	16	
Italy:	Catania	Sept. 10-17		1
Mexico:	Mexico	Sept. 13-27	6	3
Netherlands:	Amsterdam	Sept. 20-26	4	
Russia:	Moscow	Sept. 5-12		2
Straits Settlements:	Singapore	Aug. 16-22		1
Turkey:	Constantinople	Sept. 7-20		3
	Smyrna	Sept. 7-20		118
	YELLOW FEVER—UNITED STATES.			
Texas:	Laredo	Sept. 28-Oct. 7	105	2
	Minera	To Oct. 3	7	2
	YELLOW FEVER—FOREIGN.			
Brazil:	Rio de Janeiro	Aug. 31-Sept. 13	1	
Colombia:	Panama	Sept. 21-28	2	1
Costa Rica:	Limon	Sept. 18-24	6	5
Mexico:	Nuevo Laredo	Sept. 30	12	9
	Progreso	Sept. 20-27	1	
	Vera Cruz	Sept. 20-26	49	17
Venezuela:	Maracaibo	July 5-11	1	1
	CHOLERA—INSULAR.			
Philippine Islands:	Manila	Aug. 16-22	29	22
	Provinces	Aug. 16-22	5663	3811
	CHOLERA—FOREIGN.			
India:	Calcutta	Aug. 29-Sept. 5		8
	Madras	Aug. 22-Sept. 5		5
Straits Settlements:	Singapore	Aug. 8-22		11
Turkey:	Syria, Birejik.	Sept. 24	Prevailing.	
	PLAGUE—INSULAR.			
Philippine Islands:	Manila	Aug. 16-22		4
	PLAGUE—FOREIGN.			
Brazil:	Rio de Janeiro	Aug. 31-Sept. 13	42	20
Chile:	Iquique	Aug. 21-28	14	8
Egypt:	Alexandria	Aug. 29-Sept. 4	6	4
Japan:	Yokohama	Aug. 22-29	1	1
Mauritius:		July 17-Sept. 3	111	85
Turkey:	Smyrna	Sept. 29		1

[1] La Médecine Moderne, Vol. xiv, No. 27, 1903.

Changes in the Medical Corps of the U. S. Army for the week ended October 10, 1903:

THORNBURGH, First Lieutenant ROBERT W., assistant surgeon, is granted leave for twenty days.

MEAD, JULIAN A., contract surgeon, now at Watertown, Mass., will report at the Watertown Arsenal for assignment to duty.

MURRAY, First Lieutenant ALEXANDER, assistant surgeon, is granted leave for one month, with permission to visit the United States.

RICHARDS, J. W., contract surgeon, is granted leave for two months, on surgeon's certificate.

BREWER, ISAAC W., contract surgeon, is relieved from further duty with troops at Morenci, A. T., and will return to his proper station, Fort Huachuca.

LANDO, First Lieutenant MILTON E., assistant surgeon, resignation accepted to take effect February 1, 1903.

GEER, First Lieutenant CHARLES C., assistant surgeon, now at Belton, S. C., on sick leave of which he availed himself at San Francisco, Cal., will proceed to Fort Crook and report to the commanding officer, Twenty-second Infantry, not later than October 15 to accompany that regiment to Manila, P. I., and will upon arrival in Manila report for assignment to duty.

NOBLE, First Lieutenant ROBERT E., is granted leave for one month.

STEWART, WILLIAM J. S., contract surgeon, now at Portland, Ore., is relieved from further duty as transport surgeon of the army transport Dix, and will proceed to Washington, D. C., for annulment of contract.

BROOKS, First Lieutenant WILLIAM H., assistant surgeon, now at Vancouver Barracks, will report to the commanding officer at that post for duty.

TUKEY, WILLIAM H., contract surgeon, is relieved from further duty in the division of the Philippines, and will proceed upon the expiration of his present leave of which he availed himself at San Francisco, Cal., to Vancouver Barracks, for assignment to duty as transport surgeon of the U. S. Army transport Dix.

JERAULD, FREDERICK N. C., contract surgeon, is relieved from further duty in the department of the Columbia and will proceed at the expiration of his present leave to his home at Niagara Falls, N. Y., for annulment of contract.

Changes in the Medical Corps of the U. S. Navy for the week ended October 10, 1903:

RICHARDS, T. W., commissioned surgeon, with rank of lieutenant-commander from March 3, 1903—October 2.

WRIGHT, B. L., assistant surgeon, ordered to the Naval Hospital, Pensacola, Fla.—October 2.

RICHARDSON, F. A., acting assistant surgeon, appointed acting assistant surgeon with rank of lieutenant (junior grade), from September 29, 1903—October 2.

MCDONNELL, W. N., acting assistant surgeon, ordered to the Naval Academy—October 2.

CARPENTER, D. N., surgeon, commissioned surgeon, with rank of lieutenant-commander from March 3, 1903—October 6.

GROW, E. J., surgeon, detached from the Naval Hospital, Mare Island, Cal., and ordered to the Mohican—October 6.

FISKE, C. N., assistant surgeon, detached from the Mohican and ordered home to await orders—October 6.

SCHWERIN, L. H., acting assistant surgeon, detached from the Southery and ordered to the Yankton—October 6.

MILLER, J. T., acting assistant surgeon, detached from the Navy Yard, Mare Island, Cal., and ordered to the Naval Hospital, Mare Island, Cal.—October 6.

COWAN, J., pharmacist, detached from the Naval Magazine, Iona Island, N. Y., and ordered to Washington, D. C., for examination for retirement and then home to wait orders—October 6.

MARSTELLER, E. H., surgeon, detached from the Panther and ordered home to wait orders—October 7.

THOMPSON, J. C., passed assistant surgeon, ordered to additional duty at the Navy Yard, Puget Sound, Washington—October 7.

BELL, W. H., passed assistant surgeon, detached from the Yankton and ordered to the Navy Yard, Portsmouth, N. H., for additional duty on Southery—October 7.

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PUBLISHED WEEKLY AT 1321 WALNUT STREET PHILADELPHIA BY THE AMERICAN-MEDICINE PUBLISHING COMPANY

VOL. VI, No. 17. OCTOBER 24, 1903. $5.00 YEARLY.

Organization and reform in the nursing profession has at last begun. Following the example in the State of New York, the graduate nurses of Pennsylvania have set about their work with good business and professional sense. In June a preliminary meeting was held in Philadelphia, and this month a regular meeting of nearly 200 delegates was held in Pittsburg, at which constitution and by-laws were adopted, officers elected, etc. The organization is called the Graduate Nurses' Association of the State of Pennsylvania. The object is stated to be to secure legal registration or laws, such as will establish a uniform and definite basis for the practice of nursing; the advancement of the educational standard of nursing, and of all interests pertaining to the nursing profession. The next meeting will be held in Harrisburg, Pa., the last week in January, 1904. It is the duty of every competent nurse in the State to join the association and help in the effort to secure a State Registration Law. In this the members of the medical profession can be of the greatest service, for the elevation of the standards, etc., that will come from organization and registration, are so manifestly desirable in the interests of the public and of both professions that all of us should help. Quackery is already rampant among the nurses and evils can now be prevented as well as progress secured by promptness and unity of action.

Alcoholism and Darwinism.—Environment is of more importance than heredity where alcoholism is concerned, for a man of strong will is likely to exercise it in the gratification of his desires unless deterred by exceptional moral restraints. If a man of powerful will finds that alcohol gives him pleasure, he will probably take care to repeat the experience. The habitual drinker is one to whom alcohol brings enjoyment, either as positive pleasure or in the cessation of pain, whereas the voluntary abstainer is one who, from constitutional peculiarity, finds little pleasure in alcoholic exhilaration. Alcohol weeds out from every race the individuals who most enjoy and indulge in it. The report of the committee on heredity of the (British) Society for the Study of Inebriety states that the Greeks, Italians, Southern Frenchmen, Germans, Spaniards, and Jews, who have been most exposed to alcoholic influences, are for the most part remarkably temperate. On the other hand, the nations of northern Europe, such as the British, Russians, and Scandinavians, who have been less exposed to the temptation to drink to excess, are proportionately more drunken. The drunkenness that fastens upon and works havoc among races which are for the first time afforded unlimited opportunities for obtaining alcoholic beverages is known to almost everybody. The explanation appears to be that excessive indulgence, in the course of time, works its own cure by the process of elimination. Those members of a nation or tribe who possess a strong tendency to overindulgence gradually die out, and the survivors are those whose tendency in that direction is weak. In the same way, when a disease is newly introduced into a country it commits terrible ravages during the first year, but becomes less violent in its action with each succeeding year. The liquor habit unquestionably weakens—very slowly, it is true—as a nation grows accustomed to the effects of alcohol. Although the continued abuse of intoxicants tends to render a race less innately prone to inebriety than it would otherwise have been, and although certain races have become comparatively sober as a result of the elimination of the drunken unfit and the survival of those with a weak tendency to alcoholism, yet it seems unreasonable to suppose that Nature unaided is likely to provide any rapid and drastic remedy for the evils of inebriety.

Dowieism, the fact, for incongruity and ridiculousness could not be equaled by the wildest imaginations of the combined concocters of opera bouffe librettos. Truth surely is far stranger than fiction. The most riotous fancy could hardly have conceived the idea of a God-sent prophet traveling in palace cars and shipping his private carriages and horses in advance to be used by His Majesty when riding a few squares from his palatial hotel. Think of Elijah III descending upon a city with 4,000 motley followers, preaching, and by bombastic nonsense carrying out a unique crusade against reason and pocket-books, and with perfervid superstition mixing the most cunning commercialism and promises of high rates of interest to investors in companies owned by the prophet, companies for exploiting all sorts of industries, such as banks, stores, real estate, sugar, confections, printing, foods, etc.! There is plainly a new and close relationship between prophet and profit. Only once in history could such a thing happen, and we are the for-

tunate witnesses. The dramatic aspect of the affair is heightened by the opportune decision of the New York State Court of Appeals, which declares that dependence upon faith-healing in the case of sickness is criminal neglect. Dowie and his host do not believe in medicine or in medicines, and one of his followers, Pierson, of White Plains, had allowed his adopted daughter, 16 months old, to die of pneumonia without medical attendance. The statutes had commanded "medical attendance" in the case of minors. Neither the law nor the medical profession would at present demand such care in the case of deluded adults, but in that of minors it is very different. The 500 days' imprisonment and $500 fine for the child murderer seems a light punishment. In his opinion, Judge Haight wisely said:

The section of the code under which the indictment was found contemplates that there are persons upon whom the law casts a duty of caring for minors. We are aware that there are people who believe that the divine power may be invoked to heal the sick, and that faith is all that is required. There are others who believe that the Creator has supplied the earth, nature's store-house, with everything that man may want for his support and maintenance, including the restoration and preservation of his health, and that he is left to work out his own salvation under fixed natural laws. There are still others who believe that Christianity and science go hand in hand, both proceeding from the Creator; that science is but the agent of the Almighty, through which he accomplishes results, and that both science and divine power may be invoked together to restore diseased and suffering humanity. But sitting as a court of law for the purpose of construing and determining the meaning of statutes, we have nothing to do with variances in religious belief, and have no power to determine which is correct. We place no limitations upon the power of the mind over the body, the power of faith to dispel disease, or the power of the Supreme Being to heal the sick. We merely declare the law as given us by the Legislature. We find no error on the part of the trial court that called for a reversal.

Indiscriminate Massage.—Although massage is a method of treatment of great antiquity, and capable of many varied applications, it is hardly designed to have the almost infinite number of uses discovered for it by modern ingenuity and modern commercial enterprise. This is an age of novelties in therapeutics as well as in other things—an age of new remedies and new uses for those remedies, often regardless of scientific propriety, or the facts of scientific induction. Massage, for example, is patronized by the public as a "cosmetic," a "tonic," a "nerve stimulant," and as a quack nostrum (osteopathy). In the legitimate field of medicine it is a matter of regret to see it gravely recommended in diseases the most various and diverse, in which its use would seem the most irrational and difficult of scientific explanation, viz., in phlebitis, oophoritis, metritis, gonorrhea in the male, chronic middle-ear otitis, plethora, exudations in the abdominal cavity, etc. That ill effects should follow such indiscrimination is not surprising; and not infrequently cases occur in which its practice has been harmful. Unfortunate results, even fatalities, may be traced to the antecedent abuse of this remedy. In such instances, unfavorable factors have been overlooked, the true nature of the means misunderstood, or often, as in the case of sciatica,[1] it may have been applied on a fallacious theory of the disease. Correctly understood, massage consists of a series of stimuli, the object of which is to increase the energy of muscle, the activity of the lymphatic and blood currents, and of the metabolism of the body; and its use should be restricted to this field, taking care that from over-stimulation a condition is not brought about in which all stimulants lose their power, as in neurasthenia.

[1] Bruce: The Lancet, Vol. ii, 1903.

Masseur and Patient.—From its nature, massage, by bringing two persons into close association, derives some of its influence—salutary or otherwise—from the manipulator. The effect, intelligently directed, we may assume to be salutary if the masseur is a person of normal organization. There are physicians, Hoffa, for instance, who believe that the practice of massage should be actually performed by the physician himself, and that universities should have a course of instruction in this subject. Few will probably agree with this doctrine, but its advantages, if practised, are obvious; for in the personal intimacy that massage involves there is a physical reaction established, the phenomena of which may or may not be desirable. It is not surprising, therefore, to find some cases adversely affected, the nervousness of neurotic subjects increased, or a condition of nervousness developed where it had not existed—facts which have been verified by recent observations. That massage is a practice sometimes detrimental to the health, and even to the morals, is a truth known to antiquity, and to which we find playful allusions in Aristophanes and other comic poets. The health of masseur and patient may visibly decline from the fatigue and nervous strain, and from the influence of the reaction mentioned. For, as Busch well observes, "There is not only the fatigue to be considered, . . . but also the nervous excitement which is produced by stimulation of the peripheral nerves on the palm of the hand and the fingers, and conveyed to the nervous centers."[1] For the first few days the stimulus of massage often produces excellent effects, and very active metabolism, but unhappily this condition of energy is likely to be followed by a state of apathy and an inevitable reaction.[2]

Passive Exercise.—As regards the practical value of massage, the researches of Brunton and Zabludowsky[3] have enabled us to gain an exact comprehension of its range of utility. If a muscle has been exhausted by labor, its contractility—or power of work—may be restored by kneading. This form of passive exercise, in which the stimulus is external and mechanical instead of being furnished by the mind, as in open-air exercise, is practised nowadays to an extraordinary extent by people whose activity has not been curtailed by illness, but in whom idleness and luxury are ruling motives. Passive exercise has done good in suitable cases, but the results in others are sometimes the very reverse of what the votaries of massage expected. That passive exercise at best is but an indifferent substitute for walking, or moderate exercise in the open air, such as hill-climbing, will scarcely be denied by those who have exam-

[1] Ziemssen: Handbook, Vol. v, p. 41.
[2] Bendix: Ther. Monatshefte, August, 1894.
[3] Centralbl. f. d. med. Wiss., 1883.

ined this subject practically. For if one takes a class of cases that would seem peculiarly adapted for its employment, those who suffer from chronic interstitial nephritis, it is found that so far from being improved these patients deteriorate, and the quantity of albumin increases.[1] There is the danger in these cases, and in such as suffer from plethora, vertigo, obscure digestive troubles evinced by a puffy, rubicund visage, of setting free a thrombus in the blood and exciting an attack of apoplexy (Mendel). It unfortunately happens that the patients selected for massage are more or less advanced in years, in whom the tissues are no longer elastic, and in whom there may be more or less atheroma. Such subjects are not suited to this treatment, but often adopt it, sometimes with their physician's advice, sometimes because vanity and caprice suggest it. In younger subjects the process of kneading has had good results, in restoring the motility of joints after inflammation, in spastic paralyses; and Zabludowsky has achieved extraordinary success in the treatment of Friedreich's disease by this means. As for hysteria, chorea, and allied conditions in women, the results have been scarcely less capricious than the impulses of those unhappily afflicted with these maladies. In brief, the masseur or the director of massage must be a thoroughly educated physician, and even he must learn to use greater discrimination in the use of this therapeutic agent. The osteopath is neither physician, nor discriminating.

Unionism and medicine have many relations, and one of the unfortunate ones has just come to view in the complaints of the motormen of an elevated road of New York City against the rules of the company ordered to protect the safety of the public from the results of defective eyesight on the part of the men. It is not an assuring thing to learn that the men are so indifferent to the public welfare as to oppose the examinations demanded of their eyes. The inference is plain that they are afflicted by a blindness to ethics, if not to signals, which needs resolute therapeutics on the part both of company and of public.

"Patent Insides" in Practice.—Our readers will remember that we have several times alluded to the attempt to bolster up commercial medical journalism by the "patent insides" device of the newspaper world. By one method or another men of good reputation in the profession are secured as contributors, their articles manifolded and reprinted in the "syndicate's" journals. The scheme was so preposterous that it seemed at first unworkable. Could men of good professional character be secured to lend themselves to it? We happened recently to see a circular in which the names of several physicians were listed as contributors to certain journals, and upon our question as to the facts, one of these, Dr. Frederick Peterson, permits us to copy the following letter:

4 West Fiftieth, St., New York, September 29, 1903.

Dear Dr. Gould:

I never see the Medical ——, and have never knowingly or voluntarily contributed to its columns. I do not know to what you can refer, therefore, unless possibly the following circumstances can be explanatory: Last winter a woman stenographer who has done stenographic work for physicians in the city came to me to ask me to give her a dictated article to be published in several medical journals. She was most importunate, and came to me at least six or seven times, if not oftener. Finally, when she told me she would get fifty dollars for an article, and how much she needed money, I consented, and wholly to assist her, not thinking what consequences my weakness might lead me into. I have forgotten what material I gave her, but I am quite sure it had either to do with colonies for epileptics or progress in the care of the insane, none of which could at least do any harm if disseminated. So if I have been made a victim in any way it must be laid to good intentions. I neither asked for, sought, received, nor was offered any remuneration whatever. The stenographer seemed so grateful that I am sure she would substantiate this statement and regret any ill consequences. But I have not seen her since last winter, nor heard anything further of the material furnished. Not having seen the Medical ——, I am not, of course, certain that this explanation bears any relation to the matter printed, but anything else appearing there would have no justification whatever, and if I had had the slightest suspicion of anything of mine appearing in that organ (whose reputation in the profession I know) I should not have given the material to Miss Dunn.

Yours very truly,

Frederick Peterson.

POSTSCRIPT.

October 5, 1903.

I am much surprised to see the circular you send me with that immense array of titles. It is hardly necessary for me to say that I did not supply them. They must have been gathered from directories, etc., for this purpose.

Dr. Peterson's standing in the profession is, of course, such that one negative word is all that would be needed to exonerate him from all possible complicity in the matter. We print his letter in order to exhibit the method more clearly. But how about the long list of other contributors in the circular of the Medical ——?

Professional union in New York City seems now inevitable. Two committees, each of five members have been appointed by the Medical Society and by the Association, and have been given full power to make arrangements for unification. It therefore appears impossible that any unforeseen difficulty or opposition can arise which would prevent the extinction of the unfortunate differences which have so long kept the physicians of New York from unity. There will be delight not only in New York, but in the whole nation at this victory of a united profession over schisms, cliques, parties, schools, reactionaries, and demagogs.

The Gout in Olden Times.—The therapeutic methods of the triumphant eddyism of the present period makes us turn with a sense of positive relief, and even scientific security, to some of the amusing stories of the famous cures of the older centuries. Schenck, who pigeon-holed so many curious clinical records, gives us, for example, the following:

Sextus Pomponius, the Governour of the hither Spain, and Father to one who had been prætor, while he was present in his Barns at the winnowing of his Corn, was seized with the terrible pain of the Gout, he thrust, therefore, his legs above the knees into a heap of Wheat, and by this way of drying his feet received ease in a wonderful manner, and afterwards upon the same occasion made use of the same remedy.

And the celebrated Fabricius Hildanus, the founder of the modern surgery of Germany—as was Ambroise

[1] Ther. Monatshefte, 1902, p. 479.

Paré that of France—gives us the following case on his own personal observation and, in his day, unique surgical authority:

I was familiarly acquainted with a man of no mean condition, who, about 16 years ago, being accused of high matters, was brought to Berne, where he was several times put and tortured upon the Rack with great vigour; notwithstanding he constantly affirmed (in the midst of all his pain) that he was innocent; so that at last he was freed and restored to his dignity. This person for many years past had been miserably tormented with the Gout; but from the time of his tortures before mentioned, and his use of the *Valesian* Baths, his health was so far confirmed, that being alive at this day, he never was sensible of the least pain of his Gout; but although he is now old, he is able to stand and walk in a much better manner than before he could.

The Wonders of Fasting.—The degrees of capability of abstinence from food have always been a subject of curiosity—both popular and scientific. Those who have displayed special prowess in that negative form of accomplishment appear to have been very willing to have the fact generally known. The Forty Days' fast of scriptural times has stimulated the morbid emulation and desire for notoriety of individuals down through all the centuries of the Christian era. One of the most wondrous of those quasimiraculous performances is that of a Dutch woman resident in the town of Meurs, whose case is referred to as a special curiosity, by the celebrated Fabricius Hildanus himself. The story went that she fasted

by the space of 14 years together, that is, from the year of her age 22 to 36, and from the year of our Lord 1597 to 1611, and this we have confirmed by the testimony of the Magistrates of the town of *Meurs*; as also by the Minister, who made tryal of her in his house 13 days together, by all the means he could devise, but could detect no imposture. Over the Picture of this Maid, set in the Front of the Dutch Copy, stand these Latine Verses:

Meursæ hæc quam cernis decies ter, sexq; peregit
Annos, bis septem prorsus non vescitur annis,
Nec potat, sic sola sedet, sic pallida vitam
Ducit, & exigui se oblectat floribus horti.

Thus rendered in the English copy:

This Maid of Meurs thirty and six years spent,
Fourteen of which she took no nourishment;
Thus pale and wan she sits sad and alone,
A garden's all she loves to look upon.

Fabricius actually mentions the case of another female who went a year further—having tasted neither meat nor drink for 15 years. Faith evidently abounded—even in the surgical minds of that period.

EDITORIAL ECHOES

The Dispensary Abuse.—For many years we have been divided into those who believe that free medicine pauperizes, and those who believe that it does not. It is conceivable that people may honestly differ about this, but not conceivable that they should differ as to the pauperizing effect of the wrong medicine. And are not the wrong treatment, the wrong medicine, and the wrong and wasteful use of an opportunity all inevitable under the pressure upon medical charities of an unsifted mass of applicants? . . . Assuming that the medical plant is good, how shall we give it social adjustment?—[Mary E. Richmond, in *Charities*.]

AMERICAN NEWS AND NOTES.

GENERAL.

A Real Use for Chewing Gum at Last Found.—Chewing gum is regularly supplied to inmates of insane asylums by the Minnesota State Board of Control. Its use is often found to soothe them during violent spells and enable them to concentrate their minds upon various forms of work.

Tuberculosis occurred rarely, if at all, among the negroes in slavery, but now, after a little more than a quarter of a century of freedom, it causes more deaths among them than all other contagious diseases combined. The negro deathrate from tuberculosis is more than 3 times that of the whites.

Prospectus of a Corporation.—The Cincinnati *Lancet-Clinic*, under date of October 10, 1903, publishes the following as a part of its editorial comment upon the future of that journal: In accord with current business methods, after much consideration, it has been determined to effect an incorporation of the Cincinnati *Lancet-Clinic* as a joint stock company, which will become an accomplished purpose at the termination of the present volume of the publication. This will be at the end of December, 1903.

Personal.—It is reported that Dr. Frank Billings, whose term as president of the American Medical Association recently expired, has undergone a serious operation for some hepatic and biliary trouble. It is believed that Dr. Billings' extensive and continuous labors as president of the American Medical Association, and in various other capacities, public and private, have resulted in this somewhat serious condition. At latest accounts he was doing well, and hope of speedy recovery is entertained by all his friends.

Honorary Degrees Conferred by University of Toronto.—At a special convocation, held October 2, 1903, for the purpose of conferring honorary degrees in connection with the opening ceremonies of the new physiologic and medical laboratories, the University of Toronto gave the degree of LL.D. to the following men: Dr. Henry Pickering Bowditch, who was unable to be present at the ceremony, Dr. William Williams Keen, Dr. William Henry Welch, Dr. William Osler, Dr. Russell Henry Chittenden and Dr. Charles S. Sherrington.

Charitable Bequests.—BOSTON: By the will of Dr. George Haven, the Harvard Medical School receives $25,000 outright and a share in a residue, and the Boston Lying-in Hospital receives his books and instruments, a gift of $20,000 and shares equally with the Harvard Medical School in a residue. HOBOKEN: By the will of Mrs. Mary P. Lewis, $3,000 is given to Christ Hospital, and $2,000 to St. Katharine's Home, Jersey City. GREENWICH, CONN.: Through the philanthropy of Robert M. Bruce and his sister Sarah E. Bruce, the sum of $75,000 is given to construct 4 buildings for the Isolation Hospital. CHICAGO: By the will of Henry J. Willing, the Chicago Home for Incurables and the Presbyterian Hospital each receive $5,000.

Cholera in the Philippines.—Cholera in the Philippines in 1902 caused for the whole army an admission rate of 6 per 1,000 of strength and a deathrate of 3.54. For the force serving in the Pacific Islands, which alone was exposed, the admission rate was 12.84 and the deathrate 7.57 per 1,000. The total number of cases was 485 and the deaths 286, a proportion of 1 death to 1.69 cases. This terrible disease had not appeared among our troops for 36 years, when it caused in 1866 the sickness of 2,813 men, of whom 1,269 died. For troops exposed there were 211.9 admissions per 1,000 and 94.4 deaths, and again in 1867 there were 71 admissions and 32 deaths per 1,000 for all exposed troops. The malignancy of the disease was not as great in those years as in the present Philippine epidemic.

Miscellaneous.—Dr. N. M. HARRIS of John Hopkins Medical School has received an appointment in the bacteriologic laboratory of the University of Chicago.—Dr. PETER POTTER, head of the department of anatomy of the University of Missouri, has been elected an associate professor of anatomy in the Medical Department of the St. Louis University.—CORNELL MEDICAL COLLEGE has created a chair of experimental pathology and bacteriology for research work at the Loomis Laboratory. Dr. B. H. BUXTON takes charge of the laboratory and VICTOR C. VAUGHAN, JR., will be his assistant.—The DOCTOR'S RECREATION SERIES, a list of 12 books, which, while not strictly medical, will doubtless prove of interest to doctors as well as laymen, since a number of them are written by doctors and for doctors, are in course of publication by the Saalafield Publishing Co. The first 5 of this series will appear later in the fall.—Vol. V of the MEDICAL DIRECTORY of NEW YORK, NEW JERSEY and CONNECTICUT, published by the New York Medical Association, 64 Madison avenue, New York, has appeared.—The ANNUAL REPORT OF THE SUPERVISING SURGEON-GENERAL OF THE MARINE HOSPITAL SERVICE of the United States, for the fiscal year 1900 and a similar report for the year 1901, have just been issued from the Government printing-office at Washington.

EASTERN STATES.

Christian Science Litigation in New Hampshire.—An exchange says: An opinion in a case was rendered recently which established the legal right of Christian scientists to treat diseases of all kinds without danger of civil or criminal liability so long as they confine themselves to Christian science practice. In the same opinion, however, the court held that there was evidence upon which a jury might properly find that a defendant had deceived the plaintiff to his injury.

Typhoid Germs in Ice.—An exchange says: There is a source of infection from typhoid germs, the existence of which has been the cause of much speculation in the medical world, and that is the ice placed on the market. Two years ago that problem was supposed to have been disposed of satisfactorily, favorable to the public ice supplies, since the best authorities agreed that there was no danger of infection from ice after a certain period. That theory has been disproved, apparently, by recent discoveries in the St. Lawrence State Hospital at Ogdensburg, N. Y. The general impression has been that the keeping of bacteria at a temperature below the freezing-point for a long period eventually led to their death, but for some years it has been conceded that the freezing did not kill, but only rendered the germs for the time incapable of multiplication. Sedgwick, Winslow, and Park, in the course of their investigation of the ice supplies of Boston, came to the conclusion that the typhoid germs in the ice taken from contaminated water became harmless after a month, or even less, and it was supposed that ice 3 weeks old is sanitarily as safe as well-filtered water.

NEW YORK.

Seek Trachoma in Stores.—Inspectors of the Board of Health are now conducting a series of inspections among children of school age employed by large mercantile establishments under certificates issued by the Board. The object of these inspections is to discover what proportion of such children are afflicted with trachoma.

Financial Requirements for the Board of Health.—President Lederle, of the Board of Health, has asked the Board of Estimate for an appropriation for 1904 of $1,631,500 as against the appropriation for this year of $1,034,391, an increase of $597,108. Dr. Lederle wants $190,612 for an enlargement of his staff. Part of this money will be expended in providing for a summer corps of physicians for house to house inspection in tenement districts.

Spring Valley Fresh-Air Home.—A report just issued by the St. Vincent de Paul Fresh-Air Home at Spring Valley, N. Y., among the Ramapo Hills, which was opened this year on July 2 and closed on September 12, shows that during the summer upward of 1,200 poor children from the tenements of New York enjoyed a free outing of 2 weeks there. There was only 1 case of sickness, and that was not so serious as to cause inconvenience. The homesickness among the children, so common in former years at Baychester, was, it appears, altogether absent this summer.

Daily Treatment for Tuberculous Women.—The Commissioner of the Department of Charities has announced that a change will be made in the treatment of tuberculous patients at the Metropolitan Hospital on Blackwell's Island. At present there are about 330 male patients and 70 female patients resident at the hospital. These figures indicate that there must be many women deprived of the treatment that they should receive at this institution, most probably because they are unable to remain permanently away from home. The Commission has instituted a day treatment system by which women may visit the island during the day, and are given the open-air treatment, together with the medicines and good food which the regular patients receive. The women return home at night.

Effective Work Done by Health Department.—In a recent letter, Mayor Low, of New York City, sums up the valuable work accomplished by that city's health department as follows: The Health Department has cut down the death-rate from 20 per 1,000 in 1901 to 18.75 per 1,000 in 1902, and the returns for the first 8 months of this year indicate a rate of only 18 for 1903. As compared with 1901, this means for 1903 a saving of over 7,000 lives. It has virtually stamped out smallpox, which at the beginning of 1902 was raging in New York and other American cities. During the first 6 months of 1903 there were only 26 cases of smallpox in New York, despite its large population. In Chicago, during the same interval, there were 310 cases, and in Philadelphia 691 cases. It has vigorously fought eye disease and every form of contagion among the school children, and it has provided a system of home nursing for children shut out of school on account of illness which has greatly shortened the time thus lost. In addition, it has made systematic provision in every borough for the care of infectious disease. The New York *Times*, commenting upon the value of this work, placing the expense thereof at $1,226,391 for the year 1903, and estimating the value of each life at $5,000, states that in one year this gives the city a credit of $35,000,000, or a net gain to the health account of $33,773,609.

PHILADELPHIA, PENNSYLVANIA, ETC.

Nurses Strike.—It is reported that the superintendent and head nurse of McKees Rock Hospital were relieved from their duties at that institution by the board of directors. A sympathetic strike followed, in which a number of nurses severed their connection with the institution.

Insane Hospital Overcrowded.—Superintendent Orth, of the Harrisburg Insane Hospital, reports that that institution is seriously overcrowded. He says: "The attention of the Courts and the Legislature has been repeatedly called to our pitiable condition. We now have 213 patients in the hospital beyond our capacity. This condition has existed for 10 years. Notwithstanding this, our deathrate for last year was less than in 30 years."

Smallpox in Philadelphia.—More new cases of smallpox were reported to the Bureau of Health for the week ended October 17, than for any one week since the epidemic of 2 years ago. In all 54 cases and 4 deaths had been reported yesterday morning, when the week's record closed, as compared with 11 cases and 3 deaths for the previous week and 2 cases and 5 deaths for the week preceding that. This fresh outbreak of the disease is causing anxiety among the health authorities. The figures show that the Twenty-eighth and Thirty-third wards furnish between them one-half the total number of new cases in the entire city. The present Municipal Hospital is in the former and the new Municipal Hospital is being built in the latter ward.

Active Campaign Against Tuberculosis.—Plans for an active campaign to educate the public in the sanitary and hygienic means of preventing the spread of tuberculosis, were laid recently by the Pennsylvania Society for the Prevention of Tuberculosis, at its first meeting after the summer months. The Public Lectures Committee planned the holding of meetings in every section of the city, to be addressed by prominent physicians. The object of these meetings will be to present to the people, in a readily understood way, facts concerning tuberculosis, the dangers of infection, the responsibility of all to join in the stamping out of the disease by observing certain sanitary rules, and the necessity of fresh air and outdoor exercise. It is intended to hold a meeting every 2 or 3 weeks in a different section of the city.

SOUTHERN STATES.

Yellow Fever Increasing in Texas.—From Laredo, Texas, under date of October 11, comes the following news: The official bulletin shows there have been 18 cases of yellow fever, with 1 death, making the total number of cases to date 210, with total deaths 10. News from Nuevo Laredo, Mex., is to the effect that there are now 14 cases of fever in that city.

The sixth annual report of the Board of Medical Supervisors of the District of Columbia has been made. The board renews the request that the sum of $2,500 be asked of Congress to compensate the members of the medical examining boards at the rate of $10 each for every meeting actually attended. This year the board held 14 meetings. The subject of reciprocity in the matter of exchange of licenses without examination has occupied much time. They state that careful consideration has been given to every application made for license by virtue of the section of the law which provides for a possible interchange of courtesy between the several boards. The board has not seen its way clear to the granting of these requests in any instance. It does not see how, at the present time, such reciprocity is possible without some amendment by Congress of the present law under which we are operating. The lack of uniformity in the medical practice acts in the several States is regretted, as it forms the chief barrier to the establishment of the much desired reciprocity." The board adds: "As we believe that the law under which we are organized is the most practical of any so far enacted, we would recommend it as a model to the Legislatures of the several States."

WESTERN STATES.

The State Board of Health Forbids Employment of Tuberculous Teachers.—The Indiana State Board of Health has forbidden the reemployment in public schools of teachers afflicted with tuberculosis. According to the investigation carried on by the board, 250 teachers in the State have tuberculosis.

Mortality Rate in Illinois.—Four thousand nine hundred and three deaths were recorded in the State of Illinois during July, 1903, according to the mortality reports for that month, just published by the State Board of Health. The rate is slightly less than that of July, 1902, when 5,107 deaths were reported.

Mortality of Michigan During September, 1903.—The total number of deaths reported to the Secretary of State for the month of September was 2,722, or 78 less than the number for the preceding month. The deathrate was 13.4 per 1,000 population. By ages there were 682 deaths of infants under 1 year of age, 233 deaths of children aged 1 to 4 years, and 730 deaths of persons 65 years and over. Tuberculosis caused 156, and cancer 154 of the deaths.

FOREIGN NEWS AND NOTES

GENERAL.

Cholera in Bethlehem.—Under date of October 17, news comes from Jerusalem that cholera has broken out at Bethlehem and that the town is surrounded by troops.

Miscellaneous.—A statue in honor of the renowned French neurologist, M. Charcot, has lately been erected at Lemolon-les-Bains.—Professor v. Behring, the eminent pathologist, has been made a member of the Russian Privy Council.

Homeopathy Barred from a German University.—The homeopathic practitioners of Germany recently presented a petition to the government asking that a chair of homeopathic therapeutics be established at the University of Tübingen. Strong opposition to the measure arose, and the government refused to sanction the foundation of the chair.

No Race Suicide in Germany.—From a survey of the birthrates of various parts of the world during 1901, it appears that 3 German cities stand at the head of the list—Essen, with 47.1 per 1,000; Manheim, with 43.9, and Nuremberg, with 41.3. Only 1 non-German city rose to 40 births per 1,000, and that was Rosario, in the Argentine. Of cities possessing more than 1,000,000 inhabitants, Moscow comes first, with 30.9, and Vienna, London, Berlin, New York, and Paris follow with a decimal in excess of 21 per 1,000. Rio Janeiro is at the bottom of the list of large cities, with a rate of 17.4.

Railway Accidents in the United Kingdom.—The English Bureau of Commerce has published a report covering the railway accidents of the United Kingdom which shows that 1,171 persons were killed and 17,814 injured in 1902. As compared with 1901 the killed and injured were as follows: Of every 9,211,002 passengers 1 was killed in 1902, against 1 in every 9,684,414 in 1901; 1 was injured in every 466,700 passengers in 1902, against 1 in every 546,511 in 1901. The total mileage of the railways of the United Kingdom at the close of 1902 was 22,152 miles. Most of the roads have double and triple tracks.

Plague Dangers at Hong Kong.—It is stated that the annual appearance of plague at Hong Kong each spring, has led Sir Henry Black to make an investigation. A block of native houses containing several thousand inhabitants, which was certified as being free of the plague, was selected for examination of vermin as the first step. Fleas, cockroaches, and spiders were found to be unmistakably infected with the germs of the plague. The bite of these insects is sufficient to introduce the germ. A further test revealed a more disturbing source of infection in samples of blood taken from many healthy inhabitants, which were forwarded to the bacteriologic department. Plague germs were discovered in at least 5% of these samples. Thus in the hot season each of these was a probable center of danger, although there was no apparent contact with the disease. The only cure seems to be the destruction of the native town and the erection of a new and clean one which can be kept under sanitary control.

Antirabic Inoculation at the Pasteur Institute, Paris.—According to a report by M. Eugene Viala in the *Annales de l' Institut Pasteur*, the total number of persons who underwent the antirabic treatment at the Pasteur Institute, Paris, in 1902 was 1,106. Of these, 3 died of hydrophobia; in 1 case the disease developed before the completion of the treatment. Omitting this case, the statistics for the year are as follows: Persons treated, 1,105; deaths, 2; percentage of deaths, 0.18. The corresponding figures for previous years are as follows: 1886: Number treated, 2,671; deaths, 25; mortality, 0.94%. 1887: Number treated, 1,770; deaths, 14; mortality, 0.79%. 1888: Number treated, 1,622; deaths, 9; mortality, 0.55%. 1889: Number treated, 1,830; deaths, 7; mortality, 0.38%. 1890: Number treated, 1,540; deaths, 5; mortality, 0.32%. 1891: Number treated, 1,559; deaths, 4; mortality, 0.25%. 1892: Number treated, 1,790; deaths, 4; mortality, 0.22%. 1893: Number treated, 1,648; deaths, 6; mortality, 0.36%. 1894: Number treated, 1,387; deaths, 7; mortality, 0.50%. 1895: Number treated, 1,520; deaths, 5; mortality, 0.33%. 1896: Number treated, 1,308; deaths, 4; mortality, 0.30%. 1897: Number treated, 1,521; deaths, 6; mortality, 0.39%. 1898: Number treated, 1,465; deaths, 3; mortality, 0.20%. 1899: Number treated, 1,614; deaths, 4; mortality, 0.26%. 1900: Number treated, 1,420; deaths, 4; mortality, 0.35%. 1901: Number treated, 1,321; deaths, 5; mortality, 0.38%.

Queen's Medical College Jubilee.—Queen's Medical College, Kingston, Ontario, held its jubilee celebration recently. This college originated in a religious dissension. Certain students of the medical school in Toronto were informed that they could not obtain the degree of doctor of medicine unless they conformed to certain religious tests which were distasteful to them. These students petitioned the medical practitioners of Kingston to establish a college there, which should be open to all on the same terms. This was done, and the new institution was taken under the wing of Queen's University. In 1866 the college became the Royal College of Physicians and Surgeons in affiliation with Queen's, but in 1891 the original status as a part of the university was resumed, and an interchange of services arranged between the arts and medical faculties. A feature of the program at the jubilee celebration was an address by Dr. W. L. Herriman, of Lindsay, Ontario, who is believed to be the only survivor of the 8 men who left Toronto 50 years ago to form the first class in the new college.

OBITUARIES.

Basil B. Brashear, whose death notice has previously been noted in these columns, was born at Brownsville, Pa., in 1822, and died at Marlboro, Md., October 2, 1903. He was of Huguenot ancestry, studying medicine in the Medical College of Baltimore, the College of Physicians and Surgeons, New York. He practised medicine in Ohio until the breaking out of the Civil war, when he entered the service as surgeon of the Sixteenth Regiment of O. V. T., in 1863. He was appointed surgeon-general of the Thirteenth Army Corps, and in 1864 was made medical director of the department of the Gulf. After the close of the war, he practised medicine in Pittsburg, Pa., and in Akron, O., from which latter place he was called to a chair in the Medical College of Cleveland. In 1898 he retired from active practice, and spent his time at Atlantic City during the winters and engaging in extensive travel during the summers, devoting most of his time to literary work. He retained his bodily and mental vigor until the time of his death, which was sudden.

Robert Aberdien, at his home in Syracuse, N. Y., October 18, aged 58; a graduate of the University of Toronto in 1867; a Fellow of the Royal Microscopical Society of Kings College, London; and a wellknown surgeon in central New York. His father was Dr. Robert Aberdien, Sr., a member of the Royal College of Physicians of Edinburgh, and later a surgeon to the British troops during the patriot war.

H. M. Alexander, at his country home, Conewago. near Marietta, Pa., October 13, aged 52; a graduate of the University of Pennsylvania in 1876; owner of the Lancaster County Vaccine Farms; member of the American Medical Association, the Medical Society of the State of Pennsylvania, and of Lancaster County Medical Society; examiner of the New York Life Insurance Company, etc.

L. S. Filbert, at his home in Philadelphia, October 19, of acute gastritis, aged 78; a graduate of the Pennsylvania College of Medicine in 1846. He formerly practised at Bainbridge, later in Columbia, Pa., and later in Philadelphia. About 30 years ago he retired from practice and organized the Vulcanite Paving Company of Philadelphia, with which he has since been connected.

Jean Fresne Chauveau, at his home in New York City, October 17, aged 72. He was born in the West Indies and was graduated from the Geneva Medical College, New York, in 1853. He was attending physician to the French Hospital in New York City, and since 1883 correspondent to the French Legal Society and a member of a number of medical societies.

William H. Thomas, at his home in Indianapolis, September 30, aged 70; a graduate of the Medical College of Indiana, Indianapolis, in 1876, in which institution he was a member of the faculty for some time; later one of the founders and a member of the faculty in the Central College of Physicians and Surgeons.

Philo D. Patterson, at his home in Charlotte, Mich., September 27, of cancer of the throat, aged 60; a graduate of the University of Michigan, in 1869; at one time president of the Michigan State Medical Society, and member of the American Medical Association.

Jonathan Taft, D.D.S., at his home in Ann Arbor, October 15, aged 83; founder of the Dental College of the University of Michigan; author of a book on operative dentistry; and for 40 years editor of the *Dental Register*, the oldest dental magazine in the world.

John K. Lineaweaver, at his home in Columbia, Pa., October 18; a graduate of Jefferson Medical College in 1861; member of the American Medical Association; State and county medical societies, and for the past 12 years president of the Columbia Board of Health.

John Green, at his home in Council Bluffs, Ia., after a lingering illness, September 25, aged 71; a graduate of the Charity Hospital Medical College, Cleveland, in 1867; a member of the Council Bluffs Medical Society.

Albert Nott, at his home in West Newton, Mass., October 10; a graduate of the University of Vermont, in 1869; prominent in the Masonic and Odd Fellows fraternities.

Benjamin Milliken, at his home in Bowling Green, Ky., recently, after an illness of several weeks; a graduate of the New York University, in 1863.

M. A. Certes, well known for his bacteriologic researches, and formerly president of the French Zoological Society, died recently.

Leven Cottingham, at his home in Robard, Ky., September 30, aged 56; a graduate of the University of Louisville, Ky., in 1862.

George E. Merkley, at his home in Pottsdam, N. Y., October 18; a professor at the Clarkson University.

Ebenezer Sherwood Martin, at his home in Laporte, Ind., aged 88.

SOCIETY REPORTS

AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS.

Sixteenth Annual Meeting, Held in Chicago, Ill., September 22, 23, and 24, 1903.

[Specially reported for *American Medicine.*]

[*Concluded from page 615.*]

Ovarian Grafting.—ROBERT T. MORRIS (New York) detailed some experimental work in connection with this subject. His results showed that an ovary grafted from one patient into the same patient had a tendency to retain its character as an ovary, to continue to furnish ova, to continue to furnish its internal secretion, and to carry on the function of an ovary, no matter at what point it was transplanted into the host, but preferably at some point near the point at which the ovary formerly grew. An ovary transplanted from one patient into another had a tendency to degenerate, and did degenerate. One could not make an ovarian graft practically from one patient into another at the present time, because the graft was absorbed. The tissues of one patient were destructive to those of another. The ovary underwent fatty degeneration, not absorption, and this was the line of experimentation upon which he and his assistants were at work now. By making one series of rabbits immune from the serum, and by making another series of rabbits immune from extracts of rabbits, absorption or fatty degeneration of the graft from one patient to another might be prevented. At the present time he had reached this point in the practical use of ovarian grafting: 1. If, in a case of pyosalpinx, the ovaries and oviducts had to be removed *en masse*, the patient would suffer from a precipitate menopause, if she was left without an ovary. If a piece of ovary from this patient be taken, or a piece of ovary taken from another patient operated upon at the same time be taken and put in a salt solution at a temperature of 100°, and then engraft in the broad ligament of the patient who had lost her ovaries and oviducts a piece of her own ovary or a piece of the ovary of another patient, it averted a precipitate menopause. That patient would continue to menstruate. She would continue to have the comfort that goes with the possession of an ovary. But if an ovary be grafted from another patient, at the end of a year, perhaps, the grafted ovary will have practically disappeared and her menopause begin. If a woman be grafted with a piece of her own ovary, the menopause might not begin for some years afterward, or until the normal time for it. This was a practical point, he said, which surgeons could apply in their everyday work. 2. A patient grafted with a piece of her own ovary might become pregnant, if a tube and oviduct on one side were left, or part of the tube on one side. A patient grafted with a piece of an ovary from another patient might become pregnant, if pregnancy occurred quickly. This had occurred twice with rabbits during his experimentation. But pregnancy must occur before degeneration has gone to such a point that the ova are not well formed. We must not expect pregnancy to occur as late in grafting an ovary from another patient. We might expect it after grafting a patient with a piece of her own ovary. There were many cases in which the ovaries must be sacrificed, in which part of a tube or an entire oviduct on one side could be saved. This was another point of practical importance. Pregnancy might be expected to occur in a small proportion of cases. He expected to obtain further good results. He was hopeful. Thus far it was known that a precipitate menopause could be prevented. Furthermore, the internal secretion of the ovary of a patient could be retained.

A Consideration of Combined Ectopic and Intrauterine Pregnancy, with Report of a Case.— F. F. SIMPSON (Pittsburg, Pa.) said the combination of ectopic with intrauterine gestation in the same patient was termed compound pregnancy. Cases of this kind recorded in literature were grouped as follows: Class 1. The woman became pregnant while carrying the dead products of an ectopic gestation. Class 2. The ectopic and intrauterine products of conception were both living at the same time. (*a*) Ectopic conception preceded the uterine—3 cases only; (*b*) ectopic conception followed the uterine (?); (*c*) ectopic and uterine conception occurred coincidentally—98 cases. The condition was being recognized more frequently. Prior to 1893 but 56 cases were found, while in the next decade an equal number were recorded. The common errors in diagnosis had been (*a*) the recognition of the uterine pregnancy and mistaking the ectopic for an inflammatory condition or neoplasm; (*b*) the recognition of ectopic and overlooking the uterine pregnancy. It was incumbent upon teachers and authors to give the subject proper recogniton by reason of its actual frequency and perilous course. Treatment in many particulars was identical with that of simple ectopic. It varied with the duration of the ectopic, the degree of its integrity, and the patient's power to withstand the treatment or the disease. It differed from the treatment of simple ectopic by reason of the third life in question, and the varying exigencies of its existence. To the ordinary dangers of ectopic pregnancy were added the dragging and pressure of the enlarging gravid uterus, and its evacuation prematurely or at term. There was, therefore, greater reason for appropriate and timely surgical intervention in compound than in simple ectopic pregnancy. As the ectopic fetus was rarely delivered alive, it should be disregarded when considering proper treatment, unless almost visible and proper surroundings render delay safe. The greatest safety to the mother and her offspring (uterine) lay in the removal of the ectopic products by abdominal section. Accompanying the paper was a table of 118 cases the author had been able to cull from literature, including the report of one of his own. A woman, aged 24, became pregnant coincidentally in the uterus and tubes. The tube ruptured, and was removed by abdominal section. Convalescence was normal. Uterine pregnancy continued, and a living child was delivered at term.

Emergency Abdominal Surgery at the Patient's Home—A Demonstration.—WILLIS G. MACDONALD (Albany, N. Y.) said that abdominal surgery became imperative and immediate in its demands in appendicitis, perforations with typhoid fever, or gastric and duodenal ulcer, acute gangrenous cholecystitis, acute pancreatitis, acute intestinal obstruction and hernia, ectopic gestation, conditions requiring cesarean section, and penetrating gunshot and other wounds of the abdomen. Patients suffering from any of these conditions would not admit of delay in the operation, or withstand the shock of transport from points remote from hospitals. Operation in the patient's home became a necessity. The surgeon must be prepared to treat such emergencies without delay. Conditions for aseptic operations in private houses were difficult to attain. He alluded to the selection of a room for operation, kitchen or dining; dust, operating table and utensils, water supply, etc. The dry method in operations presented distinctive advantages. The paraffin gauze tamponade was a useful device. The surgeon's traveling case (field outfit) must be complete. In making provisions for anesthesia and its complications he emphasized the importance of skin sterilization of the field of operation, and of the surgeon's hands. He alluded to the immediate aseptic surroundings of the field of operation, and said that sufficient instruments and rubber gloves should be at hand with suitable sterilizer; sponges and tampons for dry method; a suitable sterile dressing, general abdominal flushing and saline infusion; drainage—glass, rubber and gauze. The surgeon's traveling outfit must be clean, complete, compact and mobile, independent of express or baggagemen, always available when required and sufficient for complete aseptic surgery under the most adverse conditions.

Ectopic Pregnancy.—HENRY D. INGRAHAM (Buffalo) reported 12 cases of ectopic pregnancy in which he had operated. A careful serial microscopic examination was made of the removed tubes and ovaries. In only 3 of the 12 cases were there any signs of previous inflammatory disease, with loss of epithelium in the tubes. In one case there was obstruction of the lumen of the isthmus, probably due to congenital malformation. In 2 cases the corpus luteum of pregnancy was not found in the ovaries removed. Although the number of cases reported was too small from which to draw conclusious, yet he was inclined to think that previous inflammation of the tube had but little to do in causing ectopic pregnancy. That the only condition discovered in any of these cases that could be the cause was the case of constriction of the tube, the cause of which at present was unknown. The 2 cases in which the corpus luteum of pregnancy was absent gave additional proof to the theory of external transmigration.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

Twenty-ninth Annual Meeting, Held at Memphis, Tenn., October 7, 8, and 9, 1903.

[Specially reported for *American Medicine.*]

Officers.—The following officers were elected for the ensuing year: President, Hugh T. Patrick, of Chicago, Ill.; first vice-president, Bransford Lewis, of St. Louis, Mo.; second vice-president, George W. Cale, of Springfield, Mo.; secretary, Henry Enos Tuley, of Louisville, Ky.; treasurer, Thomas Hunt Stucky, of Louisville, Ky. The time and place for holding the next annual meeting were left to the president, secretary, and treasurer to decide.

President's Address.—EDWIN WALKER (Evansville, Ind.) urged the necessity of careful, accurate observation and study of cases, and the correct diagnosis of each one as an indispensable requisite to advancement in the profession. Experience was valuable in proportion as it was founded on accurate observation. If physicians incorrectly diagnosed their cases, how could they draw correct conclusions from their observations and treatment? If their premises were faulty, so also must be their deductions. The average physician lost enough time by careless, slipshod methods to master any branch of medicine. Physicians should not loaf at the corner grocery or in their offices. They should not deal with gossip or small talk, or gabble with idle men and women. They should not make long visits, but take only such time as was absolutely essential. They should not go star-gazing and attempt something entirely unfitted to their sphere. A method suitable to the students in the laboratory or a clinician in a large hospital was not the one

for the practitioner of the cross-roads. Each must fit his methods to his needs.

The Decision to Operate: Address in Surgery.—A. MORGAN CARTLEDGE (Louisville, Ky.) would impress upon both physician and surgeon the eternal fitness of time and opportunity as they are related to surgical operations. The first great responsibility in deciding that an operation should be performed rested with the physician, who was keenly alive to the alarm and perturbation his announcement would cause to both patient and friends. Therefore, he should be prepared to make such announcement with the greatest clearness and candor, mingled with as much encouragement and hope as the condition would justify. In cancer of the uterus, if seen early, the surgeon should advise complete removal of the organ at once, yet promise very little as to return of the disease. The permanent cures were so few, even when the operation was performed in the first stages of the disease, that they left little for encouragement. Cancer of the breast was more hopeful, but hopeless enough. In cancer of the maxillary bones he believed it was sound practice to advise operation in almost every case affecting the lower jaw, and to refuse operation in almost every case involving the superior maxilla. Next to the uterus, he did not know of a situation in the body where malignant disease was surer to return after operation than the superior maxilla. He was convinced that cancer of the alimentary canal was slower of growth and extension than was generally supposed, and that early operations promised much more than was usually accredited to them. This applied especially to the rectum and anus, wide excision by way of resection giving the happiest relief from an otherwise wretched death. Surgeons should be slow to decide upon operation in chronic brain troubles, such as suspected tumors. They should decide quickly, however, upon operation in cases of compression and infections within the cranial cavity. Time was of more importance in acute peritoneal infections than in lesions elsewhere in the body. The great danger to life from peritoneal infection was at the onset, during the first 30 hours. Very early operations in acute abdominal lesions of a suspected infectious nature were often truly preventive of a rapidly fatal issue. It was in such cases that the physician should exercise the boldest and best knowledge in the decision to operate. The happiest time to operate upon intestinal obstruction was when the physician suspected the patient had one of the organic forms of this condition.

Relation of the Medical Department of the United States Army to the Profession.—Major W. C. BORDEN, U. S. Army (Washington, D. C.) said it might be claimed that members of the medical profession who entered the medical department of the army separated themselves in part from their brethren in the profession at large. Their work was more or less of a special character, and their interests were in part different from those of their brethren in civil life. Nevertheless, this was true in part only, and the relation of the medical department of the army to the profession was really a most intimate one. The medical department was recruited from the profession at large, and was in touch with all the great interests of the medical profession. Problems of national importance, affecting both the general profession and the army, had to be dealt with by them. Numerous instances were given. It was only by mutual assistance and support that the profession could attain its highest ends. It was equally true relative to the relation which must exist between the various branches of the profession in the public service, such as the medical departments of the navy, the army, the public health, and marine-hospital service, and the profession.

The Prevention of Heart Disease: Address in Medicine.—ROBERT H. BABCOCK (Chicago, Ill.) discussed in what manner the principles of prevention could be applied to various heart affections. The first step in this direction was the realization that most of the cardiac inflammations were of microbic origin. Not infrequently cases of acute endocarditis and pericarditis, especially in children, had their primary illness in a sore throat, or an acute tonsillitis. If such significance could be attached to tonsillar inflammation, it opened up a field at once in which to work for the prevention of cardiac inflammation. All chronicly enlarged tonsils which were not removed served as an atrium of infection for pathogenic organisms of all kinds. The importance of children having healthy noses and throats could not be too strongly insisted upon. He regarded the removal of chronicly diseased tonsils as of the utmost importance in all persons who had once had an attack of inflammatory rheumatism, whether the heart had been damaged or not. If infection could be prevented, cardiac inflammation could likewise be obviated. This statement applied to other affections than rheumatism.

Medical Section.

The Importance of Medical Organization in Securing and Enforcing Medical Laws.—T. J. HAPPEL (Trenton, Tenn.) stated that when the American Medical Association had drawn into its folds the members of the medical profession who should legally belong to it, there would be no trouble to secure a department of public health, with an officer at its head as a member of the President's Cabinet, and reciprocity in medical licensure would no longer be an idle dream. Uniform medical laws could be passed in all the States of the Union, with only such variations as might be demanded by the constitutions or laws of the different States; and then all the requirements could be made so nearly alike for license to practise medicine and the examinations made upon such an equal basis that a license issued in one State would be accepted in another without question.

Medical Organization.—J. N. MCCORMACK (Bowling Green, Ky.) said that it was only a question of time when every State medical society in the Union would adopt the plan of reorganization of the American Medical Association. The results thus far accomplished were very encouraging. Of 120,000 physicians in the United States, only 30,000, or 1 in 4, had ever been members of any kind of organization, either county, State, or national. Within the last 2 years, however, progress had been very rapid in many of the States. For instance, in Michigan the membership of the State Society within 1 or 2 years increased from 490 to almost 2,100 members. In Kentucky from over 300 to nearly 1,600. A marked increase had been observed in the membership of other States.

Hypodermic Use of Mercury in Syphilis.—S. B. COLLINGS (Hot Springs, Ark.) said that mercury was the only drug we had, that was a specific in syphilis; others were adjuvants only, including the iodin compounds. Delay in arriving at what was probably the proper standing of the hypodermic use of mercury in syphilis had been caused by the multiplicity of the preparations of mercury that had been used, the methods employed in their administrations, and to the fact that there had been so many overzealous advocates claiming quick cures for the method, which had brought it into disrepute. The cases to be selected for the use of mercury should be largely those in which there was an existing necessity for the patient to be brought rapidly under the influence of mercury. The question as to its use as a routine treatment should be decided by the attending physician from time to time.

Specialism in its Modern Significance.—ALBERT B. HALE (Chicago) said that specialism had changed from its earlier condition where tradition sharply defined the work, because the surgeon, the obstetrician, or the internist recognized that no real dividing line separated their activities. The young man of today was so well educated by his college and even by his post-graduate school work, that he was able to practise in many departments formerly exclusively held by specialists. But modern specialism meant time to devote to the delicate technic of diagnosis and of treatment. If these functions were not recognized for the patient's good, but if every practitioner accepted cases on which to practise, even when not equipped for it, the advance of true specialism was discouraged.

The Early Diagnosis of Mental Diseases.—C. B. BURR (Flint, Mich.) said the definition of insanity, "A prolonged departure from the individual's normal standard of thinking, feeling, and acting," will for working purposes ordinarily be found sufficient. A comprehensive definition would include mental defect of whatever cause and mental perturbation of whatever degree. Any or all of the elemental processes of sensation, perception, ideation, reasoning, judgment, memory, may be impaired in insanity. The nature and degree of impairment of these elemental processes and of emotion and volition, in different forms of insanity, were touched upon, and at greater length, the distinction between confirmed inebriety and true insanity of alcoholic origin, the differential diagnosis of alcoholic pseudo-paresis and paretic dementia, certain phases of hysteria, and the diagnostic difficulties pertaining to paranoia and recurrent mania. Neurasthenia is a euphemism often employed to obviate the necessity for plain speaking, or may be used erroneously to explain the symptoms in the early stages of an organic malady. The self-deception on the part of the physician or his inaccuracy in diagnosis lead to improper methods of management and the prescription of travel often made for such patients is deplored and, incidentally, hospital care for neurasthenic cases is advised.

Therapeutic Value of Heat and Cold Applied to the Spinal Cord.—W. FRANK GLENN (Nashville, Tenn.) drew the following conclusions: 1. Nothing should ever be put in the stomach except such substances as form a component structure of the body. 2. If this rule were rigidly adhered to, there should be no digestive disturbance, and all would have normal blood. 3. Since the blood was the life, when the blood had its structural elements normal and every cell was receiving its proper supply, no more, no less, disease could not exist. 4. Since it was known that the amount of blood in any part was controlled by the action of the vaso-motor centers of the spinal cord, and the sympathetic ganglia in close proximity to the cord when these centers were performing their functions properly, the blood circulation must be normal and no disease could exist. 5. When there existed any disease causing an increase of blood in the capillaries of an organ, the application of heat over the vasomotor centers presiding over that organ caused almost at once a normal flow of blood in them, and consequently a normal circulation in the organ affected. 6. When there existed any disease which lessened the normal amount of blood in any organ, then the application of ice over the vaso-motor centers presiding over that organ would cause a normal amount of blood to flow to that organ, resulting at once in a normal circulation and a consequent subsidence of the disease.

Brain Strain Dyspepsia.—C. H. HUGHES (St. Louis, Mo.) called attention to conditions encountered among the men and women of affairs, of brain strain connected with defective innervation in the stomach. A study of the pneumogastric

nerve in its relation to the stomach, as well as to the remainder of the intestinal tract and the abdominal and thoracic viscera, with reference to the important origin and functions of the vagus nerve, and due therapeutic attention to these important relations gave physicians a broader and better treatment, one that might always prove successful, if defective neural vigor in these relations could be overcome and local destruction of vital parts (the gastric mucosa and peptogenic glands) had not reached conditions of impossible physiologic reconstruction. The treatment of the usually encountered dyspepsia, when the natural causes behind the gastric atony were considered, the deficiency in normal secretion of gastric juice (quantity or quality) and the ulcerations, etc., which came on when gastric duodenal innervation was lowered and the formation of products of undigested decomposition, was not complete with lavage, hydrochloric acid, pepsins and pancreatins alone. The neural relations must be strengthened by treating the patient neurotherapeutically, and with especial reference to brain rest and restoration, for dyspepsia was a disease of brain strain origin and defective vagus gastroduodenal innervation.

What a General Practitioner Should do in the Early Stages of Mental Disease.—BROOKS F. BEEBE (Cincinnati, O.) said that the practitioner should teach people that if they would live happy and useful lives and produce healthy and happy progeny, the wedding of disease should be prohibited by statute. The great progress in recent years in the treatment of mental diseases was a result of the recognition that psychology rested alone upon physiologic bases, and metaphysical theories no longer had weight. In the treatment of mental diseases the intelligent physician should proceed in the same way as in treating other affections. The institution that afforded the greatest amount of personal attention was the most desirable place for these unfortunates.

Masked Epilepsy.—W. B. FLETCHER (Indianapolis, Ind.) said that this disease was usually unrecognized until it had progressed to a degree dangerous alike to the patient and those about him. It might be marked by merely periodic dizziness, headache, causeless manifestations of uncontrolled anger, loud talking, profanity; less pronounced forms by melancholy, with headaches and forgetfulness. In childhood its onset was so insidious as to be scarcely noticed, for it might be that an initiatory symptom was a mere irritability; then it might destroy its most cherished toys. From 7 years upward patients were apt to suddenly remove all clothing, or step high in the air, or climb anything within reach; others would pocket anything, without regard to quality. Later, they had absolutely no remembrance of having done these things. Masked epilepsy presented one of the most intricate medico-legal questions, on this account. Treatment should begin with the mildest symptom, and war be waged on the vicious constitutional tendencies. During an attack hyoscin hydrobromate in $\frac{1}{100}$ gr. doses every half hour induced quietude. The adult sufferer was a dangerous character, and all the crimes in the calendar might be committed by him unwittingly, and an afflicted innocent might be punished for a crime of which he was in no wise guilty.

Infantile Paralysis: Its Nature and Treatment.—ALBERT E. STERNE (Indianapolis, Ind.) said this was essentially an infectious disease, and was regarded by some authors as the purest form of a true nerve tissue process. Unless epidemic, diagnosis was almost impossible before there was evidence of spinal involvement manifested. When the child first became ill, almost all symptoms pointed to an affection of the stomach, usually a couple of days before paralysis set in. If evidences of profound nervous involvement were found associated with vomiting, it should serve as a diagnostic and prognostic warning. There was not the slightest ground to fear that too active measures might be employed. Delay was inexcusable. Counter-irritation should be used along the spine; antiphlogistic applications, and the constant use of dry cold to the vertebral column. Perfect rest must be maintained. No specific was known to the profession. After paralysis had set in the nerve-cells themselves were the seat of the inflammation. As soon as possible, electric stimulation should be applied to the paralyzed members. All measures were poor substitutes for the vigorous measures recommended in the initial stage. Results could then be attained which were incomparably superior to the very best gained by any method later on.

Some Recent Investigations upon the Action and Therapeutic Value of Currents of High Potential and Frequency.—CURRAN POPE (Louisville, Ky.) stated that too frequently the mind associated danger with the question of voltage, but voltage without amperage produced a current freed from all such danger. The current induced in the secondary coil was one of great current alteration. The primary sources of energy from which the high frequency current might be obtained were the static machine, the induction coil, the commercial alternating current, and the Tesla coil. Physicians need only consider the first two. Special electrodes had been designed for the administration of the current. The application was painless, provided the tissues covering the bony structures were not too thin. The physiologic action was productive of excellent results; though painless, however, it might not be harmless, for it might destroy the life of small animals. Its influence over the circulation was marked and produced intense vascularization of the skin.

Local Lesions and Treatment of Amebic Dysentery.—JAMES P. TUTTLE (New York City) said that amebic dysentery was ordinarily considered a tropic disease, but it was not unknown in its acute form in the United States. In its chronic form it was very common in returning soldiers. In all acute cases the subjective symptoms were the same as the sporadic dysentery, but the onslaught was not so sudden and tenesmus was less. Over 200 cases had been reported during the past year. It is stated by Lambert that he had found the bacillus in many cases of socalled chronic diarrhea in children. There could no longer be any doubt that there was a type of dysentery due to infection by the *Ameba dysenteria*. Whether catarrhal, bacillary or amebic, dysentery had its origin in the large intestine. He had found that the ulcerative lesions decreased ascending upward from the rectum into the sigmoid, and in several instances entirely disappeared at the length of the sigmoidoscope. The disease appeared to have its beginning in the rectum and lower colon, judging from local examinations in acute cases. Ulceration of the rectum was always present in cases of chronic dysentery in soldiers returning from the Philippines. Complications might be summed up in abscess of the liver and stricture of bowel. The old-fashioned treatment of salts and soda was watery flushing of the canal carrying the pathogenic organisms out of the body. Good reports had been presented from colon flushing with solutions of quinin, but it did not penetrate the tissues and reach the buried organisms. The same might be said of all medicated solutions. Experiments had shown that whenever stools were allowed to get cold, the life of the organism became extinct. This suggested the experiment of flushing the bowel with cold water, and repeated experiments had proved its worth. Flushings were given 3 or 4 times a day from a fountain syringe. In winter water direct from a hydrant was used; in summer a little ice was introduced. At least one douche a day was continued for 8 weeks. Treatment of rectal ulcers should be carried on according to apparent requirements. Total cases treated by author, 63; cured, 61; disappeared, 1; abscess of liver, 1; died, none.

Neuroses of the Stomach and Intestines.—FRANK P. NORBURY (Jacksonville, Ill.) said that in reviewing the principal neuroses of the stomach and intestines, it was evident that the background of all, so far as causation was concerned, was the neuropathic constitution. In treatment it was necessary to follow the methods which best combat this feature, and which best subserve the observation of the case and the carrying out of the details of treatment. The rest treatment met these indications, and how well, depended upon the thoroughness with which it was practised. Massage is an adjunct to treatment, essential in building up the wasted condition of the patient, and in arresting perverted metabolism. Electricity was the feature of treatment which gastrologists had developed in a special way. It was of service in the ordinary methods of application when the condition of the patient warranted its use. The medicines to be used were to be determined after a study of the chemic conditions of the stomach, and the rule should be to give medicines only when indicated. The special disturbances incidental to the neurasthenic state, namely, insomnia, constipation, should be treated carefully and judiciously.

Castor-oil in the Treatment of Typhoid Fever.—C. C. BASS (Columbia, Miss.) reported last year 32 cases of typhoid fever treated with castor-oil. This year he added 47 additional cases, which he and his associates had treated in the same way.

Scarlet Fever.—J. M. BATTEN (Huntington, Pa.) gave history, symptoms, duration, incubation, and variation in type.

Infantile Spinal Paralysis.—ALEXANDER C. WIENER (Chicago) discussed tendon transplantation in the treatment of this condition.

A. C. CROFTAN (Chicago) gave a summary of the recent investigations by the author into the **cause and treatment of diabetes.**

Leukemia.—WM. BRITT BURNS (Memphis, Tenn.) discussed the 2 recognized varieties of the disease; also the etiology, morbid anatomy and treatment. The burden of the paper lay in an effort to show the certainty with which one with the proper technic might make the diagnosis of leukemia. The author stated that the clinical symptoms resembled very markedly several diseases, namely, chronic malaria, with enlarged spleen, tuberculous adenitis, pseudoleukemia or Hodgkin's disease, chlorosis, pernicious anemia, secondary anemia, and leukocytosis. He presented a table which showed the blood differentiation.

Syphilitic Manifestations in the Nose and Pharynx.—PAUL TURNER VAUGHAN (Hot Springs, Ark.) stated that in looking over the clinical histories of 500 cases of nose and throat syphilis, he did not find a single instance in which the primary sore was situated in either of these localities. Erythema, mucous patches, ulcerations and gummas might at various times be found in the nose of the syphilitic patient. Mucous patches and ulcerations were present in the vast majority of those affected with syphilis during some stage of the disease. Primary sores of the pharynx were not seen in Hot Springs as often as one would suppose, judging from the material that had come under his observation, for among his cases of nose and throat syphilis he only found 4 cases in which the sore was situated in the pharynx. The initial sore when found in the pharynx usually lasted from 4 to 6 weeks, and did not differ materially from the primary syph-

ilitic sore occurring in any other part of the body. The primary sore should be cleansed with some antiseptic wash and dusted with some mild powder. Calomel is about the best he has found. Caustics locally applied in this stage undoubtedly did harm. Upon the appearance of the secondary symptoms mercury in some form, by inunctions, by the mouth, or hypodermically, should be begun, and would cause subsidence of the more aggravating symptoms. When a mucous patch occurred, it should be touched repeatedly with tincture of iodin, or a solution of silver nitrate. A catarrhal condition of syphilitic origin required the administration of ferruginous preparations, and the cleansing of the nasopharynx with mild alkaline and antiseptic solutions. He had found that when ulcerations existed an ointment of bismuth and vaselin locally applied to the nasal cavity tended to prevent the formation of crusts, and was soothing. When crusts existed, a solution of menthol in olive oil, locally applied, assisted greatly in removing them. Upon the appearance of tertiary symptoms, potassium iodid or sodium was indicated, and should be begun in 5 or 10 grain doses 3 times a day, and increased rapidly, depending upon the tolerance of the patient, until the progress of the disease was checked. In some cases the iodid should be combined with mercury intervally, or with the inunctions. When necrosed bone existed, as soon as the patient was fully under the influence of mercury and the iodids, it should be removed. Mild salines and laxatives were occasionally required to stimulate excretion, and nothing was of more benefit in keeping the skin in condition than frequent baths. Smoking and the drinking of alcoholic beverages should be denied to a syphilitic patient, except in exceptional cases. Fresh air and outdoor exercise were as essential to a syphilitic as these agencies were to the tuberculous.

The Principles of Diagnosis of Medical Malingering.—JOHN PUNTON (Kansas City, Mo.) discussed this subject in a very exhaustive and interesting paper. By a careful analysis it has been found that the various modes in which feigned disease appeared, although very complex in clinical manifestations, were capable of being reduced to the following 3 classes: 1. The first consisted of cases in which the patient under some morbid impulse or fear involuntarily feigned disease, as seen in some forms of hysteria or neurasthenia. 2. The second class included cases of voluntary exaggeration of real morbid symptoms, or manifestations of, superadded to genuine ones, including deficient powers of subjective analysis. 3. The third class embraced cases of deliberate and distinctly planned deceit of factitious disease, or purely voluntary morbid creations, thus constituting unadulterated intentional fraud or medical malingering of the worst type. The clinical application of this simple but comprehensive classification would greatly aid in the diagnosis or detection of all the various forms of medical malingering by the process of exclusion and elimination.

Cyclic Albuminuria.—ARTHUR R. ELLIOTT (Chicago) stated that cyclic albuminuria was the name employed by Pavy for the designation of certain cases of albuminuria occurring without demonstrable organic disease of the kidneys in individuals otherwise in apparent health. The upright posture was the immediate exciting factor which induced the albuminuria. Cyclic albuminuria belonged to the class of socalled functional albuminurias, forming one of many types included under this heading. Other forms had been variously named, transient, intermittent, minimal, adolescent, postural, and dietetic. The author thought it was probable that these did not constitute different clinical entities, but that a common pathologic condition underlay them all, and that individual cases reacted in such different ways to special exciting causes as to give them apparent distinctive characteristics. The disease was not active and progressive, but one which naturally tended to resolution. Under suitable conditions of diet and hygiene, the symptom would in the majority of cases eventually disappear. Tessier and Merley were able to follow 28 cases during periods varying from 9 years to 13 years. Four of the 28 developed Bright's disease, a percentage of 14.28. The possibility of this outcome must be kept in mind in treatment and prognosis.

[To be continued.]

Powers of Boards of Health.—In an opinion addressed to the State Commissioner of Health, Attorney-General Cunneen outlines the powers of local boards of health with reference to the making of public improvements as a means of abating local nuisances. The question arose through a complaint of a resident of the village of Ossining against a nuisance caused by a defective sewer which the trustees of the village persistently neglected to abate. Attorney-General Cunneen holds that the law gives local Boards of Health large power to abate nuisances and says: "I see no reason why a nuisance, whether caused by a municipality itself or a private person, should not be abated, provided it is in effect a nuisance." Mr. Cunneen holds that the local health board has the right in abating a nuisance to make such public improvements as would be calculated to prevent a recurrence thereof. It cannot, however, levy arbitrary assessments upon adjacent property, making the nuisance a pretext. Should the local Board of Health fail to perform its duty, the Attorney-General says, the State Commission of Health may enforce the performance thereof by mandamus.

CLINICAL NOTES AND CORRESPONDENCE

[Communications are invited for this Department. The Editor is not responsible for the views advanced by any contributor.]

THE VALUE OF THE CLIMATIC FACTOR IN THE TREATMENT OF PULMONARY TUBERCULOSIS.

BY

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In a recent pronouncement of the State Medical Association of Illinois occurs the following statement:

The importance of a special climate, altitude, or atmosphere in the treatment of consumptives has been exaggerated; the treatment and cure of pulmonary tuberculosis is as feasible in the State of Illinois as in any state of the union, and cures effected in the ordinary home climate, in which the patient must remain, are more lasting and more assured than cures obtained in other climates apparently more favorable.

A similar statement has been made by other medical bodies, who have advanced the policy, so to speak, with reference to the tuberculosis problem in different parts of the United States.

It is with a view to estimate the foundation for such opinions that certain facts will be offered for the consideration of the profession in America. I myself, who was a sufferer from pulmonary tuberculosis, was associated with the well-known physician who was responsible for the inauguration of measures toward the limitation of the spread of that disease in and around Edinburgh, and I have traveled in search of health in localities of very different altitude, latitude, and climate, in all of which I have devoted much attention to the factors making for and against the arrest of the disease.

At one time the opinion was universally held that tuberculosis was necessarily a fatal disease unless the sufferer proceeded to certain localities in which remarkable cures had taken place. They might be divided roughly into the following classes:

1. The marine climate ensured by a prolonged sea voyage, during the course of which many patients have recovered.

2. The marine climate procured by residence in such semi-tropical islands as Madeira, Canaries, Samoa; on the fringe of larger islands or peninsulas, such as the health resorts of the south coast of England or Florida; or on the seaboard of continents, such as the Mediterranean health resorts.

3. The arid climate, most conspicuously exemplified by the Egyptian desert and in Australia.

4. Such climates as are procured in high altitudes, such as the Alps, a modification of which is produced by varying conditions of latitude, aridity and warmth, such as are found in certain spurs of the Rockies and in the tablelands of South Africa.

It cannot be disputed that many patients were cured during a residence in one of these very different climates and independently of whether the individual had been accustomed to a climate similar to that in which his cure took place. But as time went on, it was seen that the cure was only occasional, and the great masses of health-seekers did not find that for which they sought. Just then the magnificent results obtained by the now wellknown physicians of the German sanatoriums, Drs. Walther and Detweiler, began to arouse the attention of the medical world. These results were so much better than those of any of the socalled health resorts that men began to pause and say to themselves: "Are the patients who have been cured, so cured by the climate, or would they not have been cured in an equal measure under the conditions which the climate ensured had the conditions been artificially produced at home?"

This question appears reasonable, in view of the diversity of the 5 climates I have indicated; especially in view of the further fact that the climate of that part of Germany where the cures have been obtained belongs to neither category. It has not the advantages of a climate of high altitude, but is comparatively low, being only about 1,000 ft. It has not the advantage of a marine climate, being entirely continental. It has not the

advantage of aridity, being that of a low mountain range where rainfall is abundant and mists not infrequent. It has neither the extreme cold of the Alps, nor the heat of the Egyptian desert. What then could be the value of any of these climatic factors?

The inevitable result followed. Every one negatived the influence of climate as a factor in the treatment of this disease.

Medical opinion is no different from other opinion in that it is apt to crowd in masses from extreme to extreme. No better example of this could be advanced than the odium which was cast upon the use of mercury in syphilis, and indeed in most affections, some 50 years ago. This was a reaction from the detrimental results of its excessive use in the early part of the nineteenth century. We now know that both the mercurialists and antimercurialists were wrong, because we now understand the rational use of mercury. This attitude is equal in a way to the action of the much ridiculed patient who drank a whole bottle of medicine, theorizing that 12 doses would necessarily be 12 times as beneficial as one. Other examples are not far to seek. The extreme to which bloodletting was carried inevitably reacted in its desuetude, even in cases in which we now know it saves life. Even the humoral pathology has its meed of truth, as our wonderful discoveries of the nature of the blood as a container of antitoxic substances have in recent years shown beyond doubt.

Such pronouncements as I have quoted show that the medical profession is in extreme danger of an excessive revulsion from its former exaggerated estimate of the value of climate in the treatment of pulmonary tuberculosis. This I now proceed to prove.

I would ask upon what data is based the statement that the climate to which the person is accustomed is necessarily the best for him. The reply to this is, there are no such data it is a mere presumption. What Huxley calls the "*high a priori road*" is not a safe path in medical science, and in these cases it is especially dangerous. Evidence exists to show that the statement is not only without foundation, but is controverted by a number of facts which we do know. Were it the case, it would be entirely unnecessary for ladies and children to leave the low-lying cities of the gulf coast during the hot months of summer for more bracing altitudes. They are accustomed to these low-lying cities. Their own medical attendants reside there, and any temporary running down of the system or slight ailment would necessarily be treated to much better advantage by the physician who understands their constitution, as well as the peculiarities of the climate "to which they are accustomed." However, the "high a priori" scientists would have them swelter in pallid asthenia through the hot summer months in a latitude of 30. The experience of the observing layman and the sensible physician dictates the removal of all who can afford it from the climate "to which they are accustomed!"

A sufferer from rheumatism inhabiting the low-lying cities of the Atlantic coast, whose damp air and chilled breezes aggravate his complaint, is not asked by his physician to complete his cure in a "climate to which he is accustomed;" far from it, he is recommended, if he would live a life of comparative comfort and ease, to remove to a dry and less inclement climate.

The victim of valvular heart disease, no matter how accustomed to the vigorous blasts of a northern winter or the bracing exhilaration of the Rocky Mountains, is advised by his physician to reside in a more equable climate of low altitude.

The sufferer from chronic nephritis is not asked to endure the rapid changes of relative humidity and temperature to which he has all his life been accustomed, but is sent to a climate which experience has shown to be least unfavorable for the recovery of his affection, on account of its decreased and less variable relative humidity and its warmth increasing and keeping permanent the assistance to the eliminatory power of the cutaneous secretion. The physician who advises an asthmatic to remain in a locality which renders life unbearable to him because it was "the climate to which he is accustomed" would be ridiculed. It may be claimed that these instances are examples of diseases not analogous to tuberculosis. Extend the comparison to a healthy individual. All physicians, and indeed most laymen, are familiar with people who are never well in the land of their birth, as a humid atmosphere does not afford that exhilaration, sense of well being, tonicity, call it what you will, which they invariably experience when residing in what they term a "more bracing" climate. This fact alone is sufficient to show that no amount of "accustomedness" will permit such people to make the most of life, and that climate is a factor which they cannot neglect.

These people are not singular, because it is quite exceptional to find a person who does not feel better when temporarily residing in a more "bracing climate." Whereas were our "high a priori friend" right, he would always be in the best health when residing in the climate to which he "is accustomed."

Before, however, proceeding to estimate the factor or factors in climate which are the cause of these conditions, it will be necessary briefly to indicate the more important factors in the treatment of tuberculosis.

First, let us take it as settled that the value of drugs may be eliminated from the discussion. Second, that the greatest success is derived from what we term the sanatorium treatment of the disease, while third, that we are not now in a position to decide upon what value to attach to the specific serum upon which experiments are now taking place.

What then are the factors in the sanatorium treatment upon which its success depends? Is it upon rest, is it upon excessive feeding (judged from the ordinary standard), is it upon the purity of the air breathed, is it upon the expansion of the lungs, is it upon regulated physical exercise? Omitting all consideration of the fourth of these, the value of which has not been universally admitted and which is maintained from considerations more or less theoretic, not any of these has value of itself in the cure of this disease, except in so far as it militates for the real object of the treatment. That object being kept firmly in view, it cannot but be seen that all these four factors are indispensable; that they are mutually reactive; that by the omission of one, the whole edifice becomes most unstable. The object is "to increase to its highest possible point the somatic resisting power against the tubercle bacillus and its products."

This will depend upon the permanent maintenance of the abundance and quality of the proteid molecule which is more immediately concerned in manufacturing the products which antagonize those of the tubercle bacillus or the bacillus itself. Though in the present state of our scientific knowledge it is merely an undemonstrable theory, yet no one who is acquainted with the facts of immunity demonstrable in many diseases can doubt that this is the case in tuberculosis. It is desirable that the essential quality under consideration could be expressed in terms measurable quantitatively; but lest any one should regard the conception as fanciful, let me afford an illustration, not quantitative it is true, but in which the different cellular quality is so manifest that no one can doubt it. I allude to the behavior of leukocytes from the same animal under the two conditions of negative and positive chemotaxis, not to different agents introduced at the same time, but to the same agent introduced first as a control when the animal's body is in a state of normality, and later when the normal quality of its leukocytes has been changed by an artificial agent; or again by comparing the behavior of leukocytes of one animal with those of another when excited by the presence of such an organism as *Bacillus anthracis*, or even by that of tuberculosis itself. In one case, resistance, feeble and ineffective, allows of the rapid multiplication of the bacteria and their spread throughout the body; in the other positive chemotaxis is vigorous and efficacious and leads to the limitation of the disease to a small area and its final elimination from the body. This object is well exemplified by the relative resistance of the guineapig and goat to the inoculation of tubercle. Such illustrations being kept in mind, the conception of the cause of differences of resistance in different human individuals is not only easy, but rational; not only not arbitrary (though not chemically exact through one's being really unacquainted with the chemical and physical factors of life), but so far scientific that we are enabled to direct our efforts immediately to the end thus shown.

Taking this to be so, it follows that metabolic perfection is the goal to be aimed at in order that the cells concerned may be, so to speak, always "in condition;" in other words, that they must be prepared at all times to functionate in the most active

manner possible to them. The chemical changes which take place in them must not be incommoded by the retention of waste products which the lymph and blood streams should carry from them. The more rapidly such excretions are removed the more actively will these cells functionate, and the more quickly absorb fresh proteid material for their upbuilding. Nor must this supply of fresh proteid material be stinted. The blood must bring them a supply ample for that highest functional activity. Moreover, the oxygen which enables the biochemic changes to take place must be supplied in the greatest possible abundance.

These being the histophysiologic requirements, let us see in what way the four factors of the sanatorium treatment secure them.

An increased anabolism, *i. e.*, the object of "forced feeding." The carrying out of this is in all probability the most difficult of all the measures in the treatment of any chronic disease. The factors needed are so numerous that it is very easy to omit one, while, as previously stated, its success very decidedly depends upon the perfection with which the other three objects are attained. It is easy to say "forced feeding;" it is not so easy to secure "forced" digestion, without which forced feeding is injurious rather than beneficial. Fermentation of stomach contents and putrefaction of these in the intestines will not only rob the portal system of its legitimate needs, but will introduce substances exceedingly deleterious to the proteid metabolism which we are endeavoring to render as perfect as possible. It is in the maintenance of the functional activity of the cells which manufacture the digestive fluids that the procedures involved in the terms fresh air and regulated physical exercises are most important. The ferment-producing cells of the stomach and intestines as well as of the liver and pancreas are in no less need of an abundant supply of oxygen in order to exercise that great activity necessary during the digestion of the huge meals of which they have to dispose than are any other cells of the body.

It is as important that the unwontedly abundant excretions of their high activity should be rapidly removed from their proximity as it is in the case of those excretions in muscles during activity. Because we are to a certain extent acquainted with those of the latter while those of the former are unknown, it must not be presumed that the same laws do not hold. The laws of biochemistry are universal; and a period of anabolic activity as distinguished from functional activity, that is to say, a period of rest from function in order to recuperate, is just as necessary in a gland cell as it is in that of a muscle.

When these physiologic fundamentals are kept in mind, therapeutic measures will be scientific; when they are not kept in mind, they become arbitrary, real factors will often be overlooked, and the percentage of successes will not be so high.

Let us examine the application of measures toward these ends:

The alveolar area of the lung is in many cases diminished. In consequence thereof the rapidity of gaseous interchange is decreased unless respiration is either more rapid or of greater extent—that is, unless inspiration becomes more rapid or the excursion of the lung greater. The regulation of respiration being automatic and automatically adjusted to the immediate needs of the individual, both of these factors are found at work—the latter, however, being generally unobservable until forced inspiration comes into play. Though we do not perceive it, however, one cannot but believe that it is there (when the whole respiratory capacity is taken into consideration). I must not be misunderstood to say that respiratory capacity is increased from the normal, but merely that it is greater than the immediate needs of such a half-breathing individual would have been had not the lung surface been impaired by disease; it is relatively greater in those parts (the antithesis of the apices) which are not abnormally inactive. Not only, however, must the lungs be compelled to higher activity by this diminished alveolar surface, but the increased metabolism demanded by the sanatorium treatment imposes still greater activity upon these organs. Hence a condition of pulmonary rest is manifestly impossible. Their condition must necessarily be one of increased activity, however much we might desire otherwise. The need is inexorable. The principle of rest for the affected part, so successful in that form of tuberculosis termed "surgical" is in the nature of the case here entirely inapplicable. The fallaciousness of the "high a priori" could receive no better exemplification than our success in the treatment of pulmonary tuberculosis in spite of what might have been considered a fatal disability.

Now as most tuberculous patients come to us with exceedingly small respiratory excursion as a consequence of lowered activity (and, indeed, it is often a predisposing cause of the disease, as shown by the fact that the relatively inactive apices are most frequently affected) as well as of the mode of life most have led, and as the body cannot receive sufficient oxygen unless the lungs functionate actively, we find it necessary to assist patients by showing the manner in which they can without risk and in the most rapid way increase their respiratory power. To this end the value of prescribed thoracic exercises cannot be overestimated. They are more easy to regulate in accordance with the capacity of the constitution of the patient than is any empiric or arbitrary change of surroundings or form of amusement. In other words, the procedure is scientific; and it is by this means that we gradually educate the lung to its increased work.

To procure the adequate elimination of katabolic products from among the hepatic and other digestive cells, static conditions of the circulation must be prevented. One powerful aid to this is the assistance which thoracic exercises afford the venous circulation and the effect which the habit of deep breathing thereby learned produces upon the hepatic, and through it upon the portal system. But another and most powerful aid to the abdominal circulation consists of a series of exercises specifically directed to the muscles surrounding that cavity. The alternation of compression with relaxation caused by this procedure is of tremendous assistance in increasing the *vis a tergo* in the portal vein as well as in the lymphatics there.

It must not be forgotten that these organs, as well as the glandular, are now coping with vastly increased work, which does not admit of the continuance of the diminution of the vis a fronte (exercised by the diastole of the cardiac auricles) even when supplemented by the assistance that the new mode of breathing gives, which is generally quite inadequate. The demand of the vis a fronte will thereby be much less exigent, and a large proportion of the mechanical work of emptying the portal circulation will be removed from the heart, which has in all cases been enfeebled by the conditions of life which have led to the disease, and is being called upon to meet the demands of an increased metabolic activity necessitating the more rapid and complete circulation of the blood entailed by the demands of the treatment.

PURPURA.

BY

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On April 3, last, a man aged 23 presented himself at my office for treatment. Upon examination I found pronounced oozing from gums, nose, eyes, and on further examination I ascertained that he had passed bloody urine and feces. I suspected purpura and sent him home. The next day I called on him and found him much worse. Purpuric spots were noticed on the tongue, which was swollen to such an extent that it protruded from the mouth. The eyelids were swollen so that the eyes were completely closed. Purpuric spots were also seen on the anterior portion of the chest, forearms, and legs. Pulse was 140, temperature 100°. The patient had had syphilis 3 years previous and was pretty well scarred all over the body.

Treatment consisted of small doses of calomel and sodium bicarbonate followed by a saline purgative. Three-fourths of a gallon of normal saline solution was injected 3 times a day high up in the rectum. Digitalis and strychnia were given to stimulate him as his pulse was very weak. Plenty of sweet milk diluted with lime water was given the patient and ergot to control the oozing, which it did completely on the third day. Swelling commenced leaving tongue and eyes and patient was feeling fairly well though very weak. The after-treatment was potassium iodid and mercury, iron and bitter tonics. The patient made a complete recovery in 3 weeks and in 6 weeks returned to work apparently as well as ever.

ORIGINAL ARTICLES

TREATMENT OF ABSCESS OF THE LIVER.

BY

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Having determined the existence of pus in the liver, the management of the condition becomes essentially surgical. The devising of methods for relieving the gland of its pus collection has been a problem which has found various solutions, each more or less perfect, by those who have to deal with this complication of intestinal disease in tropical countries. The method here set forth has been evolved after 16 operations for hepatic abscess, the study of numerous cases by the bedside, the watching of methods pursued by other surgeons, and the findings of the postmortem-room, and is believed to be the surest and safest way of dealing with cases of this character.

No two abscesses are found in exactly the same location in the liver. While three-fourths of pus collections are located in some portion of the right lobe, and the majority of these are found toward the upper and posterior surface of the lobe, abscesses in other locations, and in other lobes, are sufficiently frequent to render it impossible to outline a set skin incision which will carry the surgeon's knife directly into any abscess cavity. Information as to the exact location of the pus collection is therefore important before means for its evacuation are carried out. Two modes of procedure are commonly used to ascertain this: (1) Aspiration, and (2) temporizing until the volume of pus in the liver has become so large that the evident swelling below the rib margin or toward the nipple, together with local signs of redness, edema, bulging, or fluctuation, leave no doubt as to where the instrument must enter.

The aspirating needle in a certain percentage of cases will give the operator information as to the relative location of the pus, but in the great majority of cases the exploratory puncture is so uncertain, and is attended by elements of danger and useless shock that outweigh its usefulness as a localizing agent. If the surgeon has hesitated so long in the management of the case that the abscess attains an enormous size, and projects far below the costal border, or encroaches upon the diaphragmatic thorax, the use of the aspirating needle becomes not only unnecessary, but is a superfluous procedure, for it adds nothing to the knowledge at hand gained by inspection and palpation, and the surgeon can lay his finger directly on the spot best suited for opening and drainage. The frequent and unlooked for rupture of these large pus accumulations, however, into neighboring viscera—lung, pleura, pericardium, vena cava, peritoneum, or kidney—with fatal termination, makes the process of temporizing a condemnable procedure, and it is imperative in securing favorable results for the patient, that an effort should be made to locate the pus earlier in the course of the disease, before the zone of necrosis has reached a dangerous limit, and powers of resistance and reconstruction of tissue have been annihilated by prolonged hectic and exhaustion. But when the abscess is still small the determination of its exact location becomes a difficult matter, even with the needle, and it is in these cases that aspiration, as usually advocated, is attended by great uncertainty—the smaller the abscess and the more remote its position from the skin surface, the less chance is offered the needle for finding it. The method was used in some of the cases reported in this paper with negative results, although a large sized needle was used boldly, and immediate subsequent operation showed the presence of pus. In one case the paths of the needle lay directly above and below the limits of a pus collection the size of a walnut, in the right lobe. In another case a fruitless series of punctures near the lower and posterior border of the gland failed to locate an abscess in the lobulus spigelii. The needle may even penetrate the abscess cavity and the information gained is not always positive as was shown in two cases, in which the course and depth of puncture carried the point of the needle through the fibrous wall into the cavity, yet there was no evidence of escaping pus, shreds of necrosed tissue having probably occluded the caliber of the instrument. These patients were operated upon and pus evacuated in each case, notwithstanding the negative results of aspiration. The same lack of reliability of the method has been observed in the practice of other surgeons, and Manson himself, the strongest advocate of this blind procedure says: "If pus be not struck, the needle must be withdrawn—in case the abscess has been transfixed."

Added to the unreliability of aspiration, there is always danger associated with the process. This lies principally in the possibility of the infected needle after finding the abscess, penetrating the lumen of a portal or hepatic vessel, giving rise to septic thrombi, and transforming a single localized pus collection into a graver pyemic condition with multiple abscesses. The traversing of 2 visceral cavities by the soiled instrument during its withdrawal must also be borne in mind, for at no point of election on the thoracic wall can one escape the reflections of the pleura, and the limited lymphatic supply in the subdiaphragmatic area in the asthenic patient requires but a slight focus of infection to be the starting point of a perihepatic abscess. With the possible dangers always associated with its use, with the uncertainty of obtaining reliable information, and with the tendency to indecision and procrastination in the management of the case held out by its use, it is questionable whether aspiration as a means for locating liver pus is ever advisable or warranted.

Abandoning this uncertain procedure, I have made use of a more satisfactory and rational method for locating the pus collection, which leaves no doubt as to the exact site of the abscess, and enables the surgeon at once to decide and carry out proper means for its evacuation. This consists in making a direct palpation of the liver in every suspected case, after a painstaking and thorough examination of the case in all its aspects has satisfied the surgeon that pus exists.

On first thought it will appear to be rather a formidable preliminary course to pursue with such patients, some of whom are bedridden from a long occurrence of dysentery, and in whom the spark of vitality is necessarily low; but it is remarkable how much these patients, inured to toxic infection for a limited time, can stand, and how quickly they recuperate once the principal cause of their asthenia is removed; and the information gained is so important, and the carrying out of further surgical interference is so much simplified, that the initial depression of the exploratory incision is more than counterbalanced by the chance offered for a quick return to health. The general plan of procedure in each case is set forth as follows:

The patient is prepared for abdominal section in the right hypochondriac and epigastric regions, and for rib resection over the hepatic area, a saline and nerve stimulant being given for several days previous to the day set for operation, solid food being withheld and a proper hygiene instituted during the same period. Some time before the operation an attempt is made to reach a conclusion, by percussion, external palpation, and the evidence of tenderness, as to the probable location of the abscess, whether near the upper or the lower surface of the right or the left lobe. While this approximate diagnosis of location is not absolutely necessary, it can be made in a certain number of cases, and will then act as a guide in making the primary incision. If increased dulness is most marked below the costal border, and has associated with it a continuous fixed pain or discomfort in this region, and an isolated spot of acute tenderness can be elicited by deep pressure with the finger-tips, the

abscess is in all likelihood located beneath this point of tenderness, and the exploratory incision is made to include this point at the middle of the cut, and the one external incision will probably suffice for evacuation and drainage. If the point of tenderness is to the left of the plane of the gallbladder, with liver dulness extending downward in the epigastric region, the exploratory incision should be toward the median line, and a search made for abscess in the left lobe, particularly if there be some associated discomfort in swallowing. On the other hand an incision to the right of the plane of the gallbladder would be indicated if the area of tenderness and increased dulness be found in the neighborhood of the short ribs. If, however, the percussion dulness is more marked upward toward the nipple, and firm pressure with the point of the finger discovers a spot of acute tenderness in an intercostal space, an abscess will generally be found under this point near the upper border of the liver, and if in addition the patient complains of

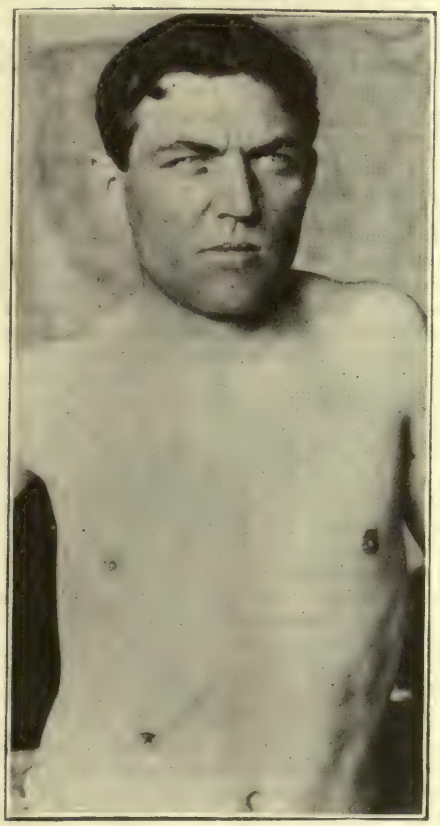


Fig. 1.—Showing scar of infracostal incision for exploration of liver and evacuation of abscesses, except those located near the upper and posterior surface.

stabbing, stitch-like pain, with friction sounds over this area, the pus will have burrowed to the surface of the organ, and is usually found just beneath the capsule; under these circumstances the exploratory incision is made at a point of election below the costal border, best adapted to allow of a thorough examination of the entire organ without reference to evacuation. This will usually be best accomplished by a curvilinear incision along the rib margin, with the midpoint over the gallbladder.

Under the anesthetic the patient is placed on the operation-table in a prone position, with his right side near the edge of the table, and is protected with blankets covered with sheets of sterile rubber dam to prevent wetting, save the parts exposed for operation. An incision is made 2 cm. below and parallel to the right costal border, of sufficient length to allow the hand to pass easily into the abdominal cavity. A methodic digital examination of the liver is made, starting at one of its boundaries, and sweeping the hand over the entire surface of the organ, searching for any irregularities of surface, adhesions, and the peculiar resistant tense bogginess which is an unmistakable sign of gland suppuration. It is well to begin this palpation on the under surface of the gland, starting at the right side, inserting the fingers to the posterior limits, and, withdrawing the hand, continuing on the upper surface, from right to left. The condition of the gallbladder is included in the investigation. The exact size of the organ will also be determined, and the relations of its boundaries and points of attack gauged with external landmarks.

The surgeon in his first cases will experience some difficulty in recognizing the characteristic resiliency of the liver structure overlying a pus collection, unless he has had some training in this line, and ability to read the signs correctly necessarily implies previous assistance in operations on the viscera in this region, or a study of recent specimens of the morbid gland in the laboratory; but once this discrimination between normal and suppurating visceral structures is acquired by touch, there is little chance for a comparatively small and deep-seated pus collection escaping his notice. Usually a few operations will suffice to acquire this tactile discrimination accurately. A point of pus formation having been located during the examination, the remainder of the organ is not abandoned, but the same cautious search is continued, with the possibility of other abscesses being discovered in other sites. One or two minutes is all that will be required to complete the investigation.

With the location of the pus comes the question as to the route and means for its evacuation. There are but 2 routes: Through the original incision, and through the chest wall. If the abscess is located in the left lobe, or in the lobulus quadratus, or in the lobulus spigelii, or near the under surface of the right lobe, or near the upper surface of the right lobe but near the anterior margin, it is most easily evacuated through the original exploratory incision. This incision will have to be enlarged in some cases so that some part of the opening will be directly over the accumulation of pus, in case this is not accomplished by the first sweep of the knife.

Three or four strips of sterile gauze of 8 thicknesses, 10 cm. wide and 40 cm. long, with frayed edges tucked in and secured, are wrung out in hot sterile water, spread out, and placed underneath the liver, the free ends lying on the abdomen, each piece overlapping the other and carried as far posteriorly as possible, so as to protect the intestines opposite the proposed point of incision into the abscess. A broad, blunt retractor is placed over this shield of gauze and retracts the lower side of the cut wall and the protected intestines, downward. If the abscess is on the under surface of the liver, 2 long narrow blunt retractors, or the assistant's fingers if they are long, are slipped beneath the organ, one on either side of the abscess, and traction is made upward and outward so as to bring the point of attack into view. If the abscess is on the upper surface of the liver near the anterior border, gauze strips are carried beneath the liver to wall off the intestines as before, the thoracic wall is raised away from the liver with the aid of a broad, blunt retractor, and similar strips are placed around the abscess on the upper surface of the organ in a circular manner, to prevent contamination of the perihepatic space as the subsequent steps of the operation are carried out. This being done, the surgeon inspects his field carefully, and with the aid of long, blunt forceps or clamps, arranges the toilet of the gauze strips below the liver, and on its upper surface, as the case may be, adding additional gauze protection if necessary, so that there will be no vestige of any of the viscera, except the limited area of liver exposed to view. The abscess is now opened. The choice of instruments for dividing the liver structure overlying the pus collection lies between the scalpel and the cautery (the trocar is not considered, for it will not allow of thorough examination

and cleansing of the cavity), and should invariably fall to the knife. Incision into the liver tissue is accompanied with free bleeding, which appears alarming to one first dealing with this condition, but the hemorrhage from surface cuts of moderate depth is never serious, and will stop of its own accord if left to do so. The temporary free hemorrhage resulting from the necessary cut will act favorably in the later restoration of the organ—will relieve the portal congestion and allow the dormant cells to functionate, and will rid the system of a large amount of retained toxins that prevent normal metabolism. If the vessels have been much depleted during the operation, the loss can easily be replenished by saline transfusion. No effort should be made to check it, for when the abscess has been emptied, and the neighboring area collapses, the bleeding invariably ceases. No advantage is gained by the cautery; it is awkward and cumbersome to handle, cannot be sterilized, and does away with the added benefits of the local depletion.

The assistant being ready with gauze sponges clamped to carriers, an incision 4 cm. in length and 1 cm. or more in depth is made through the capsule. If this has not reached the pus, a closed broad-ligament clamp is pushed through the opening, past the fibrous boundary of the abscess and into the cavity, opened so that the blades are separated at least the length of the surface cut, and withdrawn. The fibrous wall is very dense in some cases, varying from .5 cm. to 2 cm. in thickness, according to the age of the abscess, and may require considerable force to overcome its resistance as the clamp is pushed through. As the thick, brownish-yellow pus appears along the path of the instrument, the assistant sponges it away rapidly from the opening, as little of the material as possible being permitted to flow over the gauze protecting the intestines. The clamp is inserted on successive times as the flow lessens until the cavity has emptied itself, and its interior is then examined with the finger. If trabeculæ divide the cavity into various compartments, they are broken down, and loose shreds of necrotic tissue hanging from the shaggy wall are brought away. The interior is wiped dry with narrow strips of gauze armed on a clamp, several of the strips being allowed to remain in the cavity after it is comparatively cleansed, and the free ends are brought to the surface of the abdomen to act as a drain. Alongside these strips is inserted a large, firm, rubber tube, 1.5 cm. in diameter, with 2 openings cut into its sides near the end projecting into the abscess cavity, and the free end is anchored in the abdominal incision at the point best adapted for drainage. The soiled gauze strips protecting the intestines are removed after clean strips in equal number have been placed underneath them, *i. e.*, between the original gauze strips and intestines, and these in turn are substituted by one strip, 10 cm. wide, for abdominal drainage, carried to the farthermost point posteriorly underneath the liver, and so placed that when spread out its edges will overlap the liver incision. If the operation was on the upper anterior surface of the liver the gauze protecting the suprahepatic space is removed, the space is wiped dry, and narrow gauze strips 4 cm. wide are placed on each side of the liver cut and brought out of the abdominal wound. We have then these gauze strips for drainage through the abdominal wall, beside the rubber tube: 1 piece 10 cm. wide, and of 8 thicknesses, for the abdomen; 2 narrow strips for the abscess cavity (2 narrow strips being used in preference to 1 broader one on account of ease in withdrawal); and if the abscess was on the upper anterior surface, 2 additional narrow strips as guards of the suprahepatic space, 1 on either side of the liver cut. The destination of each set of strips is marked by tying black or white sterile silk to the free ends before the abdomen is closed.

The same technic is used with each pus accumulation in this area, be the condition single or multiple. Adhesions, if remote from the abdominal incision, are investigated and separated, except those on the upper and posterior surface of the gland, which will be dealt with later. Care is exercised in all the manipulations not to injure the normal gallbladder, and the abdominal wall is sutured in successive layers, with catgut No. 2 for peritoneum, No. 5 chromicized for each muscle, and silkworm-gut for skin, leaving the opening for drainage sufficiently large so as not to constrict the tube. Time required for operation, 35 minutes.

Abscess on the upper and posterior surface of the gland is a more serious problem, for it means the selection of a route through the chest wall. Immediately on the location of a pus collection in this area, to the exclusion of abscesses in the more dependent portions of the gland, a point on the chest wall opposite the accumulation is marked by a nick of the knife, and the exploratory incision is closed. This point must be directly over the adhesions between liver and diaphragm, if any exist, and which are not disturbed; but if the abscess has been located purely by the resiliency of overlying structure, or possibly by a dome-shaped swelling, without involvement of the peritoneum, the point on the chest wall will be marked somewhat lower down and more posteriorly than the area discovered with the finger, for this will approach more nearly to the bulk of the pus collection when the abscess is opened.



Fig. 2.—Showing scars of infracostal exploratory incision, and incision on chest wall for evacuation of abscesses near the upper and posterior surface of the liver.

The patient is rolled partly over on his left side, sand bags being placed beneath his shoulders and under the small of his back to retain him in this position. An elliptic incision 12 cm. at its base, convexity downward, is made on the chest wall with the point marked by the knife corresponding to the focus of the arc. A flap of superficial structures is turned up and the exposed muscle—latissimus dorsi—is cut away, so that in the later process of repair the fibrous tissue will not encroach upon the opening left for drainage. One or two ribs are now resected. This resection is found to be absolutely necessary in securing good drainage, and in cases in which it was not done an incision in an intercostal space was deemed sufficient, the subsequent coming together of the ribs by fibrous contraction caused such a narrowing as to render drainage most unsatisfactory, and in 2 cases necessitated a second etherization and enlargement of the opening. The resection of one rib will usually suffice, and this will generally be the eighth or ninth, always remembering to work back as far as possible—posterior to the postaxillary line if the point of attack will permit, to be near the most dependent part of the pleural cavity. During the separation of periosteum and cutting of bone—a piece of rib 8 cm. in length being removed—injury to the pleura must be avoided, unless adhesions exist between its surfaces from

an old abscess encroaching upon the diaphragm and chest wall and lying directly underneath; in such cases a straight incision is made directly through all the remaining adherent structures into the abscess cavity, and the pus evacuated. But if adhesions are not present between the reflected layers of pleura, the preservation of the cavity intact is aimed at, and is accomplished by making a curved light incision through the shallow muscle in the interspace below the denuded periosteum, and stripping the parietal layer of pleura from the ribs below the level of the incision, and the reflection over the diaphragm to a corresponding height. The culdesac of membrane is then raised and a curved incision carried through the diaphragm. If the pleura is accidentally opened no attempt is made to strip up the layers, but the incision is carried directly through the pleura and diaphragm 6 cm. or 8 cm. in length, a circular continuous suture of catgut closing off the lung cavity before further steps are carried out. Air in the pleural cavity is not a serious complication, but a prevention of pus infection of the serous membrane is most important.

The liver being exposed, and taking for granted that no adhesions exist between it and the diaphragm, narrow strips of sterile gauze are packed snugly all around the incision through the diaphragm, and between it and the upper surface of the liver, thus walling off the peritoneal cavity. No attempt is made to suture the nonadherent liver to the diaphragm, for the gland is too friable to retain sutures of any material, and in the several cases in which this was tried all the sutures tore through the tissue immediately on a slight amount of tension being used to approximate the two surfaces.

That part of the liver now exposed for operation, and bounded by the gauze strips, should be as low down as the location of the abscess will permit, to allow for subsequent liver contraction and the relative change of surface levels—a consideration in the final stage of drainage. The liver is incised with the knife, a closed clamp is pushed through the intervening structure into the abscess, is opened, and withdrawn. The patient is turned gently on his back to facilitate the flow of pus, and when this has ceased, the cavity is examined and cleansed. Strips of gauze and a firm drainage-tube of large caliber are passed into the cavity, the tube being anchored on the skin surface by a stitch, and knots of white and black sterile silk are used to mark the ends of the gauze strips passing into the liver, and those packed around the opening through the diaphragm. These ends are brought out of the wound at the posterior angle, alongside the rubber tube, several additional strips are packed in the wound superficially to retain an opening through the chest wall at least 5 cm. in diameter, and the remainder of the skin flap is sutured in position with silkwormgut. The dressing will consist of 2 parts: A single pad of sterile gauze for the exploratory incision, covered over with sterilized guttapercha or oiled silk, the edges of which overlap the gauze pad and become glued to the skin; and a generous arrangement of gauze and cotton pads built around and over the ends of the gauze drains and tube. A single broad binder from axilla to pelvis retains the whole in position. Time for both operations—exploration and rib resection—45 minutes.

After-treatment.—Judicious management of the postoperative period is most important, for on it will depend the ultimate outcome of the case. Individual methods of handling conditions differ widely, and that surgeon will secure the best results who adheres to methods, medicaments, and foodstuffs found most reliable under similar conditions in years of experience.

My general plan is to administer morphia sulfate .02 gm. and atropia sulfate .00065 gm. to the patient after consciousness has returned, to allay pain and combat shock. If much blood was lost during the operation, saline transfusion will have been given on the table, and if shock is deep, applications of dry heat and an enema of 250 cc. of hot coffee will control it. Hot tea is sipped about 4 hours after returning to bed, which is acceptable to the stomach and dissipates the ether more rapidly. Later in the day and on succeeding days, especially if there be nausea or vomiting, iced ginger ale, lemonade, albumen water, or a sherry cobbler are taken as beverages.

Free discharge will necessitate change of dressings about 8 hours after operation, at which time the entire dressing is removed and clean gauze and cotton are reapplied, the patient remaining in bed. On the following 5 days the dressing is changed twice a day, the patient being lifted onto a rolling litter and taken to an adjoining room each time, so that bed linen and mattress can be changed and aired. On these occasions the new dressing is applied after washing off the skin surface with water and alcohol, but the drainage is not disturbed.

During the first 6 days, the time when fibrous adhesions are forming between the surfaces around the gauze packing, the patient is kept mildly under the influence of an opiate—either morphia sulfate, .016, or Dover powder, .32, a.m. and p.m.—to promote restfulness and allay pain, but not in sufficiently large dose to act as a hypnotic. Effects on the nervous system in each case will determine the dosage.

On the sixth day adhesions will have formed, and the gauze drainage and rubber tube will be surrounded by a fibrinous exudate and lymph, which, on removal of the drains, will have established a secure pathway from skin surface to abscess cavity. The gauze strips and rubber tube can therefore be removed with safety. The ends of the gauze projecting from the wound are clamped on forceps, and by twisting and tugging are removed in separate pieces. The tube is likewise withdrawn. With the aid of a stout, bent glass tube having a lumen .5 cm. in diameter, the cavity is irrigated with warm sterile water until the flow returns clear. A new rubber tube, similar to the one removed, is carried into the cavity, the depth of insertion being regulated by a sterilized safety pin transfixing its external end. Strips of sterile gauze are packed around the tube down to the abscess cavity, dressings are applied and the patient is returned to bed. This process is continued on each successive day, a clean tube and new strips for drainage being inserted after irrigation, until there is no further evidence of pus; all packing and drainage is then discarded, and the sinus is allowed to close. The patient is permitted to sit on a rolling chair in a reclining posture after the second week, and during the last days of local treatment will be walking about—providing of course systemic conditions are favorable.

A word concerning the general systemic management of the patient is in order, for it must be borne in mind that the liver abscess with which we are dealing is not an independent nor a primary affection, but is associated with a chronic dysentery, the principal pathologic feature of which is inflammation and ulceration of the large intestine. The abscess itself is merely a complication of the intestinal disease, and while we are ridding the liver of its contained pus, steps must be taken to prevent a further recurrence of the pyemic process by directing attention to the disease in the lower bowel. Abandoning all the routine internal medication that has been advocated for years—ipecacuanha, opium, salol, the socalled intestinal antiseptics, etc.—and found wanting, and the various prescribed enemas—recourse is had to a more simple, rational, and curative treatment which has proved well-nigh marvelous in its results. For evidence of this I have but to refer to the records of the United States Army General Hospital, Presidio, Cal., where over 800 cases of dysentery were treated during the past year, and where a substitution of olive oil for all other drugs and agents in the treatment of the disease, by members of the staff, has been responsible for a decrease in mortality, and a rapid restoration to health of greatly emaciated and bedridden patients having frequent bloody stools, and who were apparently beyond relief.

Adopting this plan of treatment in the convalescent stage, about 10 days after operation, the patient is given thrice daily on an empty stomach 30 cc. of pure olive oil in a wine glass, into the bottom of which is squeezed 10 cc. of lemon juice. The oil should be of a pure variety, the product of the press when the fruit is nearly ripened, so as to lessen the tendency to nausea. This amount can be increased to 60 cc. or 90 cc. 3 times daily in the course of a week, without causing any gastric disturbance, which dose is then continued for weeks until all evidence of dysentery has disappeared, a time which is necessarily variable. Patients soon acquire a taste for the oil, and those to whom it was distasteful at the onset of the treatment have later been seen to crave it. Under its influence they gain rapidly in weight, color, and vigor. Patients reduced to the neighborhood of 90 pounds, and who were bedfast for months, have increased in weight from 40 to 50 pounds in 6 weeks' time, taking daily walks in the open air. The effect on the intestinal dejections is the most notable feature of the treatment, however, and usually in 2 weeks' time the frequent, loose, scanty, mucosanguineous stools become normal and formed. The oil acts beneficially principally by stimulating the portal circulation, increases

Case No.	Location of abscesses.	Route for evacuation.	No. of abscesses.	Result.
1	Right lobe, upper surface posterior.	Rib resection 8th and 9th.	3 communicating.	Cured.
2	Right lobe, lower surface posterior.	Infracostal external.	Single.	Cured.
3	Lobulus quadratus.	Infracostal median.	Single.	Cured.
4*	Right lobe, lower surface posterior.	Infracostal.	Single.	Cured.
5	Right lobe, upper surface posterior.	Rib resection 10th	Single.	Cured.
6	Lobulus spigelii.	Infracostal.	Single.	Cured.
7	Right lobe, lower surface, external.	Infracostal external.	Single.	Cured.
8	Right lobe, upper surface, anterior.	Infracostal.	Single.	Cured.
9	All lobes.	Infracostal.	Multiple non-communicating	Died
10	Right lobe, entire.	Infracostal and intercostal.	Multiple non-communicating	Died.
11	Right lobe, lower surface.	Infracostal.	Single.	Cured.
12	All lobes.	Infracostal and rib resection, 8th	Multiple non-communicating	Died.
13	Lobulus spigelii.	Infracostal.	Single.	Cured.
14	Right and left lobes, entire.	Infracostal and rib resection, 8th	Multiple non-communicating	Died.
15	Right lobe, entire.	Infracostal.	Multiple non-communicating	Died.
16	Right and left lobes	Infracostal and rib resection, 8th and 9th.	Multiple communicating.	Convalescent.

the flow of bile, restores a natural digestive agent and antiseptic to the intestinal canal, and combined with the bile, protects and promotes healing of the ulcers.

Feeding is an equally important matter, and at the beginning of convalescence, a proper dietary must be selected which will build up the patient, increase his powers of resistance, and while generous in quantity, must not overwhelm his digestive powers. Milk and all articles of food prepared with milk, (soups, gruels, etc.) are proscribed, as they exert a pernicious action on the inflamed large bowel, which under normal conditions assimilates a large proportion of nitrogenous substances. Milk foods rapidly pass the small intestine and appear in the large bowel within an hour after ingestion, where the mucous membrane, in its inflamed and ulcerated condition, is unable to carry on its normal function. The milk not being absorbed can take no part in reconstruction of tissue, and locally stimulates the inflamed mucous membrane to over-secretion. The diet on which these patients thrive best, and gain most rapidly, is one of solid food, given in conjunction with the administration of olive oil. Salads and shell-fish are usually most grateful, and together with minced meats and well-cooked vegetables, constitute the most desirable dietary. Whatever foods are ordered, the end in view must be to give the large bowel rest.

I am indebted to Majors Brechemin, Birmingham, and Kendall, Surgeons, United States Army, in whose services these operations were performed, and to Lieutenants Beal and Shortlidge, Assistant Surgeons, and Drs. Strong and Stoney, Contract Surgeons, United States Army, for valuable assistance in these cases (see tabulated list in preceding column).

* Suppurating appendix removed at same time.

INJECTION OF PARAFFIN FOR THE CORRECTION OF DEFORMITIES.

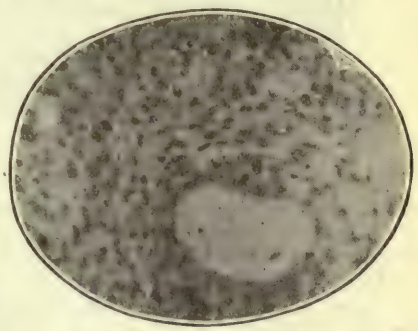
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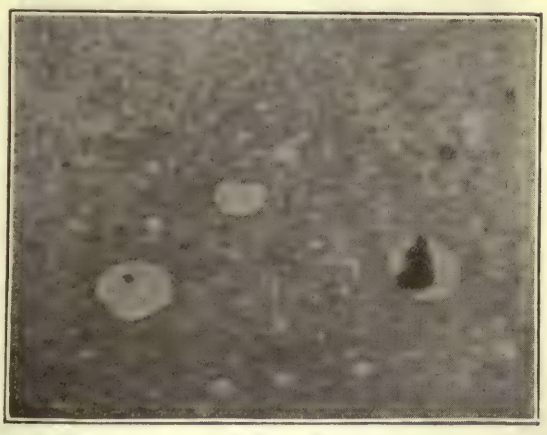
Our attention was called to the use of paraffin in surgery about 3 years ago by Gersuny, and since that time it has been used by many operators on various kinds of deformities, with such uniform success, that there is scarcely any fear of harm if used under ordinary precautions.



1.—One month after injection, ⅙ objective—2 inch ocular. Magnification, 150 diameters.

Its principal use has been to restore deformities about the nose and face, but it has a wide range in other conditions, incontinence of urine or feces, cystocele, and prolapse of the rectum, fistula in various parts of the body, to fill cavities in bones, or for artificial joints after excision, cure of hernia, and for prosthesis.

It has found its greatest field of usefulness in nasal deformities as these defects are congenital, caused by

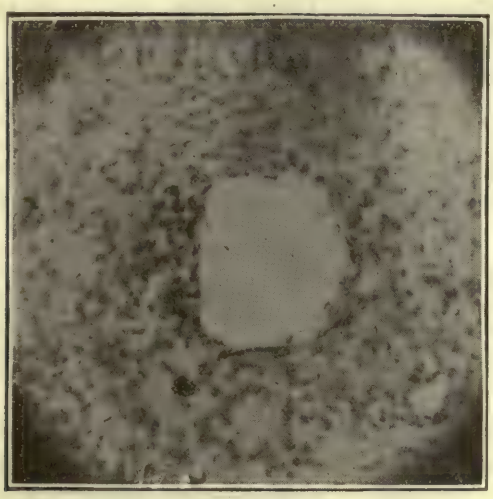


2.—One month after injection, ⅔ objective—2 inch ocular. Magnification, 40 diameters.

fractures, or necrosis; syphilis playing a great factor. The saddle-back nose has been one of the most difficult deformities to relieve, as the operation leaves a scar externally, unless we depend on mechanical support which keeps up a constant irritation, therefore neither

method has proved very satisfactory. This class of deformities, however, can be relieved with the greatest ease by injecting paraffin into the subcutaneous tissues, and moulding into the position desired.

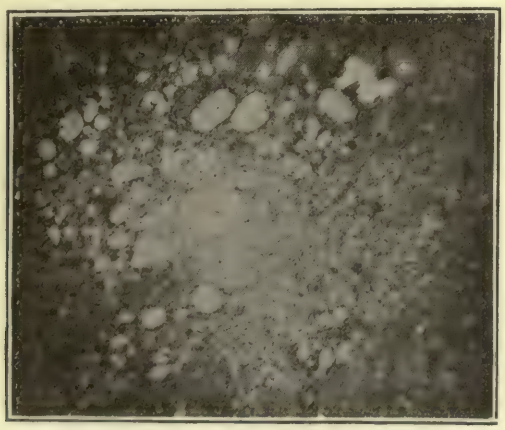
Paraffin is a hydrocarbon obtained from petroleum by distillation; the ordinary melting point varies from 120° F. to 160° F. There is a great difference of opinion as to what the melting point should be; if the melting point be too high, it makes it more difficult to inject, and there is danger of the extra temperature causing a



3.—Two months after injection, ⅙ objective—2 inch ocular. Magnification, 150 diameters.

slough, or necrosis, and if used too near the temperature of the body, it has a tendency to spread, and will not support the parts, and there is also danger of producing embolisms.

I use paraffin at a melting point of 109° F. It is brought to this point by adding sperm oil and is sterilized by placing in a watery bath, and exposing to heat sufficient to boil the paraffin. I use the Luxe's glass syringe, which holds 8 cc., is readily sterilized and

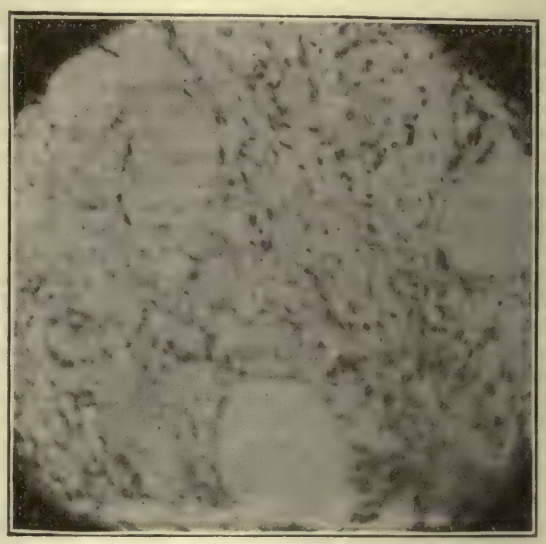


4.—Two months after injection, ⅔ objective—2 inch ocular. Magnification, 40 diameters.

always in working order and which allows the condition of the fluid to be readily seen. The needle is 1½ inches long, and fits the syringe by means of a joint, so that it can be readily attached.

The parts are cleansed as for any operation; I have never found it necessary to use a local or general anesthetic, unless there was some other operation to perform. The needle is introduced beneath the skin, some distance from the deformity, allowing the point to pass beneath the center of the deformity; the syringe is filled, attached to the needle, and introduced just as the paraffin begins to coagulate, so that it passes in as a threadlike substance, and at the same time the parts are moulded into position with the other hand.

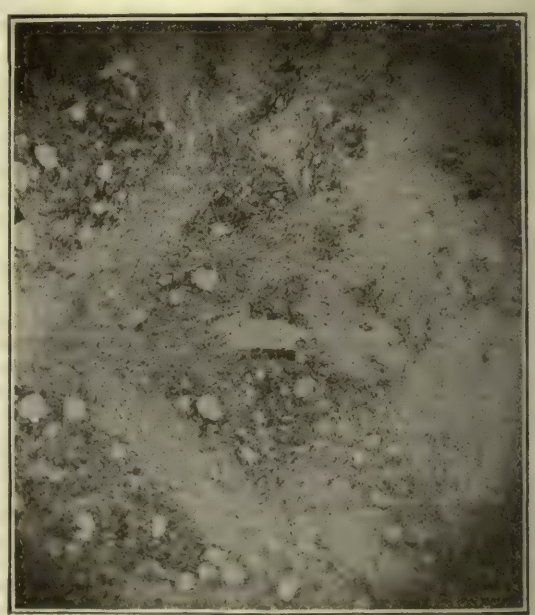
The first two microphotographs show the condition of



5.—Three months after injection, ⅙ objective—2 inch ocular. Magnification, 150 diameters.

the paraffin and tissues at the end of a month. We find the globules of paraffin surrounded by a capsule of embryonic tissue.

Figs. 3 and 4 indicate the change at the end of the second month. The connective tissue has increased and new bloodvessels are permeating it; the masses of



6.—Three months after injection, ⅔ objective—2 inch ocular. Magnification, 40 diameters.

paraffin grow smaller and are surrounded by embryonic tissue, which has penetrated the paraffin.

The third sections (Figs. 5 and 6) show a vast increase of new tissue, connective, fibrous, and embryonic, with a decrease in the amount of paraffin.

The last two sections (Figs. 7 and 8) show the condi-

tion at the end of the fourth month. The spaces where the paraffin was deposited are entirely filled with embryonic tissue, as will be noticed in the higher power. It will also be noticed that the tissue is nearly normal,



7.—Four months after injection, ⅙ objective—1 inch ocular. Magnification, 300 diameters.

except small masses of new tissue, which are not yet completely vascularized.

These sections show conclusively that the paraffin soon disappears, whether it undergoes some chemic change or is carried away through the lymphatic system by the leukocytes remains to be settled.

The principal dangers which may occur are embolisms, sloughs, and sepsis. The latter complication can



8.—Four months after injection, ⅔ objective—2 inch ocular. Magnification, 40 diameters

be prevented by using paraffin at the proper temperature, and by not producing an extra amount of tension—asepsis will prevent sepsis. A case of pulmonary embolism, terminating in recovery, has been reported by Pfannenstiel. In this case a large amount of paraffin was used about the rectum, and the patient was allowed to return home at once without any extra precautions. The melting point of the paraffin is not mentioned, which would probably explain the cause. The experiments of Dr. Comstock show that in every case in which he injected animals with paraffin the melting point of which was below the temperature of the body that the animals died in two weeks' time from thrombosis. From these experiments it would seem conclusive that danger arises when the melting point of the paraffin is below the body temperature. I doubt whether paraffin used with a melting point below the body heat is as dangerous as we would be led to believe by these experiments.

Paraffin has been used for years as a mercurialized solution in syphilis without serious complications. I have injected 7 guineapigs in various portions of the body with from 2 cc. to 4 cc. of paraffin at a melting point varying from 2° F. to 10° F. below the body temperature with absolutely negative results.

I have used it in the following cases with very satisfactory results:

Case I.—Miss C., a saleswoman of 22, received an injury to the nose when a child. The nasal bridge was crushed and elevated the end of the nose. An injection of 4 cc. of paraffin



was made beneath the skin at the depressed point, elevating the deformity and apparently lowering the end of the nose, with the result that the condition was very much improved. The patient continued work, but complained of a burning sensation the first day.

Case II.—Mr. C., aged 42. Syphilis had destroyed the septum, causing the nose to drop very low, except at the lower end, which was supported by the cartilages. The nostrils were plugged, and then injected with 6 cc. of paraffin. The plugs were left in place until the paraffin hardened. The change was a very satisfactory one to the patient, as he had just been discharged from the penitentiary.

Case III.—R. E., aged 16, had always suffered with a saddle-back nose as a result of nondevelopment of the septum. On two separate dates 8 cc. was injected. This elevated the parts, but failed to mould them even, and I was therefore compelled to inject 2 cc. to relieve the irregularities.

Case IV.—In J. B., aged 34, absence of the septum had occurred from syphilis. Placing 2 forceps in the nostrils to keep the parts elevated, 6 cc. was injected at the lowest point. Later 2 cc. was injected, increasing the tension of the parts with the result that a slight infection occurred, and a part of the last injection of paraffin was lost. However, this did not seem to disturb the first injection, which made a fine result.

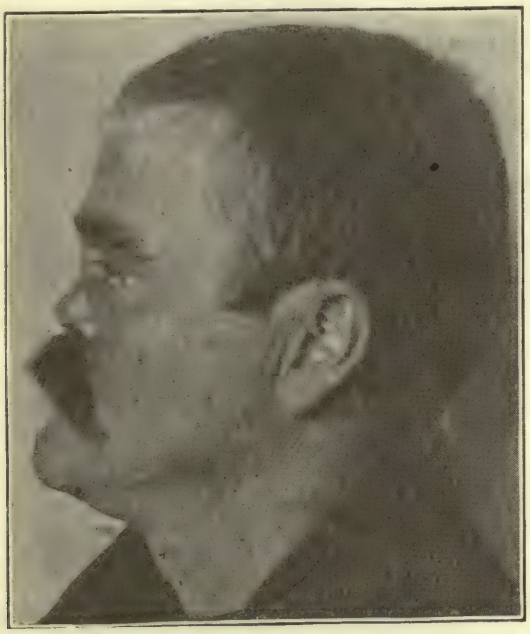
Case V.—Wm. G., aged 70, had a lateral depression on the left side, the result of an injury. An injection of 2 cc. relieved the deformity.

Case VI.—T. G., aged 37, had his nose crushed when young. Cocain was applied locally, the septum cut, and the nose straightened; the septum was supported by nasal plugs. An injection of 4 cc. of paraffin was made in the center to elevate the bridge. The result was very satisfactory.

CASE VII.—J. V., aged 30, had a congenital saddle-back deformity. An injection of 4 cc. relieved the depression perfectly.

CASE VIII.—A. M., aged 25, had a depression on the left side of the nose, due to a crushing injury. An injection of 3 cc. beneath the deformity relieved it.

CASE IX.—A. H., aged 20, had her nose crushed and pressed to the right side, making a very ugly deformity. The patient was placed under an anesthetic and the septum cut in two places. The nose was then broken by making a small incision on the right side and using a small nail set and hammer. The nose was then straightened and the septum retained in position with



nasal plugs, and the bridge elevated by injecting 4 cc. beneath the skin. A marked improvement followed.

CASE X.—G. H., a male, aged 34. I had removed the right superior maxillary for carcinoma, which left the characteristic deformity. An injection of 40 cc. only left the scars to show the deformity exteriorly, which appeared to bridge over the cavity. I did this three different times; only a slight amount of swelling occurred, and this was controlled by a solution of aluminum acetate.

CASE XI.—J. W., aged 57, had a deformity over the right inferior maxillary, as a result of a compound fracture, the skin becoming adhered to the bone. The parts were separated by





passing a small scalpel through the skin some distance from the adhesion, and 4 cc. was injected through the opening, preventing further adhesions, and relieving the deformity.

CASE XII.—J. L., aged 57, had a saddle-back nose, due to injury. An injection of 4 cc. improved the condition very much.

CASE XIII.—S. N., aged 34, had the left testicle atrophied when a child from an injury, which had debarred him from entering the marine service. The absence of this member had always depressed him. I injected 48 cc. into the left scrotum and moulded into the shape of a testicle; for a week it was moulded each day as nearly the shape of a normal testicle as possible. It has now been 2 months since the operation, and it remains in perfect shape, and has never caused any disturbance, and it is only on careful palpation that the difference can be detected.

CASE XIV.—Mr. H., aged 22, had a saddle-back deformity from birth. I injected 4 cc. in the middle line just beneath the deformity, with a perfect result.

CASE XV.—Mr. B., aged 20, had the bridge of nose very low, extending almost to the tip. An injection of 3 cc. beneath the skin in the center line elevated the parts, and very much improved his appearance.

CASE XVI.—Mr. A. D., aged 23, had a dark-complexioned and a very wide flat nose, especially low at the bridge, giving him very much the appearance of a mulatto. The skin was pressed to the center of the nose to relax it, and 5 cc. injected, which elevated the nose and made a decided change in his appearance.

CASE XVII.—The patient was aged 33, and had had saddle-back deformity from birth. An injection of 3 cc. elevated the parts, but only partly relieved the deformity.

CASE XVIII.—Mr. H., aged 40, had necrosis of the right tibia. A large cavity remained which was filled with paraffin; the periosteum and other structures were closed, and the angle of the wound was drained. Some of the paraffin passed away as a result of pressure from hemorrhage; the bone cavity closed, however, and I believe the paraffin assisted materially in filling in the space.

CASE XIX.—Mr. D., aged 32, had his nose fractured, crushing the bridge very low and pushing the nose to the right side. An injection of 6 cc. was made to elevate the bridge and a small amount was also injected into the left side of the nose to elevate it, this partly closed the left nostril, obstructing the breathing space, as the nostril had been partially obstructed by an exostosis on the septum. Two weeks after the injection I opened through the mucous membrane and removed some of the paraffin, and later removed small particles to relieve the breathing space. This improved his appearance and furnished the sections I have shown.

CASE XX.—Mr. H., aged 38, had a congenital saddle-back nose. An injection of 6 cc. elevated the deformity and produced a normal condition, very much to his satisfaction.

CASE XXI.—Mrs. L., aged 41, had a syphilitic destruction of the septum, which allowed the end of the nose to drop. An injection of 4 cc. which was given at each side, elevated and supported the end of the nose. The nose is not in a normal condition, but her looks were improved very materially.

CASE XXII.—Mrs. L., aged 40, had a saddle-back deformity from an injury when a child. An injection of 6 cc. beneath the deformity entirely relieved the condition, much to her satisfaction.

CASE XXIII.—Mr. W., aged 36, had a saddle-back deformity as the result of an injury. An injection of 3 cc. restored the nose to a normal condition.

REFERENCES.

[1] Pfannenstiel: Centralblatt f. Gynäkologie, 1901-2.
[2] Comstock: Medical Record, November 1, 1901.

THE SUSCEPTIBILITY OF THE NEGRO TO TUBERCULOSIS.[1]

BY

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That certain races furnish an inviting soil in which some diseases flourish is a matter of common observation. This peculiar condition of body is the result of heredity and environment, and is most aptly described by the word susceptibility. The study of the susceptibility of a people to a certain disease is an inviting and worthy work, and I have chosen to direct your attention to the susceptibility of the negro to tuberculosis, to fathom the causes, if possible, and to suggest such measures as may be within our reach to diminish it.

It has long been observed by physicians in the South, where perhaps 90% of the negro population resides, that tuberculosis is on the increase in that race. Before the war between the States, when the negro was a slave, tuberculosis was exceedingly rare and some observers regarded him almost, if not quite, immune.

In an article by Dr. James H. McIntosh, of Newberry, S. C., on "The Future of the Negro Race," one finds the following:

[1] Read before the American Climatological Association at its Twentieth Annual Meeting, held in Washington, D. C., May 12-14, 1903.

Phthisis was a disease unknown among the race prior to 1860. Among all those around me as I grew up, I cannot recall a single case, and now since 1865 in families where there had not been a case of phthisis to my knowledge for 20 odd years previous to that time, parents and children have all yielded to the same fell disease, and entire families have disappeared. In one family of 16 children, 10 have died of scrofula and phthisis, mother and father still alive. Three months ago a negro man came to my office with 3 sons, one of 13 years barely able to be moved; one of 17 years with cavity formed in lung; one of 19 with marked incipient phthisis; left at home 1 son of 15 too ill to be moved, and had buried the week before the eldest son aged 23.

In a reprint of the Ohio State Board of Health, Dr. James Evans, of Florence, S. C., in an article on "Consumption Amongst the Negroes," observes that the deathrate among the slaves on the rice plantations was very low from pulmonary tuberculosis even though they were much exposed to the weather in winter repairing dykes, cleaning out and digging ditches, etc., and notes that in Charleston in the 31 years immediately following the war there died from tuberculosis 1,525 white persons and 4,915 colored. Dr. G. W. Hubbard, of Nashville, Tenn., in an article on "Consumption Among the Colored Population of the Southern States," points out that according to the United States Census of 1890 the total percentage of deaths for the year ending May 31, 1890, was 11.1 among the whites, and 15.4 among the colored. For the same year the State of Alabama showed a deathrate of 8.1 among the whites, and 12.7 among the colored. In Memphis, Tenn., the average for 1882–1886 was 129; from 1888–1890, 125; 1891–1895, 136.

Dr. E. H. Scholl, of Birmingham, Alabama, in the *Virginia Medical Monthly*, says, "From April, 1856, to April, 1862, when my army life began, a large portion of my work was among the slaves who were in that section of Alabama. They were well fed, well housed, and carefully nursed when sick, and I cannot recall in all my service in those 6 years one solitary death from tuberculosis among the slaves of my district." Dr. W. H. Geddings has also called attention to the increase in tuberculosis, especially among the washerwomen of Aiken, S. C." These observations could be multiplied if it were desired, by many of the older practitioners of the South today.

Dr. M. L. Perry, in an article on "Some Practical Problems in Sociology Shown by Study of the Southern Negro," says: "The records of the State Sanitarium of Georgia show for the year ending September 1, 1900, the deathrate based upon the total number under treatment, was 5.8% in the white department, and 11.5% in the colored department. From September 1, 1901, we find a deathrate among the white patients of 6.7%, while in the negro department it reaches 17.1%." Dr. Perry adds that in the present year the ratio up to this time has been even greater, and this despite the fact that their treatment has been the same.

In further testimony of the fact I have selected the towns of Charleston, S. C., Augusta and Atlanta, Ga., and New Orleans, La., as typical of the South, and give the mortuary tables for tuberculosis for whites and colored during the years indicated in each table.

CHARLESTON, S. C.

Year.	Deaths from tuberculosis		Total deaths.		Population.	
	White.	Colored.	White.	Colored.	White.	Colored.
1898	47	221	491	1,258	28,870	36,295
1899	42	223	526	1,277	28,870	36,295
1900	40	194	484	1,242	24,285	31,522
1901	46	159	477	1,149	24.285	31,522
1902	36	181	461	1,154	24,285	31,522
Total.....	221	978	2,439	6,080	.....	.....

	White.	Col.
1898 ratio of deaths from tuberculosis to total mortality.....	1–10.44	1–5.69
1899 " " " " " "	1–12 61	1–5.72
1900 " " " " " "	1–12.10	1–6.40
1901 " " " " " "	1–10.37	1–7.22
1902 " " " " " "	1–12 80	1–6.37
Ratio deaths from tuberculosis to total mortality for 5 yrs.	1–11.03	1–6.21

AUGUSTA, GA.

Year.	Deaths from tuberculosis.		Total deaths.		Population.	
	White.	Colored.	White.	Colored.	White.	Colored.
1898	19	87	293	509	30,435	19,565
1899	31	94	366	530	30.435	19,565
1900	45	95	343	612	30,435	19,565
1901	28	112	317	600	22,876	16,565
1902	24	60	351	556	24,865	16,576
Total.....	147	428	1,670	2,807	.....	.....

	White.	Col.
1898 ratio of deaths from tuberculosis to total mortality.....	1–15 27	1–5.83
1899 " " " " " "	1–11.80	1–5.82
1900 " " " " " "	1– 7.62	1–6.44
1901 " " " " " "	1–11.32	1–5.32
1902 " " " " " "	1–14.66	1–9.26
Ratio deaths from tuberculosis to total mortality for 5 yrs.	1–11.36	1–6.11

In other words, though the colored population is 10% to 16% less than the white, in 5 years tuberculosis carried off 147 white persons and 428 colored. In round numbers, allowing for the discrepancy in population, about twice as many colored people die annually from tuberculosis as in the white race.

ATLANTA, GA.

Year.	Deaths from tuberculosis.		Total deaths.		Population.	
	White.	Colored.	White.	Colored.	White.	Colored.
1899	97	148	1,045	1,197	75,000	50,000
1900	80	134	916	1,014	79,000	52,000
1901	87	135	914	1,227	82,000	53,000
Total.....	264	417	2,875	3,438	.....	.....

	White.	Col.
1899 ratio of deaths from tuberculosis to total mortality.....	1–10.77	1–8.08
Same ratio of whites would give deathrate 222.		
1900 ratio of deaths from tuberculosis to total mortality.....	1–11.45	1–7.56
Same ratio would give white mortality 203.		
1901 ratio of deaths from tuberculosis to total mortality.....	1–10.50	1–9.06
Same ratio would give white mortality 208.		
Total ratio.....	1–10.90	1–8.12

NEW ORLEANS, LA.

Year.	Deaths from tuberculosis.		Total deaths.		Population.	
	White.	Colored.	White.	Colored.	White.	Colored.
1897	405	454	4,268	4,462	195,000	80,000
1898	546	447	4,275	2,551	195,000	80,000
1899	544	490	4,913	2,980	210,000	90,000
1900	512	500	4,318	3,106	210,000	90 000
1901	483	452	4,087	2,441	210,000	90,000
Total.....	2,490	2,343	21,811	15,540	.....	.....

Cases hemoptysis included.
Pneumonic tuberculosis included.

	White.	Col.
1897 ratio of deaths from tuberculosis to total mortality.....	1–10 53	1–9.82
1898 " " " " " "	1– 7.82	1–5.70
1899 " " " " " "	1– 9.03	1–6.08
1900 " " " " " "	1– 8.43	1–6.21
1901 " " " " " "	1– 8.35	1–5.40
Total	1– 8.95	1–6.64

With these facts at our disposal let us attempt to explain the causes and suggest such remedies as may be practical.

It may be admitted at the outset that the negro has a peculiar susceptibility to tuberculosis that may for the lack of a better explanation be described as racial. That the disease made no serious inroads on the race in its savage state and in its condition of slavery is doubtless explained by the fact that it was not exposed to the factors that we now know promote the disease, and when so, their open air, care free existence tended to prevent its development. The same conditions are doubtless operating, though to a less extent in the apparently more resistant white race. In his savage or uncivilized state the negro lived a practically out-of-door life, such as we now know is best to throw off the disease after it has once developed; in his condition of slavery his life was bucolic in a large measure and there was little of the crowding in cities that we now see. He was properly clothed, well fed, and snugly housed. His responsibilities were few and when sick he was sure to be cared for by a competent physician. His transition from slavery to freedom was abrupt, but his blessings of freedom were not to come without their penalty. From a condition of absolute dependence he was made independent. His habits and mode of living underwent a radical change. From being cared for and directed, he had to care for himself and be the master of his own

actions. In consequence many flocked to the cities and the withdrawal of restraint led to habits of dissipation and a disregard of the laws of health; and the prevalence of tuberculosis among them today is doubtless due more to their mode of life than to any racial peculiarity. It is conservative to say that most of them are ignorant of the fundamental laws of health; they are not neat in their persons or homes, and they incline to live together in houses that are often badly located and illy ventilated. They prefer to spend such money as they make on clothes or a melodeon rather than to acquire a desirable habitation and the preparation of wholesome articles of diet.

I have often found a tuberculous negro ill in a small house of one or perhaps two rooms, oftentimes with no window sash in the house—the solid window shutters being closed to keep out the air. In such quarters, with the patient expectorating over the bed-clothing and floor, often a whole family exist. The bed-clothing and personal apparel are innocent of the wash-tub, and individual cleanliness is accomplished through the medium of the family possession—a small tin basin. A towel serves the family in common, or any article of wearing apparel or bed-clothing will suffice. The food is usually poorly cooked and lacks variety. Even in the houses of those in better circumstances, these conditions exist in a less degree. In some there are evidences of neatness and thrift, and the household is regulated as it should be. It is not my purpose to decry or disparage the negro in what he has accomplished, for I think it has been much, but I am giving reasons which, in my opinion, account for the unusual mortality of the race from tuberculosis, and these indeed apply to other diseases as well.

Aside from his life in his house, the negro character at this time at least inclines to dissipation of various kinds; his morals are lax and his hours irregular, so that his constitution is depleted and he is more apt to fall a victim to the disease. It was demonstrated by autopsies on all negro patients dying in the Georgia Asylum for the Insane in 1901, that over 50% showed evidences of tuberculosis.

Many of them are inadequately clothed, and even in those more well to do, warm underclothing is the last to be properly supplied, a more showy exterior being the desideratum.

Another element concerned in the spread of the disease among the race may be classed as occupational. Many of the women serve as washerwomen and domestics, and in washing the linen and cleaning up the rooms of tuberculous patients they are more exposed to the infection. The men are exposed to greater inclemencies of the weather and often with insufficient clothing, and though free medical treatment and medicines are furnished them gratuitously by most cities, they are prone to neglect calling in medical aid until it is a necessity, so that the average case of tuberculosis appearing at the clinic or dispensary is usually far advanced in the disease.

Venereal disease depletes the race to a deplorable extent and although I have heard it stated by some observers that syphilis protects the individual against tuberculosis, I can neither commend it as a prophylactic nor verify it as a fact. I have repeatedly seen the two diseases present in the same patient.

That the condition is as described cannot be contradicted by any one who will take the trouble to study it. Is there any remedy? Yes, though it will take years of patient work and cooperation on the part of both races to compass it. The negro's moral education must go on through the labors of the better element of his own race and those of the whites who come in contact with him. He must be taught the havoc that dissipation plays with the body, that his home to be healthy must be properly located and neatly kept; that cleanliness prevents disease; that man, like other animals and most plants, requires fresh air and sunshine; that the crowding of too many individuals in a room is unwholesome; and that this disease at least is propagated by promiscuous spitting on floors and bed-clothing. In addition to these, if the local Boards of Health will exercise their educational influence separating the diseased, and disinfecting every house in which a case of tuberculosis occurs, I believe the mortality from the disease can be wonderfully curtailed.

HERNIA OF THE VERMIFORM APPENDIX AND THE REMOVAL OF THE APPENDIX DURING OPERATIONS FOR RIGHT INGUINAL HERNIA.

BY

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The appendix has been found in the sac of a left inguinal hernia. Such a case has been observed at operation by Bull and Coley.

The presence of the vermiform appendix in the sac of a right inguinal hernia is not an uncommon occurrence. Coley[1] found it in the hernial sac 16 times in 1,000 cases. Other writers mention the occurrence of cases, but few give definite records. R. Peterson[2] reports one case. I have found the appendix present twice in 90 operated cases of right inguinal hernia. From these reports, one should expect to find the appendix once in every 50 cases of right inguinal hernia. The condition is comparatively a rare one; but its importance warrants the most careful study so that the symptoms can be recognized, a diagnosis made, and proper treatment advised before dangerous complications arise.

I can find very little of value concerning the pathology and symptomatology of the appendix in a hernial sac. It is generally agreed that the hernial sac, containing an appendix, is greatly thickened and, in the majority of the cases, the appendix is adherent to the sac and is irreducible. These conditions are doubtless due to the frequent occurrence of inflammatory complications in cases of hernia of the appendix. Of course, the plica vascularis may play an important part in hernia of the appendix and in producing adhesions and thickenings, but personal experience and facts gained from reading are not sufficient for me to discuss this structure. The thickenings and adhesions, so commonly observed in this condition, are doubtless due to inflammatory processes originating in the appendix. These frequent inflammatory complications are regarded by Hutchinson[3] as characteristic of hernia of the appendix.

Mechanical interference with the circulation of the appendix, or trauma from injuries or trusses, may be responsible for the frequent inflammatory involvement of an appendix in a hernial sac. Hutchinson believes that an attack of appendicitis predisposes to hernia of the organ. He argues that a history of a preceding attack of appendicitis is not essential to prove his theory, for in many attacks, the symptoms are slight and may be overlooked. I am inclined to believe that hernia of the appendix is rarely, if ever, due to an attack of appendicitis with the appendix in a normal position; but an appendix in a hernial sac is prone to undergo inflammatory changes. The histories of the 2 cases herewith reported are in accordance with the foregoing statement.

The symptoms that may be considered more or less characteristic of hernia of the appendix are dependent on the inflammatory complications that occur so frequently in these cases. Occasionally an attack of appendicitis may precede the occurrence of the hernia. Hutchinson believes that an attack of appendicitis predisposes to a hernia of the organ; and that an inflamed and rigid appendix is more apt to become the content of a hernial sac than an appendix in a normal condition. The histories of the 2 cases that I have observed did not indicate an attack of appendicitis before the hernia occurred.

A hernia containing an appendix is usually irreducible; the sac feels thickened, and the hernia is tender on deep pressure. In the 2 cases herewith reported the appendix was tender, and on deep and continuous pressure pain was complained of in the region of the umbilicus.

An appendix in a hernial sac may be the seat of an acute or of a chronic inflammation. In one of my cases the hernia gradually became more tender and at times was painful. At no time did the patient complain of severe pains, vomiting, fever, or of local or general symptoms due to an acute inflammatory process. In this case the hernial sac was adherent and thickened; the appendix was firmly bound to the sac and showed marked evidences of chronic inflammation. In the other case the hernia was irreducible from childhood; for 10 years a truss was worn without discomfort; during the next 20 years the truss caused pain and the hernia was tender. Then occurred a train of symptoms that indicated an acute attack of appendicitis that involved the herniated organ. The patient complained of severe pain, vomiting, fever, increased rapidity of the pulse-rate, and local pain and tenderness. These symptoms continued for 10 days. Operation, 7 months later, showed many adhesions and evidences of a previous inflammatory process.

The following symptoms would suggest a hernia of the appendix: Small irreducible nontympanitic hernia on the right side; hernial sac thickened; ability to recognize the appendix in the sac by palpation (Bull); unusual tenderness of the hernia; pain in the region of the umbilicus on firm and continuous pressure over the hernia, and the presence in the hernia of inflammatory symptoms corresponding to appendicitis. Inflammation of the spermatic cord may simulate a hernia of the appendix, but these cases are usually dependent on a discoverable cause and the testicle is apt to be involved at the same time.

I should advise the radical operation for hernia, with removal of the appendix, in all cases in which a hernia of the appendix can be diagnosed. This I did in my 2 cases, and the results were satisfactory. Hutchinson advises returning the appendix to the abdominal cavity if it appears normal. I can see no advantage in following his advice. Coley reports 16 cases and Peterson 1 case of hernia of the appendix in which the organ was removed with satisfactory results.

CASE I.—A farmer, aged 20, stated that he was born with a small rupture. It caused him no trouble till 4 years ago. At this time he complained of pain in the rupture. He consulted a physician, who tried, unsuccessfully, to reduce the hernia, and advised a truss. The patient was unable to wear the truss on account of tenderness. The pain and tenderness gradually increased in severity, but at no time had he complained of symptoms that would indicate an acute inflammatory attack.

Examination showed a small, irreducible, nontympanitic, firm and tender mass occupying the right inguinal canal, and extending 2 inches beyond the external abdominal ring. Firm and continuous pressure over the hernia caused pain in the region of the umbilicus. Operation showed the condition described.

CASE II.—A miner, aged 30, was born with a rupture. During the first 10 years of life he wore a truss without discomfort. During the next 20 years he complained of more or less pain from the truss, but continued to wear it. About 7 months before I saw him he experienced the following train of symptoms: Sudden, severe pain in the abdomen, and later in the hernia; nausea and vomiting; fever; swelling of the hernia, with marked tenderness. A cathartic was given and the bowels responded. These symptoms continued for about 10 days and then subsided. After this attack the hernia was larger, more painful and tender, and a truss could not be worn. Examination showed practically the same conditions as in the foregoing case, except that the hernia was larger and more tender. A probable diagnosis of hernia of the appendix was made. Operation revealed the condition described.

Since operating in this last case I have examined the appendix in every case of right inguinal hernia for which I have operated. In 12 cases I found the appendix diseased 8 times. In 4 cases it appeared normal. I removed the appendix in all of these cases, and in none of them did I experience any difficulty in locating the organ or in removing it through the internal abdominal ring. I believe that it is only in exceptional cases that an appendix cannot be removed through the internal ring. I advise examination of the appendix in all cases operated for right inguinal hernia.

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FUNIC PULSATIONS: WHEN TO LIGATE THE CORD.

BY

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Not infrequently from lack of careful thought and from the habit of jumping at conclusions, we illogically deduce false conclusions from what may be good premises. I think that this short paper will well demonstrate this fact. If I should ask you individually if the funic pulsations were maternal or fetal in origin, you would probably reply, as have a large majority to whom I have lately put the question, that the funic pulsations are of maternal origin.

That this is wrong and that the pulsations are of fetal origin was clearly demonstrated to me in the following case:

Mrs. E. C., aged 26, is a strong, healthy woman. Her first child is living and well. Since then she has had one premature child at 8 months, one at 7 months, both dying, and this last one at a little under 6 months. Examination previous to the last pregnancy showed a large transverse tear in the cervix.

Present History.—For the last 2 weeks she has had cramps in the abdomen; after a fall 1 week ago the cramps became worse.

On April 24, at noon, I was called, as she had been having decided labor pains since morning; these gradually increasing in severity. I left some viburnum. At 4 p.m. I was again called in. While I was washing my hands preparatory to an examination she had a severe pain, and then said, "the baby is here." I continued to scrub my hands for 2 or 3 minutes longer. Then turning to the patient I found the whole contents of the uterus had been expelled, the fetal membranes unruptured, the child still within, surrounded with the amniotic fluid. I placed the whole mass in a chamber they handed to me. After a minute or two the child made several attempts at respiration, so I ruptured the membranes and lifted it out. To my surprise, the funis was still pulsating quite forcibly. This continued for several minutes longer, when it weakened and I tied it off and cut it. In other words, the cord was pulsating at least 5 minutes after the placenta had been expelled from the uterus. The child lived 2 hours longer, the heart gradually becoming feebler and slower.

To demonstrate again the fact that the funic pulsations are fetal in origin, at a subsequent confinement I placed a hemostat on the cord. The pulsations on the maternal side immediately ceased, while on the fetal side they persisted. In fact, 30 minutes after I had tied off the cord, I found the stump still pulsating.

The practical point to which this leads is, when should the cord be ligated? I think the usual teaching is that in a vigorous child the cord may be ligated immediately, but in less vigorous children the cord should not be ligated until the pulsations cease.

In Playfair's textbook, a case is reported in which a doctor arriving "three good hours" after the birth of the child found the cord still pulsating. He did not state whether it was a vigorous child or not. He probably did not wait until the cord stopped pulsating before ligating it.

Engel,[1] from a number of examinations, found that late ligation increases the child's weight about 70 gms. Boudin[2] found by late ligation an average increase of 92 gms. Many other observers have confirmed these findings.

In a relaxed uterus with possibly a detached placenta the child may still be forcing blood into the placenta and

receiving but little in return through the umbilical veins; thus the child is losing blood. In such a case one should not wait for cessation of pulsations before ligating the cord.

The question naturally arises, if the cessation of pulsations of the cord is not the indication for ligation, then what is?

Jewett[3] gives the indication very clearly. He says: "If, as seems probable from the researches of Caviglia, the principal cause of the afflux of blood is uterine pressure, neither the child's respiration nor the funic pulse is the guide to the time for tying the cord, but rather the first firm contraction of the uterus."

For, during the firm contraction of the uterus, most of the blood in the placenta is forced through the umbilical veins into the child, and but little is forced into the placenta through the umbilical artery against the uterine pressure.

In conclusion, I will say that the funic pulsations are of fetal origin, and that the first firm contraction of the uterus is the indication for the ligation of the cord.

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HAY-FEVER: A DISCUSSION OF OUR PRESENT KNOWLEDGE OF THE DISEASE—WITH SPECIAL REFERENCE TO ETIOLOGY AND THERAPY.

BY

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A disturbed equilibrium of the central nervous system with localized irritations occurring through reflex tracts is the underlying cause of several clinical entities which especially baffle therapeutists at the present time. Certain forms of migraine arise undoubtedly through some disturbance of nervous equilibrium originating in some localized focus of irritation. Mal de mer presents another condition perhaps neurologically closely allied, and it, too, defies a successful therapy. Hay-fever in its various forms, although resting at times upon a more apparent pathologic condition, yet from its elements of periodicity and idiosyncrasy exhibits a disturbed nervous equilibrium which as unequivocally resists successful treatment.

Hay-fever with its various confreres of varied names—which serve only to differentiate it from the standpoints of minute etiology and chronicity—rests upon a pathologic background of a disturbed equilibrium of the forces of nerve energy. This may be present as a predisposition through a direct inheritance of a high-strung, irritable, and unbalanced nervous system; it may be acquired through malnutrition, overwork, overworry, or overexcitation leading to an increased irritability if not exhaustion of nerve centers; it may be present as the general nervous reaction to definite and recognized pathologic conditions—visceral, central, or peripheral in origin.

Upon this as an underlying and predisposing condition, there exist numerous contributing etiologic factors which are perhaps more direct. There is in every case of hay-fever a more or less definite pathologic condition in the membranes of the nose, lids, accessory sinuses, and ofttimes in the pharynx, larynx, and bronchi. There is frequently a hypertrophic rhinitis, with abnormal nasal growths—such as spurs, deflected septums, and polypoid tumors. When the eyes are largely involved, a granular conjunctivitis of more or less severity is often in the background. Indeed, a frequent contributing syndrome is a granular conjunctivitis, hypertrophic rhinitis, a granular pharyngitis with some chronic bronchial irritation—an almost strumous synthesis.

There is, however, besides the fundamental disturbance of nerve equilibrium and the localized pathologic condition of the superficial mucosas—and substructures—a particular external excitant which seems to depend upon individual idiosyncrasy, and which thereby determines the chronicity and the geographic distribution of the disease. The sufferer travels to and fro upon the ocean or the great lakes, and so long as he avoids land breezes he is exempt. A change of altitude from the valleys to the mountains may mitigate the symptoms, or again the locality that is free from rag-weed, golden-rod, and other irritating pollen-producers, renders life endurable. Yet the element of idiosyncrasy is peculiarly significant. One may suffer in June from the exhalations of the rose and its contemporaries, while in the same locality another, exempt in June, may be unmercifully irritated by the flora of August. It rests, therefore, undoubtedly upon a considerable element of individual idiosyncrasy, whatever may be the cytologic explanation of that factor.

Another potent etiologic factor which I have emphasized at another time[1] is the psychical reflex as a precipitant of the periodic attacks. The element of periodicity, the effect of the anticipation of an attack at a certain date and its consequent precipitation, and the fact that the mind when profoundly preoccupied by some routine work, may ward off attacks; whereas, when relaxation comes and the mind reverts to the anticipation and there comes the realization of a paroxysm—all emphasize the psychic reflex as a direct irritant to the disturbed centers. Whereas, on the other hand, the vasomotor paresis may be entirely independent of consciousness—as when a patient awakens with a copious rhinorrhea, or an incipient attack of sneezing.

There is, as outlined, a localized pathologic condition which gives rise to the acute symptoms. The exact disturbance involved in a paroxysm is undoubtedly a localized or more or less diffuse vasomotor paresis—arising either by direct or reflex irritation and giving rise to the numerous distressing symptoms.

As for the symptomatology, we have an almost characteristic and universal syndrome, but the symptoms depend much upon the predisposing factors, especially the local pathologic conditions of the mucosas. One may have symptoms confined almost entirely to the nose, with sneezing, pruritus, and a copious rhinorrhea. There may be irritation along the nasal duct, an itching of the lids with profuse lacrimation, especially when there is a predisposing conjunctivitis. The pharynx and palate are often affected with a sense of constriction and pruritus, through involvement of identical or sympathetic nerves. In many cases the bronchi are unaffected and there are no asthmatic attacks, but when there is a previous bronchial irritability the vasomotor neurosis extends to the middle air-passages and occasions characteristic asthmatic paroxysms.

The constitutional disturbances vary. In some instances they are peculiarly absent, while in others there is considerable prostration with anorexia, nausea, dizziness, sensations of chilliness, and slight exacerbations of temperature. Such reactive disturbances undoubtedly depend upon the underlying constitutional status.

The therapy of this condition remains in a very unsatisfactory state, and the results are scarcely more favorable than in certain forms of migraine and in mal de mer, all of which have an underlying pathologic similarity.

The measures of treatment we may discuss as anticipative and direct. To the victim who has endured one season, the future should be full of forebodings, and the wise physician should begin anticipative treatment months in advance. Whenever possible, a change of climate, first of all, should be advised. Often a patient may voyage with immunity upon the lakes or the ocean,

[1] The Psychical Element in Hay-fever, Med. Record, March 28, 1903.

or may locate for the season in certain localities that are known to be exempt from the terrors of the disease. But the intelligent and persistent effort of the physician should be directed most strenuously to the amelioration of symptoms in those who may not enjoy the privileges of leisure and wealth. In such instances success will more likely be insured when anticipative measures are begun months in advance. A thorough physical examination should be made, and all pathologic and predisposing conditions should receive appropriate attention. The general nervous tone should be recuperated with a course of glycerophosphates or strychnin in 2 mg. ($\frac{1}{30}$ gr.) doses thrice daily. Anemic conditions should be improved by the various preparations of iron. Electricity in the form of statics may be a valuable therapeutic adjunct. The functions of the viscera should be thoroughly regulated and established. Any local affections of the nose, eyes, or pharynx should receive appropriate attention, that the approaching season may find the mucous membranes as nearly normal as is possible. All stimulating foods and drinks should be interdicted. Plenty of sleep and exercise, with avoidance of overwork, overworry, and all excesses should place the system in the best possible condition to meet and combat the peculiar ravages of the disease.

One other anticipative measure which seems worthy of trial is the attempted immunization of the organism against the various pollens which are considered exciting factors. The value of this agency still hangs in the balance, and we may hope that carefully directed efforts along this line, with accurate data and reports, may permit us soon to determine its exact value. Several pharmaceutic establishments have special preparations of ragweed and golden-rod which are worthy of trial. The administration however, should begin several weeks in advance of the season, and be given in ascending doses. The internal administration of adrenalin chlorid for weeks previous to the onset of attacks, with the purpose of more firmly establishing vasomotor equilibrium has been tried and with some success.

Our knowledge of the treatment of the attack may be said to have made some progress. First let me sound a note of caution. Let us not in our extremity to afford relief, take chances of permanent injury. Cauterization of the nasal mucosa is often advised, and in well-selected cases the sensitive areas may be cauterized with comparatively little permanent damage; but a wholesale cauterization only affords temporary relief and often occasions an atrophic catarrh which is permanent and often more distressing than the original ailment. Then, too, the impairment of the sense of smell should be considered. Another caution should be sounded in the careless administration of cocain. There are numerous authentic cases in which addiction to the drug began with its use as a spray in hay-fever.

Excellent results come from a daily sterilization of the nasal cavity with warm Dobell's solution, followed by plugging the nares with a mild solution of menthol in albolen (Hollopeter). Atropin .3 mg. ($\frac{1}{200}$ gr.) hypodermically every 3 to 4 hours, or internally .2 mg. ($\frac{1}{300}$ gr.) every hour until dryness of the throat appears, will often control the excessive secretions. A 4% solution of antipyrin applied locally to the nasal mucous membrane on a pledget of cotton will often afford temporary relief. Freshly prepared nitromuriatic acid in 5-drop doses in water after meals seems to have some specific action, as it causes the excess of oxalates to disappear from the urine, which condition is often present, and significant of a disturbed nervous activity. Suprarenal extract taken internally in .32 gm. (5 grs.) tablets has been advised, but in my hands, patients have been almost fed on the tablets without any appreciable effect. I have employed internally adrenalin chlorid (Takamine) 1–1,000, and believe that if taken in ascending doses both preceding and during the attacks it will mitigate the symptoms.

Perhaps the greatest advance in the successful therapy of this condition has come in the use, externally to the mucous membranes, of dilute solutions of adrenalin chlorid. It directly controls the vasomotor spasms, and is a boon to the great majority of sufferers. It should be used in very dilute solutions, 1 part of the 1–1,000 solution to 4 parts or even 10 parts of normal salt solution applied directly to the nasal mucosa either by an atomizer or on pledgets of cotton. Strong solutions of adrenalin often have an adverse effect, acting as a direct irritant and precipitant of attacks.

A solution which I have used in the eyes for the relief of the suffusion and intolerable itching is as follows:

Adrenalin chlorid (1–1,000) . . .	1	cc. (15 minims)
Cocain hydrochlorate	.065	gm. (1 grain)
Boracic acid	1	gm. (15 grains)

Add distilled water in sufficient quantity to make 30 cc. (1 ounce).

Other means have been employed, and perhaps with some measure of success, but let us hope that our progress in the interpretation of this malady and its therapeutic and prophylactic management has only begun, and that each succeeding season may bring more conquests from the realm of the unknown to the benefaction of a great mass of humanity and to the amelioration of an untold amount of distress and suffering.

SPECIAL ARTICLES

MEDICAL ADVANCEMENT.[1]

Address of the President.

BY

WILLIAM M. WELCH, M.D.,

of Philadelphia.

President of the Medical Society of the State of Pennsylvania.

Members of the Medical Society of the State of Pennsylvania:

Ladies and Gentlemen: Let us pause for a moment to pay tribute to the memory of our deceased members, for the angel of death has been busy in our midst during the past year. No less than 47 members of this society have fallen by the way and are numbered with the dead. Some were active colaborers with us, and their wise counsel will be greatly missed. And there was no one whose death is not mourned by scores of loving friends and grateful patients. Unable to fathom the will of the Divine Ruler, we bow with submission to his infinite wisdom, believing that the Lord is righteous in all his ways.

> "Nor blame I Death, because he bear
> The use of virtue out of earth:
> I know transplanted human worth
> Will bloom to profit, otherwhere."

I have the honor to address you tonight as the representative of the Medical Society of the State of Pennsylvania, and thus fulfil an obligation I assumed in accepting the office of president. While not so old as some other medical organizations in this country, yet this society has a history of which we are all proud. It was conceived in Chester county in 1847, under the inspiration of Dr. Wilmer Worthington, who was its third president, and it was born in Lancaster in 1848, where the first meeting was held under the presidency of Dr. Samuel Humes. Its continuous and uninterrupted existence, therefore, covers a period of 55 years. At its first meeting there were present 59 physicians, who were enrolled as members. The membership has steadily increased from year to year until it is now nearly 4,000. When we recall the fact that the number of registered physicians practising scientific medicine in this State is not far from 8,000, we realize that too small a proportion of them are members of this society. It is believed, however, that as the result of recent changes in our organic laws, which have practically reorganized not only this society, but the various county

[1] Delivered at the meeting of the Medical Society of Pennsylvania, at York, September 22, 1903.

medical societies throughout the State, the growth henceforth will be more rapid.

OBJECTS OF THE SOCIETY.

We cannot keep too prominently before us the main objects of our society and the advantages of its annual meetings. The by-laws declare that "The purposes of this society shall be to federate and bring the entire medical profession of the State of Pennsylvania into one compact organization, and to unite with similar societies in other States to form the American Medical Association, with a view to the extension of medical knowledge and the advancement of medical science; to the elevation of the standard of medical education and the enactment and enforcement of just medical laws; to the promotion of friendly intercourse among physicians, and to the guarding and fostering of their material interests, and to the enlightenment and direction of public opinion in regard to the great problems of State medicine, so that the profession shall become the more capable and more honorable within itself, and more useful to the public in the prevention and cure of disease, and in prolonging and adding comfort to life."

It is clear that there is nothing in these objects of a selfish character, but on the contrary every one of them has an important bearing, either directly or indirectly, upon the welfare of the public. The patient will be benefited more than the physician by the extension of medical knowledge and the advancement of medical science. So, also, the enlightenment of the public in regard to the great problems of State medicine has for its object the prevention of disease—a labor wholly unselfish on the part of our profession. Think of the activities of physicians everywhere that are constantly being exerted for the discovery and removal of the causes of disease. Their attention is given to general sanitation, including plumbing, drainage, enforced cleanliness, disinfection, and other recognized essentials of public hygiene. Think, again, of the time and labor that have been given to the discovery and study of the specific microorganisms, or the *causa causans* of infectious diseases, and of the practical application of the acquired knowledge in the way of suppressing or preventing the spread of these maladies. Is not all this, indeed, eminently a work in the interests of humanity? Surely, the prevention of disease is of no pecuniary advantage to physicians.

It is gratifying to be able to state that the mortality from many of the infectious diseases has been greatly diminished by "the extension of medical knowledge" and "the advancement of medical science." Devastating epidemics of such diseases as cholera, yellow fever, typhus fever, and smallpox are not now so frequently seen as formerly. In Great Britain, typhus fever, which 60 years ago struck down annually 300 out of every 1,000,000 of the population, has been literally eradicated by sanitation. Under the careful and rigorous system of quarantine and disinfection enforced at present in all civilized countries, the liability of the transmission of infection from one country to another is infinitely less than a century ago. This is true in spite of the fact that the facilities of travel and commercial intercourse have been immensely increased, which changed conditions have practically brought the various nations of the world much nearer together.

TUBERCULOSIS A COMMUNICABLE DISEASE.

The duty of the State toward those afflicted with pulmonary tuberculosis is a matter which has lately attracted a good deal of attention. It is now clearly recognized that pulmonary tuberculosis is a communicable disease, and that much may be done in the way of prevention. It is a lamentable fact that in most large cities of this country, especially the eastern cities, the deaths from pulmonary tuberculosis head the mortality list in every year. In Philadelphia the deaths from this disease each year are a little more than 11% of the total mortality from all causes. This fact is simply appalling. In the words of a distinguished layman, "It represents not only the demoralization which springs from hopeless suffering and poverty, but also a positive loss to the community by the withdrawal of a host of wage-earners who otherwise would contribute to the public wealth. Its very worst feature is a moral one, and all the evil could be ameliorated and much of it prevented if the proper appliances were provided." A great need for active work in this direction was emphasized many years ago by a famous German physician,[1] who wrote: "The importance of laboring to check the spread of this deadly disease and to diminish the number of its victims has never seemed to be so urgent as at the present time, when there is a growing demand for more attention to the preservation of health, and when the conviction is gaining ground that this is the main function of medical science." These words were penned more than 25 years ago, since which time medical science has advanced with giant strides, so that we now know much more about the infecting principle of this dread destroyer of human life, its methods of spreading, and the means of prevention.

Registration of Tuberculosis.—It is not my purpose tonight to speak of the modern method of treating pulmonary tuberculosis, nor of the best means of limiting its spread. The published literature upon these subjects is ample. But I wish to call attention to the great importance in this work of a more intelligent cooperation between physicians, sanitary officials, and members of the general community. All sanitarians know that the first step toward preventing the spread of any communicable disease is to locate the cases. In dealing with acute infectious diseases this is regarded as necessary in order to afford health authorities the earliest opportunity to apply restrictive or preventive measures. In most municipalities in this country, and in many rural districts also, the physician in attendance upon such a disease is required to give notice of its presence as soon as the diagnosis is made—a requirement which I think is not unreasonable. Unquestionably, every practitioner of medicine should feel himself called upon to sustain the sanitary authorities in their efforts to prevent or stamp out a pestilential disease, and therefore should willingly comply with any requirement whose object is the attainment of so desirable an end. Surely, no one who properly appreciates the dignity of his calling would connive at the concealment of a disease whose existence endangers the public health. It has been well said by the late William H. Ford, M.D., who, in his day, was an eminent sanitarian, that "No obligation to the patient or his friends is required of the physician to keep the nature of a contagious disease a secret; on the contrary, by so doing he lowers his profession and dishonors himself, in that he wrongs the public by pandering to the selfish interests of the few."

The duty of reporting cases of pulmonary tuberculosis need not, perhaps, be made so imperative as in the case of acute infectious diseases, yet undoubtedly the more complete the registration the more effective will be the work of preventing dissemination of the infecting principle. A knowledge of the presence of this disease in any home affords the sanitary authorities the opportunity of furnishing the family with information as to the precautionary measures that should be observed. There is no reason why notification should involve any unnecessary publicity. Surely the placarding of houses should not be adopted.

As an illustration of what may be accomplished by the registration of patients suffering from pulmonary tuberculosis, I need only refer to the results obtained in New York City. After the Board of Health had tried the experiment for a few years, requiring notification of cases of tuberculosis, and of making use of proper sanitary precautions, it was found that the proportion of deaths to the population from that disease had diminished. Encouraged by this result, the municipal government adopted an ordinance in 1897, to this effect:

"That pulmonary tuberculosis is hereby declared to be an infectious and communicable disease, dangerous to the public health. It shall be the duty of every physician in this city to report to the sanitary bureau in writing the name, age, sex, occupation, and address of every person having such disease who has been attended by, or who has come under the observation of such physician for the first time, within one week of such time. It shall be the duty of the commissioners or managers, or the principal, superintendent, or physician of each and every public or private institution or dispensary in this city to report to the sanitary bureau in writing, or to cause such report to be made by some proper and competent person, the name, age, sex, occupation, and last address of every person

[1] Quoted from Dr. James C. Wilson's remarks before the Philadelphia County Medical Society.

afflicted with this disease, who is in their care, or who has come under their observation within one week of such time. It shall be the duty of every person sick with this disease, and of every person in attendance upon any one sick with this disease, and of the authorities of public and private institutions or dispensaries, to observe and enforce all sanitary rules and regulations of the Board of Health for preventing the spread of pulmonary tuberculosis."

In this new departure it was not deemed wise to enforce at once strict conformity to these regulations, and consequently many cases were not reported; but according to Dr. Biggs, the number reported annually amounts to about 9,000, and this surely brings to the knowledge of the health authorities many conspicuous foci of infection that may be brought under control by the application of proper sanitary measures. As the result of this work, Dr. Biggs says: "There has been a reduction in the mortality from tuberculous diseases in New York City since 1886, or more than 35%, and I have no hesitation in saying in conclusion that I believe, with a complete and efficient scheme for dealing with pulmonary tuberculosis, including suitable hospital accommodations and the proper enforcement of precautionary measures, the deathrate from the tuberculous diseases in New York City may be further reduced one-third within a period of 5 years. This would mean the saving of 3,000 lives annually. Notification seems to me a logical necessity, and a necessary preliminary to the adoption of other sanitary means for the prevention of this disease."

Dr. Flick, who has worked for many years among the afflicted poor of Philadelphia, and who is a recognized authority on tuberculosis, has repeatedly called attention to the benefits that may be derived from registration. He says: "No man can convince himself of the necessity of registration by reading. The only way is by practical experience among the poor." It has been estimated that the number of tuberculous subjects constantly on hand in Philadelphia is from 4,000 to 5,000; and it is known that the vast majority of these are among the poor and working classes. It is believed this number could be greatly reduced if the cases were definitely located and brought under proper sanitary supervision.

As to the final adoption of compulsory notification and registration of patients suffering from pulmonary tuberculosis, I feel there is no longer any question. Prejudice and sentiment cannot much longer delay the enforcement of so important a measure. As one of the declared purposes of this society is to be "useful to the public in the prevention and cure of disease, and in prolonging and adding comfort to life," I feel that the efforts which aim at securing the registration of all tuberculous patients and the adoption of such sanitary measures as may be deemed necessary for preventing the spread of the disease, should have the moral support of indorsement by this large and influential body of medical men and women.

SUPPRESSION OF YELLOW FEVER.

As an illustration of what has been accomplished by our profession in battling against disease and for humanity, I would refer to the work of suppressing yellow fever in Cuba. For almost an indeterminable length of time Cuba has been known as one of the principal homes of this dread disease, and Havana as the chief distributing center whence the infection was brought almost annually into our southern cities. It is appalling to think of the loss of life that has been caused by this fell destroyer of humanity, to say nothing of the injury to commerce, the terror, the inconvenience, the suffering and the distress which its presence entailed. Less than a century ago yellow fever was not an uncommon summer disease, even in the principal city of this State. Now, that it has been so completely suppressed in Cuba, that country has become not only comparatively healthful, but is no longer a menace to the seaport cities of this country. How to prevent yellow fever is one of the problems of State medicine that has been solved, and modern science can boast of no greater achievement. This work was made possible in Cuba by the American-Spanish war, and, as has been well said, "If the occupation of Cuba by the United States Army had accomplished nothing else, the suppression of yellow fever would have been a supreme service, not to Cuba alone, but to the world."

The suppression of yellow fever in Cuba was to a great extent effected by general sanitation, including enforced cleanliness, drainage, disinfection and other recognized essentials of public hygiene, administered with military exactness. Much credit for this work is due General Wood, who, by cleaning up Santiago, demonstrated that it was possible to prevent the propagation of that disease, and who, while he was temporary governor of the island, was careful to see that these sanitary measures were enforced in Havana and other ports. While General Wood, whom we are proud to own as a member of our profession, displayed great bravery and rendered valuable service as a military officer during the short war with Spain, and for which he deserves great credit, yet I feel he will be longer remembered for the part he took in relieving Cuba and this country from the dominating shadow of the peril from a dread disease.

It must be recognized that credit for the conception and practical application of the efficient sanitary regulations in Cuba belongs, not to General, but to Dr. Wood. Talcott Williams has said:

"It was the American physician and not the American soldier which made Santiago a sanitary city. If Spanish medical science had been equal to its duty, Spain would have been equal to the task of retaining the island. . . . I do not know whether a conquering people, who, for the first governor of a conquered city, selected General Wood, knew what every man here knows, that he holds the higher title of Dr. Wood. It does not seem to me an accident; it seems rather the dispensation of long, far-reaching Providence that upon the very medical profession, which alone has from the beginning solved the problem of disease, has suddenly been cast the task of perfecting the sanitation of one of the great centers of pestilence."

I would add, parenthetically, that General Wood has not escaped the criticism born of jealousy. It is said that some army officers seek to detract from his worth by speaking of him as the "doctor-general." They cannot forgive him for beginning his military career as a surgeon.

Dr. Reed's Discovery.—Scientific investigations of great importance in determining the causative factor entering into the propagation of yellow fever were made in Cuba during the time that country was under the fostering care of the United States. These investigations were conducted by a board of military surgeons under the direction of the late Dr. Walter Reed. I need hardly tell this audience that one of the conclusions reached by this Board was that "the mosquito (*Stegomyia fasciata*) serves as the intermediate host for the parasite of yellow fever." This conclusion was reached after a good deal of arduous labor, and no little risk to life. Indeed, two of the members of the board may be said to have loaned themselves at great risk to the experiment of testing the theory of infection through the medium of mosquitos. They both took the disease and one perished.

In presenting an account of the disease as it developed experimentally in these two physicians, Reed states that Dr. James Carroll, acting assistant surgeon United States Army, a member of this Board, was bitten August 27, 1900, by a mosquito which had bitten a patient with a severe case of yellow fever 12 days before. On August 29 he felt somewhat indisposed, and on the thirty-first took to his bed with well-marked symptoms of the disease, from which he ultimately recovered. Also, that Dr. Jesse W. Lazear, acting assistant surgeon United States Army, a member of this Board, was bitten by an infected mosquito on September 13, 1900. Reed says that Dr. Lazear deliberately allowed this mosquito, which had settled on the back of his hand, to remain until it had satisfied its hunger. On September 18, 5 days after the bite, Dr. Lazear began to feel "out of sorts," and had a chill at 8 p.m. The history of the case was one of progressive and fatal yellow fever, death occurring on the evening of September 25.

In commenting on the bravery of these men, and their devotion to science, Dr. Holton eloquently remarks:

"The patriotism of the military as they spring to the defense of their country always deserves and receives the applause of the populace. Their deadly conflict on the battlefield is made easy by martial music, the booming of artillery, the rattle of the infantry fire, and the advancing step of comrades. How much more should we recognize the great courage of such devotees of science as Drs. James Carroll and Jesse W. Lazear, who, filled with a great philanthropic love for humanity, calmly, quietly, and without the cheers or even the knowledge

of the multitude, silently submitted themselves to the test to determine in what way this pestilence was communicated. We are told that, 'greater love hath no man than this, that a man lay down his life for his friend.' We find that Jesse W. Lazear, fired with and impelled by this great love for his fellow man, did offer his body as a sacrifice upon the altar of scientific investigation, to the end that in the years to come hundreds of thousands might escape this pestilential death."

The discovery of Dr. Reed and his associates on the Board is one of vast importance. It shows that yellow fever can no longer be properly regarded as a "filth" disease, as it is not communicated by emanations from the soil, by "fomites," infected clothing, bedding, and the like, but that we must hereafter turn our attention to it as a mosquito-borne disease. Guided by this knowledge of the transmission of the infection, the sanitary regulations put in force in Havana resulted in freeing that city from yellow fever within the short period of 3 months. Indeed, it may be said that the disease has been practically banished from Cuba. Think for a moment what this means for humanity and business interests; of the thousands of lives that have been saved, and of the incalculable benefit to commerce by shortening the quarantine period. And try to imagine the sense of relief experienced by the people of the Southern States. Dr. Nuttall quotes General Wood as saying, "I know of no other man on this side of the world who has done so much for humanity as Dr. Reed. His discovery results in the saving of more lives annually than were lost in the Cuban war, and saves the commercial interests of the world a greater financial loss each year than the cost of the Cuban war." In commenting on the work of the yellow fever commission in Havana, General Wood further says: "His (Dr. Reed's) was the originating, directing, and controlling mind of this work, and the others were assistants only."

By the death of Dr. Walter Reed, Major, United States Army, the government has lost a faithful and useful officer, and our profession a zealous and scientific worker. With a proper conception of the importance to this country of Dr. Reed's discovery, a movement is on foot to have Congress authorize the erection of a statue to his memory. I trust the members of this Society will give this project their hearty indorsement. Very properly it may be said of him, "He hath deserved worthily of his country; . . . he hath so planted his honours in their eyes, and his actions in their hearts, that for their tongues to be silent and not confess so much, were a kind of ingrateful injury."[1]

JENNER'S WORK FOR HUMANITY.

I know of no more illustrious example of unselfish devotion to the science of medicine for the good of humanity than the work of Jenner. In order to appreciate fully the great benefits derived from Jenner's discovery it is only necessary to recall the ravages of smallpox in the prevaccination period. This disease was then constantly present in one locality or another, and not infrequently prevailed with great malignancy over entire countries, claiming as its victims persons of all ages and from every station of life. Not only the fearful mortality caused by it, but the disfigured faces seen in every community bore evidence of its general prevalence and destructive power. Indeed, it was so fatal in the middle ages that it was regarded as a very "scourge of God," and so general as to give rise to the common saying that "from smallpox and love but few remain free."

It would be impossible to give a better descriptive picture of the earlier ravages of this terrible disease than that given by Macaulay. He says: "That disease over which science has achieved a succession of glorious and beneficent victories was then (in the last years of the seventeenth century) the most terrible of all the ministers of death. The havoc of the plague had been far more rapid, but the plague had visited our shores only once or twice within living memory. The smallpox was always present, filling the churchyards with corpses, tormenting the constant fears of all whom it had not stricken, leaving on those whose lives it spared the hideous traces of its power, turning the babe into a changeling, at which the mother shuddered, and making the eyes and cheeks of a betrothed maiden objects of horror to her lover."

At the present day, how great is the change! Instead of being the widespread and fatal disease of former times, smallpox prevails today with frequency and intensity only in countries and communities where vaccination is refused or neglected. Devastating epidemics in civilized countries, however unlike angels' visits in other respects, are now "few and far between." It has been well said, "for us Edward Jenner has drawn the fangs of smallpox, and the only excuse for the fools who revile him is that they do not know the deadly scourge from which he has delivered them."

I am fond of thinking of Jenner as the greatest benefactor the world has ever known. The discovery of vaccination and placing it on a firm and substantial basis was the immortal act and crowning glory of this remarkable man. To my mind, the work of this humble, unostentatious physician in point of importance to humanity stands, and ever will stand, without a parallel in the history of medicine. Not only is he deserving of honor for his discovery, but he also deserves great credit for so clearly proving its practical utility before presenting it to the world. He says: "I placed it on a rock where I knew it would be immovable before I invited the public to look at it." It may be truly said that the experience of more than a century has proved the correctness of this statement.

It must not be supposed that Jenner's innovation met with no opposition. Like many important discoveries, vaccination was received with incredulity by some and ridicule by others. But being enthusiastic and confident himself, he soon triumphed over every doubt, every obstacle, and every discouragement. To do this and at the same time do justice to the cause he espoused, of disseminating throughout the world a correct knowledge of vaccination, required most of his time. His correspondence alone grew to such an extent that he had but little time left for anything else. He was, as he said, for many years the "vaccine clerk of the world." All this, too, involved a large expenditure of money, while he was reaping no substantial reward from his discovery. Seeing that his small fortune was rapidly diminishing, some of his friends advised him to make application to the British Parliament for an honorarium. His claim was presented and ably supported. In the discussion that occurred it was maintained that England owed to this worthy citizen not only her gratitude, but something more substantial in consideration of his great discovery, which had already been the means of saving thousands of lives among her subjects, and had prevented untold suffering; and that the author of which had been magnanimous enough to spend his time and money in spreading the blessings of his discovery throughout the entire world. Among those who opposed the grant there were some who contended that Jenner should have kept his discovery a secret long enough to have grown rich by it before giving it to the world. To this Jenner replied: "While I had thus been employed filling my own purse should I not have indirectly been filling the churchyard with those slain by smallpox?" Unquestionably this would have been the result.

For the benefit of the lay portion of this audience I would say that any concealment of a remedy or preventive of any character whatsoever is contrary to the ethics of our profession, in that such action is inconsistent with beneficence and professional liberty. Secrecy in medicine is the ordinary practice of empirics, and commonly implies either disgraceful ignorance or fraudulent avarice. No honorable physician would think of resorting to such practice.

We have seen that one of the objects of this society is to encourage our profession to become more and more capable, and more and more honorable within itself, and more useful to the public in the prevention and cure of disease. To live up to this ideal was Jenner's aim throughout his whole life. His answer to his critics in Parliament shows how unselfish was his character, and how earnest and devoted were his efforts in the interests of humanity. The more honorable members of that dignified body could not help conceding to him the name

[1] According to the New York Medical Journal, and Philadelphia Medical Journal, a meeting of the friends of Dr. Reed was held August 15, at Bar Harbor, and these conclusions were reached: "That an effort should be made to raise a memorial fund of $25,000, or more, the income to be given to the widow and daughter of Dr. Reed, and after their decease the principal to be appropriated either to the promotion of researches in Dr. Reed's special field, or to the erection of a memorial in his honor at Washington." This project, doubtless, will appeal more strongly to the friends of Dr. Reed.

"great benefactor." Countries are ever ready to honor heroes who conquer with the sword, destroying and maiming human life, but very slow to recognize the stronger claims to honor of the members of our profession who have devoted their lives to the study and practice of the prevention of disease, and have succeeded in lessening suffering and prolonging human life. In comparing the claims of the great public benefactor, of whom I have spoken, with those of warriors, it has been pertinently said: "Saul may have boasted of his thousands slain, and David of his ten thousands, but the altar of Jenner is not consecrated by hecatombs of the slain; his claim is that of having multiplied the human race, and happily invoked the goddess of health to arrest the arm that scatters pestilence and death over the creation."

In the age of heathen mythology the discovery of any agent capable of accomplishing what vaccination does for humanity would have been regarded, I am sure, as a gift from the goddess of health. Horace must have been moved by some such thought of the existence of a supernatural power when he wrote:

"To thee shall weeping wives and mothers fly,
Or see their husbands and their children die;
To thee the virgin trusts her lovely face,
Or some rude blemish rifle ev'ry grace.

"Oh, ward the perils that around her wait!
Oh, shield her beauties from impending fate!
Nor let a cruel pestilence destroy
The hope of youth and pledge of future joy."

CHANGE OF BY-LAWS.

This session may be said to mark an era in the history of the Medical Society of the State of Pennsylvania, for we meet today under changed conditions. One year ago the constitution and by-laws of this organization were so greatly revised as to affect very materially the method of conducting the business affairs of the society, as well as to modify to some extent the relationship sustained by the county medical societies. Under the old law our business was transacted in the general sessions which were made up of permanent members and delegates from the various county medical societies, each society being entitled to one delegate for every 5 members, and every person serving once as a delegate became thereby a permanent member. Now, every member of a county society is, *ipso facto*, a member of this body. But all business matters have been transferred from the general sessions to a representative and legislative body known as the executive council. The executive council is composed of one delegate member from each county medical society for every 100 members, or fraction of this number, and the secretary of the last meeting of each censorial district, together with the president of each county medical society, as exofficio members.

The result of the change of government of our society will be watched, I am sure, by most of us with much interest. It may take us some time to adjust ourselves to the new order, and I therefore bespeak your forbearance and generous cooperation. The change is somewhat in the nature of an experiment, by which we hope to facilitate greatly the conduct of business affairs of the society and have more time in the general sessions for scientific work. Indeed, in order to increase the facilities for such work the by-laws provide for the formation of 2 separate sections of the society, if this should be deemed necessary by the committee on scientific business.

There is one late amendment of our by-laws with which I feel we are not all in accord. I refer to the article which defines the organization and membership of county societies. The objectionable part is this: "Any practitioner of good moral character and professional standing, who is willing to subscribe to the code of ethics of the American Medical Association, shall be eligible as a candidate for membership in the county medical society of the county in which he or she resides, without any restriction as to time or college of graduation, etc." When the effort was recently made to amend the by-laws of the Philadelphia County Medical Society so as to conform to the article just refered to, the amendment was defeated by an overwhelming majority. It was feared that if "any legal practitioner" without "any restriction as to college of graduation" was made eligible to membership, the barrier against the admission of sectarian practitioners of medicine would be broken down. We all know that the term "legal practitioner" is without significance in determining one's scientific status, or even his fitness to practise medicine. In our efforts to maintain the dignity and protect the honor of our noble profession, we should see to it that none but men and women who have an interest in scientific medicine shall ever become a member of this or of any county medical society. Rather than admit to membership in our organization any sectarian practitioner of medicine of any description whatsoever, I feel we should say of him, as was said of one of old, "Ephraim is joined to his idols: let him alone."

HIGHER STANDARD OF MEDICAL EDUCATION.

One of the declared purposes of this society is the elevation of the standard of medical education. This has been the constant aim of the society since its organization. Dr. Humes, our first president, called attention in his address to the urgent need of a higher medical standard, and this thought has been repeated and emphasized by many of his successors. Besides this, the society itself has from time to time discussed the various means for the attainment of this purpose, and I am happy to say, its efforts have not been wholly in vain.

No one will doubt that the standard of medical education has been greatly raised since Dr. Humes' day. From our own observation many of us are able to note marked progress in this direction; for within the last 20 years, and more especially in the last decade, the curriculum of every medical school has been not only lengthened, but so greatly improved as notably to raise the status of a medical college education. Formerly, the teaching of students was almost entirely didactic. The branches taught were only seven in number, namely, anatomy, physiology, materia medica, chemistry, obstetrics, the practice of medicine, and the principles and practice of surgery. No laboratory work was required, and the meager clinical instruction that students received was derived from clinical lectures by the professors of practice and surgery. Clinical instruction at the bedside of patients was not a part of the college course. The course consisted of 2 annual sessions of about 5 months each, and the teaching of the second year was a repetition of the first. In the interval between the sessions the students returned to their preceptors, who too often were incompetent to give valuable instruction. The college course was not graded, and there were no examinations except the final one for graduation. All students were expected to graduate at the end of their second year, and if any student failed to do so he was regarded by his fellows as dull.

Now, under the improved curriculum of a high-grade medical college, the course of instruction has been lengthened to 4 years, and the number of subjects taught greatly increased. To the 7 branches already named have been added gynecology, embryology, ophthalmology, dermatology, laryngology, otology, rhinology, hygiene and bacteriology, pathology, histology, laboratory work and the use of the microscope, applied anatomy, orthopedics, and pediatrics. Diseases of the nervous system, clinical medicine and clinical surgery are subjects which now have each a distinct place in the curriculum. Bedside clinical teaching is a new feature of much importance. The college year has been lengthened to 8 months, and the course of instruction is graded. The students are divided into 4 classes, spending a year in each class, and are promoted only after a satisfactory examination. Of course, there is a final examination for graduation.

With all these improvements of the college course in recent years there must be, and certainly is, considerable elevation of the standard of medical education, at least in some of our States. For the higher standard to which we have attained in Pennsylvania, I feel that much credit is due this society. The one important measure above all others for securing this end originated in and was worked out and carried forward by our society. I refer to the Medical Examiners' bill, which became a law in 1893. The main object of the bill was to force the medical colleges, especially those of lower grade, to raise their standard of teaching, and thus secure for students a more liberal education in medicine. Indeed, the preface to the act

declares that "The safety of the public is endangered by incompetent physicians and surgeons, and due regard for the public health and the preservation of human life demands that none but competent and properly qualified physicians and surgeons shall be allowed to practise our profession." While the church had for a long time required all candidates for the ministry, after their graduation from a theological seminary, to go before a board of examiners that their fitness to preach the gospel might be determined, and the law students also were obliged to pass a board before being admitted to the bar, yet up to the time of the enactment of the Medical Examiners' bill there was no such safeguard to protect our profession and the public against incompetent practitioners of medicine in this State. The good work accomplished by this board within the decade of its existence is, I am sure, apparent to all.

No one will doubt that medical colleges are becoming more and more careful in the matter of granting diplomas. The final examination of students for the degree of doctor of medicine is being constantly raised to a higher standard. Notwithstanding the great improvements in the method of teaching I feel warranted in stating that the percentage of candidates for graduation who fail to pass the final examination is greater now than formerly. Almost every medical school is beginning to realize the fact that it is the quality rather than the quantity of its graduating class that reflects the greater credit. Indeed, a school may be doing its best work when it turns out its smallest class. For, of what avail would it be to a medical college to turn out a large class of graduates if a large proportion of them was rejected by the State Examining Board? Surely, this could not help but tell disastrously upon their *alma mater*.

To the best of my knowledge Illinois was the first State that attempted to influence the elevation of the standard of medical education in this country through a State board of examiners. According to Billings, of Chicago, this movement was inaugurated about 25 years ago by the Illinois State Board of Health. Billings said: "This Board adopted a minimum of requirements of medical schools as a necessary step toward the recognition of their diplomas by the State Board of Health of Illinois. This minimum requirement of the State Board of Health was gradually increased from time to time, with the result that many of the medical schools were obliged to raise the standard of medical education to enable their graduates to obtain licenses to practise in Illinois. Other States followed Illinois in requirements for better methods of medical education, with the result that the standard of education in the country was very much improved." It should be stated that the good work of State boards of medical examiners has been heartily seconded by the Association of American Medical Colleges. Much credit is also due a few of our high-grade schools for fixing the standard of medical education high in comparison with the then existing status, even before any influence was exerted from without. In such schools there were always some teachers who valued medical lore more than dollars and cents, and who constantly fought for a higher standard for matriculation and graduation.

But improved as medical education has in this State and country within recent years, there is room for still greater improvement. This fact has been more fully realized by the States of Ohio, New York and New Jersey, which, inspired with the spirit of advancement, have raised their standards, both academic and professional, while Pennsylvania, I am sorry to say, seems content to lag behind. As regards New Jersey, the New York State Journal of Medicine says: "The State Board of Medical Examiners of New Jersey has secured amendments to the medical practice act of that State by which the academic standards for admission to the State examinations have been raised from a competent common school education to a diploma issued after 4 years of study in a normal, manual training, or high school of the first grade in that State, or its equivalent. The medical requirements have been increased from 3 to 4 courses of medical lectures of at least 7 months each, in different calendar years, prior to receiving the degree of doctor of medicine. The amendments went into effect on July 4, (1903). After that date candidates for examination, or for the endorsement of a license issued by a recognized examining board of another State, will be obliged to comply with the new standard of requirements for a New Jersey license."

THE "RAY BILL."

At the last session of our State Legislature there was presented a bill whose object was to secure for Pennsylvania what has been recently secured in New Jersey. The bill practically provided that no person should be considered eligible to enter upon the study of medicine who does not possess a preliminary education equivalent to a high school education; and also that a 4 years' course of at least 8 months each shall be required of all medical colleges. This bill passed the House of Representatives by the handsome vote of 127 to 13, but was smothered in the State Senate.

Surely, there is nothing unreasonable or unjust in the provisions of this bill. The 4 years' course is now universally adopted in our best medical colleges; and all colleges that wish to keep pace in their teaching with the progress of the times will be obliged to fall in line, not only by adopting a full 4 years' course, but by raising the standard for matriculation. The provisions of the bill are in accord with the recommendations of the American Medical Association and the Association of American Medical Colleges. At the last meeting of the American Medical Association at New Orleans, the committee on medical education called attention to the fact that the Association was formed for the purpose of elevating the standard of medical education in this country, and quoted resolutions adopted at the time of its organization, declaring, "That it is desirable that a uniform and elevated standard of requirements for the degree of M.D. should be adopted by all the medical schools in the United States." Also, "That it is desirable that young men before being received as students of medicine should have acquired a suitable preliminary education."

Moved by the spirit of progress, the Association of American Medical Colleges, at its last meeting at New Orleans, decided to raise the standard for admission to medical colleges. This Association now requires 4 full years of work in a high school or its equivalent, as a prerequisite qualification for matriculation.

In view of the recent action of our State Legislature, the question that forces itself upon us for decision is this: Are we, or are we not, in favor of such legislation as will place medical education in Pennsylvania on a higher plane? If we would be consistent with the past efforts of our Society and its organic law, we should answer this question in the affirmative. Surely, this society should ever exert its influence to keep medical education in our grand old Commonwealth in the front van of progress. For the attainment of this high aim, let us hope that the "Ray Bill" "is not dead, but sleepeth."

As to the great importance of this bill to our profession and the public, a lay writer pertinently remarks: "It is obvious that the purpose of this act is to rule out the product of the mere 'diploma mills,' and to enforce upon all institutions undertaking to train men or women for the practice of medicine, that they shall admit only qualified students and shall not turn them out till they have become qualified practitioners. The act would raise the standard of practice by raising the whole standard of education, to the general advantage of the profession and of the public. Facilities of education are so widely accessible now that this can work no hardship, and there is no longer any room in medicine for the uneducated man."

ACTIVITY IN STATE UNIVERSITIES AND COLLEGES.

Many of our State universities, and even some other colleges, have recently shown considerable activity along medical lines. The nature of this activity is that these schools of learning have introduced into their curriculums a number of scientific subjects heretofore taught exclusively in medical schools, such as anatomy, histology, embryology, and some others. The presidents of many of the higher grade colleges feel that their graduates who have received instruction in these branches should not on entering medical schools be obliged to go back and take their places with boys just out of the high school, but rather that the previous training of their men entitles them to admission to the second-year class in medical schools. I see no objection to this contention, provided the college man goes up and takes the examination and demonstrates his fitness. In preparing a man for the responsible duties of the medical profession nothing should be taken for granted.

On account of the great disparity of work in our literary colleges along socalled medical lines, I feel that medical schools should not be too ready to give college graduates credit for a whole year's work. Professor Vaughan,[1] of the University of Michigan, says: "The practice of allowing students from literary colleges and academies to enter the second-year class in the medical school, is doing a great harm to medical education in this country, and tends to neutralize the good that has been done by the State Boards of Medical Examiners. Many small colleges and academies are now giving what they call preliminary medical courses. As a rule, the work in these courses is done in a very inferior manner. This practice is growing constantly, and I am frequently urged to grant one year's time to students who have graduated at colleges that are but little better than high schools. We have always held our students to certain definite medical work. We have given credit for certain branches taken at Cornell, Princeton, Yale, and other good schools, but we have never done, as many other schools are constantly doing, when they grant one or two years of time to graduates of literary colleges. . . . If a student has taken elsewhere a course in chemistry equivalent to that given to our students, we may give him credit for such a course, but we do not give him credit for a year's work because he is a graduate of a literary school."

When the college and the medical school are connected, as in State universities, the difficulty may be, and in some instances, has been solved. Indeed, it should not be difficult to so arrange the curriculums of the collegiate and medical departments as to make it possible for the student who intends entering the profession of medicine to complete the entire course in seven, instead of eight years. Acting upon the conviction that the prospective medical student should have at least some collegiate advantages in addition to his high school education, and that it should be made possible for him to enter his profession without any further expenditure of time and money than is believed to be necessary, certain colleges and State universities have, it is said, planned curriculums whereby a student may finish the entire course and be graduated into medicine within 6 years. It is said editorially in the *Journal of the American Medical Association* that there has been "a compromise in a number of instances, by which arrangements are made for a kind of 'telescoping' of the college course with the medical course, the student to pursue in his first 2 years of college work the literary studies necessary for his liberal culture, and the scientific studies desirable as a foundation for the professional course which follows, and in his last 2 years of college work the subjects now included in the first 2 years of the medical curriculum; at the end of 4 years the student receives his college degree of S.B., and then proceeds to the 2 years' clinical work of the medical school, the medical degree being given at the end of the sixth year.

Doubtless there will always be found men who choose to spend the full 4 years in college and as many more in the medical school, either because of the satisfaction derived from a liberal education, or a desire to attain a higher standing in the profession. As to the advantages of a good preliminary education there can be no question, and I am sure that the vast majority of teachers of medicine will agree with Professor Tyson, who says, "that the college man always filled in the highest degree the requirements which lead to the most thorough medical education and training, and that it is he who, in the majority of instances, has attained the highest success in all that goes to constitute the scientific physician and useful practitioner of medicine."

The teacher of medicine who does not favor a liberal preliminary education for the student cannot be said to be a true disciple of the father of medicine. Hippocrates wrote: "Whoever is to acquire a competent knowledge of medicine ought to possess the following advantages: a natural disposition, instruction, a favorable position for study, early tuition, love of labor, leisure." Writing to his son he said: "Give due attention, my son, to geometry and arithmetic, for such studies will not only render your life illustrious and useful to your fellow beings, but your mind more acute and perspicacious in arriving at fruitful results in everything pertaining to your art."

It may be laid down as a rule that for thoroughness in any department of learning one must begin at the bottom and build upward. The study of medicine is no exception to this rule. The foundation of the student's education should be broad and strong enough to bear the weighty superstructure that is to be built upon it. If the foundation of a house, or of a medical education, be weak, the latter no more than the former can be strong.

But it should be remembered that learning, however broad and scientific, is not sufficient of itself to make a man all that a true physician should be. Oliver Wendell Holmes says: "Science is a first-rate piece of furniture for a man's upper chamber if he has got common sense on the ground floor; but if he has not plenty of good common sense, the more science he has, the worse for his patient." But, besides learning and science and common sense, there should be honesty of purpose. The true physician owes allegiance primarily to the general welfare of the community and to his own moral and intellectual convictions. His one endeavor is to learn the truth and to proclaim it, to oppose the wrong, to uphold the right, to devote whatever talents may be his toward safeguarding the public health, and to advance the best interests of his profession, and all this without any thought of receiving greater reward than that which comes from a good reputation.

[1] Personal letter to Dr. Henry Beates, Jr.

THE WORLD'S LATEST LITERATURE

Journal of the American Medical Association.

October 17, 1903. [Vol. XLI, No. 16.]

1. Gastric Ulcer; Clinical, Pathologic and Surgical Phases. A. H. Cordier.
2. Hygiene of Young Girls. J. H. Carstens.
3. Pelvic Diseases in Young Girls. Florus F. Lawrence.
4. Skin Grafting for the Restoration of the Eyelids. Report of Cases. Oscar Dodd.
5. Traumatic Lesions of the Ocular Adnexa; with Report of a Case of Contused Wound of the Eyebrow, Resulting in Complete Monocular Blindness Unaccompanied by Ophthalmoscopic Changes. Ellet O. Sisson.
6. The Production and Nature of Streptocolysin. Gustav F. Ruediger.
7. The Purification of Water Supplies by Slow Sand Filtration (Continued).

1.—See *American Medicine*, Vol. V, No. 20, p. 775.

2, 3.—See *American Medicine*, Vol. V, No. 23, p. 902.

4, 5.—See *American Medicine*, Vol. V, No. 24, p. 946.

6.—Production and Nature of Streptocolysin.—G. F. Ruediger has confirmed the observation of other investigators that violent streptococci when grown in heated rabbit serum (and other serums) produce a hemolysin which destroys the red corpuscles of many animals. This hemolysin is an organic substance which is destroyed by heating to 70° C. for 2 hours, and gradually deteriorates if kept at room temperature, but may be preserved in the ice chest for a much longer time. It deteriorates rapidly in the incubator, is destroyed by peptic digestion, and is non-dialysable. It is composed of a haptophore and a toxophore group, which are firmly bound together. The haptophore group may be neutralized with chicken serum and the toxophore group is destroyed by zinc chlorid. The serums of some animals contain antistreptocolysin. The corpuscles of man and rabbit are least resistant; those of chicken, beef and horse are more so, but their dissolution is hastened by washing them in physiologic salt solution before subjecting them to streptocolysin, this pointing to an antihemolysin. A weak solution of formaldehyd has antihemolytic properties. The filtered cultures of a virulent streptococcus in heated serum are toxic for rabbits. [H.M.]

Boston Medical and Surgical Journal.

October 15, 1903. [Vol. CXLIX, No. 16.]

1. Parasyphilitic Affection or Remote Effects of Syphilis. Abner Post.
2. Some Observations upon Blood-pressure in the Insane. William Rush Dunton.
3. The Formation of Loose Cartilages in the Knee-joint. E. A. Codman.

1.—Parasyphilitic Affections.—Abner Post quotes Fornier as saying that there are a number of affections not syphilitic in

nature, but syphilitic in origin; that is, they are produced by syphilis or under its influence. These he denominates parasyphilitic. They demand attention because they are numerous and in a great measure defy treatment. These affections include pigmentary syphilid; acute hysteroneurasthenia of the second period; neurasthenic manifestations of a more advanced stage; hysteroepilepsy; tabes; general paralysis; especial form of epilepsy; especial form of muscular atrophy; hereditary manifestations of syphilis; numerous general or partial atrophy; organic malformations, such as dental malformations; arrest or retardation of development, either physical or mental; dwarfism; congenital inaptitude for life; rickets; hysterosyphilis; certain cases of meningitis and epilepsy; juvenile tabes, etc. Two principal characteristics appeared to establish a well-marked line of demarkation between these affections. 1. The parasyphilitic affections are not necessarily referred to syphilis as a cause, while the purely syphilitic affections never exist without syphilis as a cause. 2. Parasyphilitic affections are not influenced by mercury and potassium iodid as are the true syphilitic affections, at least not to the same extent. The various affections above enumerated are discussed to some length by the author. [A.B.C.]

2.—Blood-pressure in the Insane.—William R. Dunton reports a series of observations in the taking of blood-pressure among insane patients. These were made with a Riva-Rocci apparatus. The opinions of a number of authorities are quoted. A typical chart, by way of illustration, and a summary, which has as its basis observations upon 25 patients are given. His conclusions are: 1. The findings of other writers that (*a*) the blood-pressure is increased in depressive states and decreased in excited states; and (*b*) that the motor condition has a greater influence on the blood-pressure than does the mental condition, have been confirmed. 2. A moist skin has no especial influence upon the blood-pressure, although active perspiration may. 3. There was no constant daily variation, as has been noted by Schaeffer and others. Further conclusions are not justified by the cases presented, and others which are in a too incomplete state to justify publication. Too much importance should not be ascribed to this symptom. Its accurate observation has its value, and will probably have a greater value later when we have a better knowledge of how it is influenced by various bodily conditions. [A.B.C.]

3.—Formation of Loose Cartilages in the Knee-joint.—E. A. Codman says these "joint mice" are cartilage-like bodies varying in size from a bean to an oyster, and appear either free in the joint or held by pedicle or light adhesions to the capsule. They may cause little or no inconvenience, or they produce great annoyance by practically blocking the joint in certain positions. When this condition is reached, usually the patient comes under observation and an incision into the joint permits the removal of one or more bodies, which effects a cure. There are 3 theories as to the formation of these bodies; one is that it is a process of concretion comparable to the formation of biliary or cystic calculi; another is that such bodies are originally osteophytic growths of the lips of the articular surfaces, when broken off become "mice": and the third is that bits of articular cartilage are broken off and set free by traumatism and result in the formation of these bodies. The author believes that in most instances the last explanation is the proper one, though in certain instances they are formed in accordance with the other theories. He recounts certain observations which confirm the belief that in most cases trauma has played an important role. Experiments on the cadaver showed that when the knee-joint is flexed the internal articular cartilage is very much exposed, while the external is protected by the patella. A sharp blow over the internal cartilage would not produce a detached fragment, but rather a depressed fracture, comparable to that of the skull. It took, however, but a small force to detach this depressed portion of cartilage and practically set it over in the joint, thus requiring trauma twice applied for the production of one of these "mice." He believes in life, this not infrequently occurs. Another fact which lends itself to this theory of formation is, that these bodies are not infrequently attached by a small pedicle to the capsule or other cartilage. [A.B.C.]

Medical Record.

October 17, 1903. [Vol. 64, No. 16.]

1. Radium: With a Preliminary Note on Radium Rays in the Treatment of Cancer. MARGARET A. CLEAVES.
2. Stricture of the Male Urethra. HENRY G. SPOONER.
3. The Need of Organized Effort in the Prevention of the Spread of Tuberculosis. F. M. POTTENGER.
4. Extensive Brain Loss without Impairment of Intellectual Faculties. WALTER KEATE.
5. Eczema Cured by Measles. G. W. SQUIRES.

1.—Radium.—Margaret A. Cleaves states that radium, polonium, uranium, actinium, and thorium form a group of radioactive methods which have been extensively experimented with by Becquerel, Thompson, Rutherford, Crookes, Lodge, Laboarde, and Professor and Mme. Curie. The writer records a few cases in which radium or its salt has been used as a therapeutic agent. Danlos reports the cure of a case of lupus of the face with the salt of radium. Hollopeau and Gaudet have treated atonic ulcerations with this agent. Recently 2 cases were reported to the Viennese Society of the Imperial Academy of Science, in which the patients had been subjected to the action of radium. One was a man of 62 who had been repeatedly operated upon for sarcoma of the palate and lip; recurrence taking place. Bromid of radium was used and a complete cure effected. The test occurred in the clinic of the late Professor Gussenbatter. The second case was one of melanosarcoma, which was also reported cured. McKinsey and Davidson, at the Charing Cross Hospital, London, report the cure of a recurrent epithelioma of the nose, which had been unsuccessfully treated by the Röntgen rays. The writer reports 2 cases in which the bromid of radium was used in the treatment of malignant disease, but the treatment covered such a short period of time that the deductions made were not more than raising a sincere hope that ultimate cure may be effected with this agent. One was a case of sarcoma involving the cheek, buccinator region, and mucous membrane of the lower left axillary region; the other an inoperable primary pelvic epithelioma, involving the cervix, anterior and posterior vaginal walls, the rectum, and bladder. On account of having been able to obtain possession of the bromid of radium but a few days, treatment of both cases was necessarily interrupted. Improvement had occurred in each case, and the writer hopes to make an additional report. [A.B.C.]

2.—Stricture of the Male Urethra.—Henry G. Spooner states that he should reserve the term stricture for an organic permanent narrowing of the normal dilatability of the urethra. Etiologically, we group strictures into those of inflammatory and traumatic origin. Sir Henry Thompson showed that in 220 cases of stricture of the urethra, gonorrhea was the only cause in 164 instances. As not every case of gonorrhea leads to stricture, the author holds that harsh medical treatment is responsible for this condition in a good many instances. The early use of corrosive sublimate, silver nitrate, and chlorid of zinc used to abort the disease have been found to be particularly responsible for development of strictures. The injections now used, such as the newer silver compounds, by preventing chronicity of gonorrhea, prevent thereby the formation of stricture. Tertiary syphilis in the form of gumma may lead to stricture, as may also the healing of a tuberculous ulcer. Traumatic stricture may arise from any external violence applied to the urethra. While traumatic stricture develops in a seemingly short period after the urethra has been torn, a long period, say from 4 to 8 years commonly intervenes before stricture arises from gonorrhea. [A.B.C.]

3.—Organized Effort in Prevention of Tuberculosis.—F. M. Pottenger urges the need of organization to teach the people that this disease is communicable, preventable, and curable. While 300,000 men perished as a result of the Civil war, 600,000 perish here every 4 years from tuberculosis. Each case is infected from some previous case. Careful precautions afford full protection, Tenement houses are hot beds of infection, while sanatoriums, from the standpoint of infection, are most desirable places in which to live, attendants being free from the disease. Of patients treated early, 50% get well. Public opinion must be aroused. Sanitary laws relative to expectoration in public places, notification, disinfection of rooms, the regulation of the height of buildings and ceilings,

the construction of insanitary dwellings and overcrowding should be advocated. To facilitate early diagnosis, free examination of sputum should be made. Care of the helpless poor, bears an important relation to prevention. [H.M.]

4.—Extensive Brain Loss without Impairment of Intellect.—Walter Keate reports that a miner of 40 had packed 6½ sticks of giant powder in a hole preparatory to explosion. While he was bending over the same, explosion suddenly occurred, and when seen an hour later, he was conscious, pulse was 30 per minute, the eyes were blown out, the skin, muscles and forehead were partly blown off with interior portion of the skull flap turned back over the parietal bones, brain tissues exuded from the wound, the membranes of the brain were badly lacerated, as were the frontal lobes of the brain. Twenty small fragments of stone, with considerable dirt, were removed from the region corresponding to the anterior fontanel. The amount of cerebral matter lost was estimated at 1 oz. The patient has never lost consciousness and his intellect seems in no wise impaired. Aside from his loss of sight and the ugly and distressing wound of the anterior part of the head and the wounds about the face, he seems in good condition, a month after the accident. [A.B.C.]

New York Medical Journal.

October 10, 1903. [Vol. LXXVIII, No. 15.]

1. The Electrothermic Angiotribe in the Removal of Hemorrhoids. A. J. Downes.
2. On a Certain Form of Xanthoma or the "Mushroom Growth." W. Moser.
3. The Dangerous Operation of Uterine Curetment. Ely Van de Warker.
4. Sterility from Obstruction at the Epididymis Cured by Operative Means. Edward Martin.
5. Transient Postconvulsive Astereognosis in Jacksonian Epilepsy. Charles W. Burr.
6. Edebohls' Operation of Decapsulation of the Kidney for the Cure of Chronic Bright's Disease, and the Indications for its Performance. James Tyson.
7. Stillbirth Due to Strangulation of the Funis. J. Milton Mabbott.

1.—The Electrothermic Angiotribe.—A. J. Downes describes the instrument devised by him and gives cuts illustrating its use. The instrument was especially devised as a hemorrhoidal instrument, but it is useful in all abdominal operations. Concealed within the active blade is a heat chamber, within which is an insulated strip of iridoplatinum, which is rendered red or white hot by the resistance it offers to the passage of a proper amount of current. The shield is also a necessary and practical device. It has blades with a pressing surface $\frac{1}{16}$ inch wide, concave in their length, to surround the electrothermic blades. A current of approximately 60 amperes is required, and may be obtained from the ordinary light current. Downes says whatever good there is in the clamp and cautery method can be carried out with much greater expedition, cleanliness, and surety by the electrothermic angiotribe, and with proper technic, almost painlessly. [C.A.O.]

2.—Xanthoma.—The case reported by W. Moser is that of a boy who was covered with tumors of varying sizes, from that of a pea to that of a hen's egg, or larger. They were bright yellow and were chiefly located over tendons and bursas. They infiltrated the upper structures, and appeared to originate from below and grow upward, pushing the skin upward and over the growths. They were not painful nor sensitive to pressure, and presented a veritable mushroom appearance. The surface was smooth and even, being one mass, and not nodulated, tuberculated, and fissured, as in the ordinary form of xanthoma tuberosum. The patient was at no time icteric, and there was absence of glycosuria. Moser regards the tumor as a distinct form of growth, in the same way that the chloroma, or green sarcoma, differs in gross appearance from other tumors. [C.A.O.]

3.—Dangers of Uterine Curetage.—Ely Van de Warker says if the operation is confined to those thoroughly versed in the technics of uterine operations, always limited to selected cases, and performed with the object to be gained always in view, and after a most thorough preparation of the patient, the dangers attending its peformance may be minimized, but never remedied. The author gives in detail the technic observed by him, and reports several cases. The semiprone position is advised, because the vagina balloons when the retractor is inserted, the plications unfold, and greater facility is given for free and visible cleansing. He believes that an incalculable amount of danger would be averted if the lever form of dilator was discarded, and the graduated sounds substituted. He says that irrigation after curetment should never be employed, all that it is needed for is to remove the debris, and this is better done with dry sterile cotton on an applicator. Packing should not be practised, and nothing more than a slender strip of gauze, which the fingers of the operator should not touch, should be introduced, while the perineum, the labia, and the thighs of the patient are covered by clean sterilized napkins, applied at the last moment before the gauze is introduced. [C.A.O.]

4.—Sterility from Obstructed Epididymis.—Edward Martin reports an operation on a man whose childless marriage apparently was absolutely dependent upon azoospermia consequent upon a double obliterating epididymitis. An anastomosis was made between the vas and the epididymis on the left side. Several days later an examination showed the presence of spermatozooids not so plentiful as usual, but very actively motile. The wife was delivered of a normal child 281 days after resuming marital relations. This apparently proves that even though certain formative changes do occur in the spermatozooids during their course through the epididymis, these changes are not crippling in so far as the procreative power of the spermatozooids is concerned. [C.A.O.]

5.—Postconvulsive Astereognosis.—Such a case is reported by C. W. Burr, in a woman of 58, who complained of partial palsy of the right side and convulsive attacks. In this case, one of true astereognosis, the inability to recognize objects by contact was associated with, and due to, the inability to distinguish the number of points of contact, though tactile sensibility itself was preserved. The symptom always appeared after a Jacksonian fit and was always transitory. [C.A.O.]

6.—See *American Medicine*, Vol. VI, No. 15, p. 578.

7.—Stillbirth from Strangulated Funis.—A drawing is shown by J. M. Mabbott, showing the disposition of the funis responsible for the death of a fetus about 10 days before delivery. As the body was born the cause of stillbirth was plainly seen to be a condition of strangulation of the cord, which took a spiral turn around the right upper arm, emerging from the front of the axilla, thence passing around the back of the neck on its way to the umbilicus. The cord was about 17 inches in length, and the point of strangulation was at the axilla, where it was gripped very tightly by the arm. [C.A.O.]

Medical News.

October 17, 1903. [Vol. 83, No. 16.]

1. Bronchiectasis in the Tuberculous. An Unusual Case Reported. S. Edwin Solly.
2. Early Recognition of Impending Obstetric Accidents. Joseph B. De Lee.
3. Thiocol in the Treatment of Croupous Pneumonia. E. Fletcher Ingals.
4. Pathology and Prophylactic Treatment of Puerperal Sepsis. J. Clifton Edgar.
5. The Development of our Knowledge of Puerperal Infection. Brooks H. Wells.
6. Sublamin in the Treatment of Parasitic Scalp Diseases. William S. Gottheil.
7. The Importance of the Surgical Treatment of Chronic Middle-ear Suppuration. Edward Bradford Dench.

1.—Bronchiectasis in the Tuberculous.—S. E. Solly quotes Hoffmann's axiom that tuberculosis may occur as a complication of bronchiectasis, but not the reverse, the reference being to large areas of bronchiectasis, as he admits that small areas without special clinical importance are not infrequent. Also that large areas occur sometimes when there have been circumscribed processes in the apices and a tendency to recovery by subsequent fibrosis, and only under such circumstances. This latter category is apparently the one into which Solly's case falls, in so far as there was undoubtedly a previous tuberculosis at the right apex and in the bronchial glands, except that the bronchiectasis was caused, or at least was brought into prominence by the pressure of the swollen glands rather than by fibroid changes in the lung tissue. [H.M.]

2.—Early Recognition of Impending Obstetric Accidents.—De Lee asserts that most women go into labor with their condition unknown to the accoucheur. It is then too late

to remedy the defect, and as a result many mothers and babies are lost or crippled for life. He believes that by a moderate amount of intelligent prevision nearly all obstetric accidents may be prevented, or at least mitigated. To recognize impending eclampsia interrogate the family history for conditions indicating the possibility of eclampsia, examine the urine of pregnant women, ascertain the amount passed daily, and maintain a watch for symptoms of deficient excretion or of toxemia. Regarding placenta prævia, if the woman has endometritis, and especially if the same has caused some puerperal anomaly before, look out for placenta prævia. Furthermore, if the patient has even a tiny flow of blood after the fifth month keep the possibility in mind. Make a routine examination to recognize the shape, size, and inclination of the pelvis; the size and development of the child. Shortly before labor determine by external examination the position of the child, the engagement of the head, the presence of twins, etc. Credé's method of nitrate of silver for the prevention of ophthalmia neonatorum is well known and should be generally practised. [W.K.]

3.—Thiocol in Croupous Pneumonia.—E. F. Ingals has used this in 22 consecutive cases, with the exception of those who were moribund on admission to the hospital. Six severe and six mild cases recovered. The ordinary treatment was employed in addition. The report demonstrates that thiocol (potassium guaiacol-sulfonate Roche) may be given in large doses without digestive disturbance or other apparent harm. In no instance did it seem to affect temperature, pulse, respiration or physical signs. The beginning dose was moderate, reaching 120 gr. in 3 or 4 days. Possibly different effects might have been noted if the maximum dose had been attained within 24 hours. He suggests that ½ gm. (5 gr.) be given as the initial dose, and the amount be rapidly increased until 2 gm. (30 gr.) are given at each dose, provided there are no unpleasant symptoms. [H.M.]

4.—Pathology and Prophylactic Treatment of Puerperal Sepsis.—Edgar is accustomed to consider the following varieties of puerperal sepsis from a pathologic standpoint: 1.—Vulvitis and vaginitis. 2.—Endometritis (*a*) septic endometritis; (*b*) putrid endometritis or sapremia; (*c*) endometritis from mixed infection. 3.—Metritis. 4.—Salpingitis. 5.—Oophoritis. 6.—Acute sepsis or septicemia lymphatica. 7.—Septic phlebitis or septicemia venosa (*a*) uterine and parauterine phlebitis; (*b*) puerperal pyemia or metastatic pyemia; (*c*) puerperal septic pneumonia; (*d*) puerperal ulcerative endocarditis; (*e*) puerperal arthritis; (*f*) femoral phlebitis or phlegmasia alba dolens. 8.—Pelvic cellulitis or parametritis. 9.—Pelvic peritonitis or perimetritis. 10.—General peritonitis. 11.—Urethritis, cystitis, ureteritis, pyelitis. 12.—Proctitis. 13.—Mastitis. 14.—Puerperal septic erythema. 15.—Puerperal pemphigus. 16.—Puerperal tetanus. 17.—Puerperal neuritis. 18.—Autoinfection. 19.—Gonorrheal infection. He sums up the preventive treatment under the following heads: 1.—General hygienic measures. 2.—Asepsis of patient, physician and accessories. 3.—Limitation of internal examinations and manipulations. 4.—Antistreptococcic serum. [W.K.]

5.—Development of Knowledge of Puerperal Infection.—Wells traces the history of medical knowledge of the causes of puerperal infection and states that though we now know that this infection is with rare exceptions caused by the hands or instruments of physicians, nurses or midwives, yet the mortality has hardly been lessened from what it was a century ago. From the records of New York City for 1900, 1901, and 1902 the deaths among the entire population were 209,704. Of these 2,001 or nearly 1% of the entire number were from puerperal disease. From this you must draw the startling conclusion that one death in 25 among women during the child-bearing period is from a puerperal cause and the greatest of these causes is infection. [W.K.]

6.—Sublamin in Parasitic Scalp Diseases.—W. S. Gottheil gives an account of an epidemic in an institution of 450 cases of ringworm with a large proportion of deep infection and kerion. Squads of varying size were put on different treatments. Every head was closely shaved weekly and daily scrubbed with green soap. Chrysarobin was abandoned on account of the conjunctivitis and dermatitis and brown stain it caused, the latter making examination difficult. There was the same objection to iodin. No definite results were obtained from salicylic and carbolic acid. Formalin, used without consent, caused destruction of scalp tissue. Bichlorid, sublamin, and croton oil were found sufficient for all cases. All stood a 1 to 1,000 sublamin solution very well, and in obstinate cases 1 to 750 was used without trouble. Gottheil cannot confirm the claim of absolute nonirritancy for the ethylendiamin preparations, but they are much less obnoxious to tender skins than bichlorid, and can be used in twice the strength. It is said not to coagulate albumin, and therefore its penetrant action is greater. Over 100 cases in all stages were treated with sublamin, and it proved the most effective of the various methods employed. A parasite indistinguishable from that of ringworm could be cultivated from scalps apparently healthy. [H.M.]

7.—Importance of the Surgical Treatment of Middle-Ear Suppuration.—Edward B. Dench reports that at the New York Eye and Ear Infirmary during the past 8 years there were treated 64,858 cases of aural disease. These included every aural lesion in the total number of cases admitted to the clinic. Among them were 20 cases of cerebral abscess; 46 cases of sinus thrombosis, in 24 of which the internal jugular vein was ligated; 119 cases of epidural abscess; 7 cases of cerebellar abscess, and 2 cases of otitic meningitis. Of acute otitis media there were 4,836 cases, and of chronic purulent otitis media there were 14,487 cases, or a total of 19,323 cases of purulent otitis media both acute and chronic. There were 218 cases of intracranial complication, or about one in every 88 purulent cases presenting themselves at the dispensary. The paper is exhaustive, and deals fully with many phases which cannot be presented in a brief abstract. His conclusions are: In all cases of persistent and profuse aural discharge the radical operation is the operation of election. In cases of recurrent aural discharge, associated with lesions of the upper air tract, this tract should first be put in a normal condition. In case of persistent but slight discharge from the ear, the operator may advise the removal of the carious ossicles, together with thorough curetment of the middle ear through the external auditory meatus. It should always be explained to the patient that this operation is a tentative one, and that the more radical procedure may be necessary later. [A.B.C.]

CLINICAL MEDICINE

DAVID RIESMAN A. O. J. KELLY

EDITORIAL COMMENT

Some Medical Aspects of Diseases of the Gallbladder and Gallducts.—During recent times we have been favored with a voluminous literature on diseases of the biliary passages, so that many of the questions concerned are tolerably well comprehended, and others are the subject of active study. In one of the notable addresses delivered at the recent Congress of American Physicians and Surgeons, in Washington, and which has recently been published,[1] the distinguished president-elect of the American Medical Association, Dr. Musser, takes occasion, while commenting upon certain more or less wellknown facts to emphasize their importance, and to point out certain defects in our knowledge and the direction that future study should take. Among the points especially worthy of attention are the distinctions between primary and secondary cholecystitis, the occurrence of cholecystitis in typhoid fever, and the limitations of our knowledge of diseases of the biliary tract. The importance of these can scarcely be overestimated. The cholecystitis of typhoid is especially important, and has heretofore scarcely received the attention that its practical importance warrants, and indeed it has scarcely been properly interpreted. That cholecystitis may occur in typhoid fever has been generally recognized for a long time, and as is well known it may develop during the third or fourth week of the disease, or during convalescence. In many cases the symptoms are frank, and the complication can scarcely escape recognition. In

[1] International Clinics, 1903, thirteenth series, iii, 1.

other cases, however, the cholecystitis may run its course entirely unsuspected for a time at least, and what appears to be of special importance and is much insisted upon by Musser, is that many of the socalled relapses are in reality instances of infection of the gallbladder, and not of true relapse. This probably needs merely to be pointed out to be generally recognized, since there can be no question that careful examination in many cases of presumed relapse in typhoid fever will disclose some tenderness of the gallbladder, rigidity of the overlying abdominal wall, and a tumor—evidently the enlarged gallbladder. These may be found even in cases with no local subjective complaints, although the type of gallbladder infection may be mild, fulminating, or perforating. The type of fever sometimes first directs attention to the complication. The indications as regards treatment are quite clear. The mild cases usually recover without untoward symptoms; the severe fulminating and perforating cases usually require operative intervention. The entire subject is much in need of further elucidation.

The limitations of our knowledge in biliary affections are well presented by Musser. Thus, we are much in need of information concerning the functions of the liver, and Musser, pointing out that we have no clinical method of determining the degree or character of alteration of function in hepatic, much less in biliary, disorders, suggests that perhaps we need a research hospital for the study of hepatic disease. Furthermore, our knowledge of displacements of the liver is limited and the conditions themselves obscure. Thus we do not know what constitutes a displacement sufficient to predispose to, if not excite biliary disorder, and the minor rather than the major displacements are those concerning which our knowledge is especially defective.

The indications for operation in diseases of the biliary tract laid down by Musser, are extremely valuable, being based upon sound pathologic data and coming from a physician rather than a surgeon of experience, they merit extended notice. Thus Musser advises operation in catarrhal cholangitis if there is no improvement at the end of six or eight weeks, if anemia is progressing, if the time required for blood-clotting increases, and if the spleen and liver are enlarging. In suppurative cholangitis he advises operation in all cases if there is no relief to any one symptom in three days; if, however, the liver does not increase, if the fever lessens, if leukocytosis decreases, if jaundice improves, he uses expectant treatment. In cholecystitis he believes that operation perhaps should be performed in every case, certainly in fulminating cases with sepsis and progressive toxemia, whether or not the leukocytes are increasing or stationary. If cultures or serum reaction indicate the infective organism, we should be guided by its character. The bacillus coli infection means operation. Musser further believes that the question of operative interference must be decided not only by laboratory investigation but by clinical sense. If a patient is sick today, sicker the next day, and a little more toxic and septic each day, an operation should be done in spite of the absence of leukocytosis. Nephritis is not a contraindication to operation, since "bile" and septic nephritis are quickly relieved by operation. The matter is one of degree of illness, and in every case the clinical acumen of the physician must stand in some service. Finally Musser pertinently inquires: Do medical "cures" postpone the evil day? How many persons get well permanently and without secondary states always pending, if not in full blast? Is it worth while waiting for medicinal treatment in primary cases? How many patients get well in this manner, and how many experience temporary cure, even if they get relief? Finally, do surgical measures in acute primary infections prevent secondary states? These are questions that the future will have to decide.

REVIEW OF LITERATURE

Primary Gangrenous Angina in a Boy.—E. Oberwarth[1] reports the case of a boy of 12, who developed malignant gangrenous angina, dying of it after weeks of illness. But 24 authentic cases of this rare disease are on record. Clinically most characteristic is the fetor, which is fecal; the violent pain, especially on swallowing, the chronicity and rapid recurrence of the trouble and the gravity of the general symptoms are also very characteristic. The cause of the disease is not known, but it is known that the diphtheria bacillus is not the cause of it. His patient complained first of pain in right ear and right side of neck; this disappeared spontaneously. Two weeks later the same sort of pain appeared on the left side; the left tonsil, soft palate and uvula were ulcerated; this cleared up after 10 days. The third attack affected the right side again; the right tonsil became gangrenous, later also the left; the typical fetor appeared, petechia showed themselves, the spleen enlarged. He recovered from this attack. The fourth attack a few days later was more grave, again affecting the left side. During the fifth and fatal attack the lower lip and left cheek, the left tonsil and pharynx became gangrenous, a retinal hemorrhage appeared, petechias became more marked and the patient gradually sank. At the autopsy were found numerous internal hemorrhages. No valvular lesion could be discovered, although a systolic murmur which was present all through the disease caused it to be suspected. Anemia and muscular weakness most likely produced it. Streptococci were the only organisms isolated. [E.L.]

Diagnosis of Syphilitic Lesions of the Pancreas.—N. Trinkler[2] discusses this subject in connection with the histories of original cases. The symptoms, clinical course, and diagnosis of pancreatic syphilis are allied to those of chronic indurative pancreatitis. In fact, many instances of chronic pancreatitis are undoubtedly syphilitic in character. Chief among the symptoms of pancreatic syphilis stands dyspepsia of varying intensity, usually of a chronic nature. Fat-diarrhea is not a feature of this affection; on the other hand, disturbances of the biliary function are frequent and important. Sometimes the pancreas is increased in size, but this sign is by no means constant or reliable. It may occasionally be difficult to differentiate a swollen head of the pancreas from a swelling caused by gallstones. The author remarks, in this connection, that the enlarged gallbladder is located to the right of the median line, while the enlarged pancreas lies to the left of the median line, or in the line itself. As treatment, the syphilitic affection does not in itself require surgical interference, until complications arise from the neighboring organs. [L.J.]

Vomiting During Rectal Alimentation.—H. D. Rolleston and A. J. Jex-Blake,[3] from statistics they have collected, assert that 27% of patients with a gastric ulcer vomit while on exclusive rectal feeding. They believe that in some instances this may be due to oral infection, while in others it may be possible that it is a reflex result of the rectal injection. They have been unable to trace any connection between the nature of the food given by the rectum and the occurrence of vomiting. In the 26 cases that vomited, the nutrient enemas were variously composed of water alone, or of mixtures of water, beef tea, peptonized milk, eggs, coffee, and nutrient suppositories, with in a few cases small quantities of common salt, which has been shown experimentally to set up antiperistalsis. But identically constituted enemas were given in 70 other cases that did not vomit, and yet there appears to be a certain connection between this form of alimentation and the occurrence of nausea and vomiting. Little information could be gathered by examination of the vomited material. As a rule it was greenish mucus and acid in reaction, though in some cases it was free from hydrochloric acid. The presence of bile indicated that reversed peristalsis had occurred, a proof that relaxation of the pyloric sphincter may take place in spite of the gastric irritation which must result from ulceration of the stomach wall. They believe that it is reasonable to suppose that when the irritable stomach is invaded by bile containing matter from the duodenum, it causes nausea and vomiting. The absence in some cases of free

[1] Deutsche medicinische Wochenschrift, April 23 and 30, 1903.
[2] Chirurgia, July, 1903.
[3] British Medical Journal, July 11, 1903.

hydrochloric acid lends color to the view that in such cases the vomiting is due to excessive microbic accumulation. [A.B.C.]

Bradycardia in Health.—R. J. Blackham[1] reports the case of a soldier of 40, who consulted him for some mild dyspeptic disorder. On examination he was found to have a pulse of 45 to the minute, which could be increased by violent exercise to 50 or 55. All the organs of his body were found to be perfectly normal. The dyspepsia yielded readily to treatment, but the pulse-rate had remained the same 18 months after his first visit. [B.K.]

GENERAL SURGERY

MARTIN B. TINKER
A. B. CRAIG C. A. ORR

EDITORIAL COMMENT

Concussion of the brain displays its effects with varying degrees of intensity. In the mildest form, the patient is merely "stunned" for a few moments. He then rapidly regains his mental faculties, feels his head with his hands to make sure that it occupies its former position, and—in absence of other injury—reassumes his interrupted occupation. It should not be forgotten, however, that after an hour or two, he may become gradually drowsy; and this soporific feeling becomes so overpowering that he cannot shake it off. He is obliged to lie down, and then passes gradually from apparently natural sleep to a state of profound coma, from which he never makes an effort to rally. Postmortem examination will almost infallibly show in such case, that the patient had a thin-walled (consequently rather flexible) skull; and that the injury which had failed to fracture the bony case had ruptured the middle meningeal artery on its inner surface. If the junior surgeon will but take careful mental note of these observations, he may escape many pitfalls.

Compression of the brain may, of course, develop very slowly—as a result of the gradual growth of a tumor, or formation of a collection of fluid within the cranial cavity. The cases which suddenly arise, and for the diagnosis of which the medical practitioner specially requires to be forearmed, are due either to external violence, or to the bursting of a bloodvessel within the cranial cavity. The latter occurrence constitutes the condition known as apoplexy. The former may or may not produce fracture of the skull, complicating rupture of some of the bloodvessels in its interior. When the typical symptoms of compression are developed, the patient is absolutely unconscious; the state of coma is complete. The surface looks flushed and feels warm; the small arteries being dilated. As the pressure is usually on one side of the brain, the pupils—which are absolutely insensible to light—are, in most cases, of markedly unequal aperture. The conjunctiva retains no trace of sensibility. The pulse is slow, but very full, and "laboring" in movement. The respiration is very characteristic. There is stertor with inspiration, owing to the flapping (from partial paralysis) of the soft palate. There is a puff with expiration, owing to the partial paralysis of the buccinator. There is usually, also, a certain degree of inequality of the two sides of the face, on account of the corresponding partial paralysis of the muscles of expression of one side. There is often a difference of the amount of relaxation of the limbs of the two sides. There is sometimes even rigidity on one side. In the most severe type, the patient is instantly thrown into a state of complete unconsciousness, from which no attempt is made to rally. An extremely slight amount of cardiac and respiratory movement is retained for a little, but this gradually diminishes, and the transition from life to death is perhaps more obscure than in any other form of injury. But there is an intermediate group of cases of concussion, which, for question of diagnosis and treatment, is far more important than either of these extremes. In these the suspension of consciousness is not complete—at least after a slight interval—the patient howls vigorously if exposed to acute pain. The conjunctiva is partially sensitive, and the pupils—usually slightly dilated—respond to the stimulus of light. The cutaneous surface is pale and clammy—all the minor arteries being contracted; and the body seems shriveled. The pulse is very feeble and may be imperceptible at the wrist; it may be irregular or intermittent, but the carotid arteries throb violently. The heart's action is greatly quickened by raising the patient from the horizontal to a sitting posture. The respiration is also extremely feeble—in very bad cases almost imperceptible.

[1] Lancet, August 22, 1903.

REVIEW OF LITERATURE

Primary Tuberculosis of the Breast.—W. S. Schley[1] reports a case and reviews the literature on the subject. The patient was a woman of 32. A sister had died of carcinoma of the uterus. The patient was the mother of 5 children, which she had nursed without trouble to the breasts. The present trouble began 8 weeks before admission into the hospital. There was dull pain in the right breast, and later a small lump appeared in the upper and outer quadrant. Two weeks before her admission it began to enlarge rapidly, and attained the size of an orange. Pain was severe. There was no history of traumatism and she had no cough, the chest examination being negative. The mass was hard, closely nodular, not tender, and movable over the deep structures. The breast was amputated and the axilla cleared. Microscopic examination showed the condition to be distinctly tuberculous. The tubercle bacilli were demonstrated in the stained section of the tumor. The axillary glands were enlarged. The case, so far as could be determined, was primary and since after convalescence a negative tuberculin test was made, it is believed that other foci of tuberculosis do not exist, a further evidence of the primary character of this lesion. In reviewing the literature he finds that of all the neoplasms of the breast reported, scarcely more than 100 have been reported as tuberculous. The unverified cases reduce the number to 65, the primary ones reported not exceeding 12. Tuberculosis of the mammary gland may occur in the male or female at any age, but is usually found in the third, fourth and fifth decades of life and in the female. Nipple retraction was noted in a moderate number of these cases. The diagnosis of tuberculosis of the breast in its early stages cannot be made from the clinical symptoms and macroscopic appearance. It can easily be mistaken for a simple cyst, fibroadenoma, carcinoma, sarcoma, gumma, actinomycosis. Early removal of the breast and axilla glands is the rational treatment. [A.B.C.]

The Necessity for Shortening Large Nerves when Amputating.—W. G. Spencer[2] states that when this procedure has been omitted there is indefinite delay to the patient's recovery and he is hindered from wearing an artificial limb. There is continuous pain in the stump, and very often the patient must submit to a second minor operation in order that the irritated nerve stump may be removed. Haste is usually necessary in amputations; yet he holds that the short time required for cutting off the large nerves high up is indispensable. Six cases are reported, in each of which the author has found this secondary operation necessary for the patient's comfort, some time after the primary operation had been done by others. In some cases the flaps were doubtless in a bruised condition, infection and suppuration occurred so that healing by first intention was prevented, but had eventually healed, but even then a secondary operation became necessary. In all of the cases it was necessary to expose the nerves well above the mass of scar tissue in which they were most intimately involved. [A.B.C.]

Filling Bone Clefts.—Fautino and Valtan[3] say by implanting inorganic bone substance in osteogenic tissue, formation

[1] Annals of Surgery, April, 1903.
[2] British Medical Journal, July 11, 1903.
[3] Arch. für klin. Chir., Heft 3, Bd. lxx, 1903.

of bone will follow, by means of which clefts can be filled. The implanted substance need not necessarily be surrounded by osteogenic tissue. They recommend calcinated bone, but success will follow only under strict aseptic precaution. Bone ash mixed with thymol and iodoform may be used, or this mixture may be utilized as a mortar with blocks of calcinated bone. The soft parts covering the implantation must be healthy or the wound should best be allowed to heal by second intention. The field of operation and the inlaid material must be perfectly dry. The time required to fill the spaces with newly formed bone varies from 3 to 8 months. [A.B.C.]

Hernia of the Bladder Associated with Inguinal Hernia.—H. J. Curtis[1] reports that a small child 2½ years of age was admitted to the hospital for the radical cure of inguinal hernia on the right side. The hernia was said to descend to the bottom of the scrotum. The right external abdominal ring was large enough to admit the tip of the little finger. Under chloroform the hernial sac was exposed, opened, and the hernia reduced. He was about to close the wound when he observed, bulging into the back of the sac from its lower half or two-thirds, a globular swelling about ⅞ inch in diameter. The sac was carefully turned off this prominence, which was cyst-like, of a pink tint and striated. Examination showed it to have emerged through the new internal abdominal ring and it lay internal to, and partly behind the neck of the hernial sac. It had invaginated itself as a finger-like process into the back of the sac, thus accounting for the bulging when the sac was opened. The sound was passed into the bladder, and this bladder pouch was found to be a portion of the urinary bladder. The hernial sac was divided below the level of the bulging apex of the bladder protrusion, the portion of bladder was returned within the abdominal cavity and the radical cure completed. A number of illustrations are given, calculated to explain how it is possible for the portion of bladder to be gradually drawn through the internal ring, descend with the hernial sac, and invaginate itself into this sac as a diverticulum. The writer estimates that hernia of the bladder is associated probably with 1% of inguinal hernias. He calls attention to a case in which the bladder was found in the sac of a femoral hernia. Reference is made to other cases which have been reported in literature. [A.B.C.]

GYNECOLOGY AND OBSTETRICS

Wilmer Krusen Frank C. Hammond

REVIEW OF LITERATURE

Upon Artificial Nourishment of Infants.—W. Zangemeister[2] says that the human mother's milk has a medium molecular concentration and this does not differ much from that of the blood of the mother and child. The infant's intestinal canal is adapted to a nourishment which exerts the same osmotic pressure as its blood, and other nourishment with different osmotic pressure is less favorable to the infant organism. The best-established artificial foods and milk mixtures have by no means the same molecular concentration and pressure as the infant blood. The influence of these different foods is reflected in the molecular concentration of the urine, and its point of congelation is lowest when the infant has its normal food. How injurious is the influence of the anomalies in molecular concentration of different foods, cannot be measured today, but that the artificial foods leave much to be desired is shown by the loss in weight, the morbidity and mortality of infants artificially fed. [W.K.]

Twisting of Navel Cord.—B. S. Schultze[2] discusses the question whether in normal labor the obstetrician should, immediately after the passage of the head, feel for the navel cord to ascertain whether it is twisted about the neck or not; and he concludes that since it cannot be untwisted until after the delivery of the shoulders, it is unnecessary and unwise to introduce the fingers, because of danger of injury to the mucous membrane, or of infection; that it is better to leave the determination of this question until the delivery of the shoulders and with these the naval cord in case it is twisted around the neck. [W.K.]

[1] British Medical Journal, July 11, 1903.
[2] Zentralblatt für Gynäkologie, September 19, 1903.

TREATMENT

Solomon Solis Cohen
H. C. Wood, Jr. L. F. Appleman

REVIEW OF LITERATURE

Treatment of Tuberculosis in Children by Meat Juice and Raw Meat.—Albert Josias and J. C. Roux[1] believe that the administration of meat juice and raw meat is the treatment of choice in pulmonary tuberculosis in children. This treatment must be complete and the patient must be placed in the best possible hygienic conditions. This treatment has no appreciable effect in tuberculous meningitis and acute tuberculosis in which the evolution is too rapid. Of 8 patients having tuberculous peritonitis, 4 were cured. The use of injections of tuberculin seems indispensable in the diagnosis of tuberculous peritonitis; certain patients, presenting a chronic peritonitis with ascites of apparently tuberculous origin did not react to tuberculin. Of 33 patients with pulmonary tuberculosis of the first to the third degree, 6 were cured; 6 were on the way to recovery, 6 were ameliorated, 1 remained stationary, and 14 died. Of these patients, 16 were in the first and second stages of the disease; of these 6 were cured, 4 were much improved, 4 slightly ameliorated, and 2 died. The sooner the treatment is instituted the better are the chances of recovery. Rapid increase in weight from the beginning of treatment seems to be the best prognostic sign. [L.F.A.]

Action of the Pneumotherapeutic Methods on the Respiration.—According to Tissier (Pneumotherapy, Physiologic Therapeutics, Vol. x) the facts in regard to the action of pneumotherapeutic methods determined up to the present time, permit us to say that they render respiration less difficult, less fatiguing (inspiration of condensed air, expiration into rarefied air). Even in the normal subject an equivalent result cannot be obtained continuously by means of respiratory exercises, with the same degree of ease and for so long a period as with these apparatus; all the more, therefore, is it true in the case of the sick, for whom respiration is often a considerable labor attended with not a little fatigue—which we now have a means of lessening. The quantity of air respired is increased, no matter what combination is adopted, either because the inspiratory and expiratory forces are stimulated to greater exertion or because their action is rendered less difficult. A certain proportion of the residual air is withdrawn during expiration into rarefied air; and although this quantity is less than Waldenburg believed, it is nevertheless an appreciable quantity and materially assists in the ventilation of the lungs. Finally, the last and not the least interesting point is that expiration into rarefied air sensibly diminishes the duration of a normal expiration, and considerably shortens the expiration when prolonged by some pathologic process.

Gelatin in Infantile Diarrhea.—Weill, Lumière, and Péhu[2] describe their method of employing gelatin in cases of infantile diarrhea, the results of which have been very satisfactory. The gelatin should be as pure as possible to obtain and should be sterilized before use. A 10% solution is made, and 10 cc. of this, containing 1 gm. (15 gr.) of gelatin, is given in each bottle of food. From 6 to 8 doses are given daily, and this amount may even be doubled. The effect of this treatment is marked in simple gastroenteritis. When the diarrhea is only part of a general process, as in bronchopneumonia, splenomegaly, albuminuria, etc., the stools rapidly become normal, but no effect is exerted on the complication. Only in cases of cholera infantum does gelatin exercise no effect upon the stools. [A.G.E.]

Iodoform Treatment of Tuberculous Diseases.—M. Cannon[3] reports 2 cases of tuberculous joint disease successfully treated by the injection of iodoform emulsion. He holds that the method is still on trial and believes that much good can come from it. His emulsion was made according to Squire's formula, about 4 cc. (1 dr.) was injected every alternate day into the affected joint through the sinus with an ordinary glass

[1] Bulletin Général de Thérapeutique, Vol. cxlvi, No. 8, 1903, p. 316.
[2] Lyon Médical, August 23, 1903.
[3] British Medical Journal, July 11, 1903.

syringe. Some pain was experienced at first, but this was alleviated by the subsequent injection of a very weak carbolic solution to wash out the iodoform. After a fortnight this was unnecessary, for the pain had disappeared. In both cases after commencing the injection, the discharge was much lessened, the general health began to improve, and there was gain in weight. The pain at first experienced after injections was probably due to the irritant action of the emulsion on the diseased tissues. The fact that the patients recovered and have remained well for fully 18 months is an encouragement for the further trial of this method. Mention is also made of two recent cases of tuberculous cervical glands with a discharge lasting from 2 to 4 months, in which the injection of the emulsion quickly stopped the discharge and there was subsequent healing of the sinus. [A.B.C.]

THE PUBLIC SERVICE

Health Reports.—The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended October 16, 1903:

	SMALLPOX—UNITED STATES.		Cases	Deaths
Alabama:	Mobile	Oct. 4-10	4	
California:	Los Angeles	Sept. 27-Oct. 3	6	
	San Francisco	Sept. 28-Oct. 4	1	
Illinois:	Chicago	Oct. 4-10	3	
	Danville	Oct. 4-10	2	
Maryland:	Baltimore	Oct. 4-10		1
Michigan:	Detroit	Oct. 4-10	1	
New York:	New York City	Oct. 4-10.	4	
	Niagara Falls	Oct. 4-10	2	
Ohio:	Cincinnati	Oct. 3-9	1	
Pennsylvania:	Altoona	Oct. 4-10	1	
	Carbondale	Oct. 8-14	2	
	Philadelphia	Oct. 4-10	11	3
Tennessee:	Memphis	Oct. 4-10	2	
Texas:	San Antonio	Sept. 1-30	12	1
Utah:	Salt Lake City	Sept. 27-Oct. 10	8	
Wisconsin:	Milwaukee	Oct. 4-10	7	
	SMALLPOX—INSULAR.			
Philippine Islands:	Manila	Aug. 22-29	3	1
	SMALLPOX—FOREIGN.			
Austria Hungary:	Prague	Sept. 20-26	4	
France:	Paris	Sept. 20-26		1
Great Britain:	Bradford	Sept. 20-26	8	
	Newcastle-on-Tyne	Sept. 20-26	5	
Italy:	Catania	Sept. 25-Oct. 1		1
Russia:	Moscow	Sept. 13-19	1	1
	Odessa	Sept. 20-26	1	
	St. Petersburg	Sept. 13-19	42	
Spain:	Barcelona	Sept. 13-26	4	
	YELLOW FEVER—UNITED STATES.			
Texas:	Laredo	Oct. 7-15	180	10
	Minera	Oct. 3-12	50	
	YELLOW FEVER—FOREIGN.			
Costa Rica:	Limon	Sept. 25-Oct. 1	2	1
Mexico:	Linares	Sept. 6-26	446	202
	Merida	Sept. 6-26	18	4
	Nuevo Laredo	Oct. 5-13	18	2
	Quintana Hoo	Sept. 20-26	1	1
	Tampico	Sept. 27-Oct. 3		5
	Tehuantepec	Sept. 6-26		6
	Salina Cruz	Sept. 6-26	4	2
	Valladolio	Sept. 13-26	1	
	Vera Cruz	Sept. 27-Oct. 3	45	9
Venezuela:	Caracas	Sept. 15		1
	CHOLERA—INSULAR.			
Philippine Islands:	Manila	Aug. 22-29	19	19
	Provinces	Aug. 22-29	1593	1262
	CHOLERA—FOREIGN.			
China	Shanghai	Aug. 22-29	9	
India:	Calcutta	Sept. 6-12		4
	Madras	Sept. 5-11		2
Straits Settlements:	Singapore	Aug. 23-29		7
Turkey:	Syria	Sept. 1-14	473	317
	PLAGUE—INSULAR.			
Philippine Islands:	Manila	Aug. 22-29	2	1
	PLAGUE—FOREIGN.			
Egypt:	Alexandria	Sept. 5-11	10	5
	Damiette	Sept. 5-11	1	1
France:	Marseilles	To Sept. 15	9	1
India:	Bombay	Sept. 2-15		142
	Calcutta	Sept. 6-12		13
Japan:	Yokohama	Aug. 22-Sept. 12	4	3

Changes in the Medical Corps of the U. S. Army for the week ended October 17, 1903:

RAFFERTY, Major OGDEN, surgeon, is relieved from duty as medical superintendent of the Army transport service, at San Francisco, Cal., and as attending surgeon in that city, and will proceed to Fort Monroe for duty, to relieve Major Richard W. Johnson, surgeon. Major Johnson will proceed to Washington, D. C., and report to the surgeon-general of the Army for instructions and assignment to duty in connection with the medical department exhibit at the Louisiana Purchase Exposition. The chief surgeon, department of California, will in addition to his present duties perform the duty of medical superintendent of the Army transport service in San Francisco, Cal.

RICHARDSON, First Lieutenant GEORGE H., assistant surgeon, resignation has been accepted, to take effect January 1, 1904.

SHEPHERD, JOHN M., contract surgeon, leave granted September 10 is extended twenty-five days.

WICKLINE, WM. A., contract surgeon, when relieved from further duty at Fort Lawton, will proceed to his home, Warm Springs, Mont., for annulment of contract.

MURRAY, First Lieutenant ALEXANDER, assistant surgeon, now in Washington, D. C., on leave, will proceed to Fort Crook and report not later than October 16 to the commanding officer, Twenty-second Infantry, for temporary duty to accompany that regiment to Manila, P. I.

LUDINGTON, PAUL H., contract surgeon, is relieved from further duty at Omaha, Neb., and will proceed to Eagle Pass, Tex., for duty relieving First Lieutenant Park Howell, assistant surgeon.

GARDNER, Lieutenant-colonel EDWIN F., deputy surgeon-general, will proceed at once from Fort D. A. Russell to Fort Riley and report for duty in connection with the maneuvers.

The following changes in the stations and duties of officers are ordered: First Lieutenant Willard F. Truby, assistant surgeon, is relieved from duty at Fort Ethan Allen and will proceed to Fort Preble for duty, relieving Major Charles B. Ewing, surgeon. Major Ewing will proceed to Columbus Barracks for duty, relieving Major Guy L. Edie, surgeon. Major Edie will proceed to San Francisco, Cal., and report for transportation to Manila, P. I., for assignment to duty.

RICHARDSON, First Lieutenant GEO. H., assistant surgeon, is granted leave for one month and ten days, from about November 21.

WOODBURY, First Lieutenant F. T., assistant surgeon, will proceed to Fort Riley for duty during the maneuvers at that post, upon completion of which he will return to his station—Plattsburg Barracks.

EDIE, Major GUY L., surgeon, is granted leave for three months.

GILCHRIST, First Lieutenant HARRY L., assistant surgeon, now on duty with maneuver division at West Point, Ky., will proceed to Fort Riley and report to Major-General John C. Bates for duty during the maneuvers in the vicinity of that post, and upon the conclusion of the maneuvers will return to Fort Screven.

The following-named assistant surgeons are relieved from duty at the posts designated and will repair to Washington, D. C., and report November 3 at the Army Medical Museum Building, to Colonel Charles L. Heizmann, assistant surgeon-general, president of the faculty of the Army Medical School, for a course of instruction at that school: First Lieutenants Henry S Kiersted, Fort Miley; Jay R. Shook, Fort Myer; Robert E Noble, Fort Sheridan; James W. Van Dusen, Columbus Barracks; Park Howell, Eagle Pass; Reuben B. Miller, San Francisco, Cal.; James I. Mabee, Presidio; Percy L. Jones, Fort Rodman; Fred W. Palmer, Jefferson Barracks; Edward B. Vedder, Fort Columbus; Henry F. Pipes, Fort Totten; Charles L. Foster, Fort Myer; John R. Bosley, Fort McPherson (temporarily at Fort Dade, Fla.); Robert C. Loving, Fort Leavenworth (temporarily at Fort Riley); Chester J. Stedman, Fort Adams (temporarily at Fort Myer); Orville G. Brown, Fort Monroe (temporarily at Washington Barracks); George F. Juenemann, Fort Columbus; Joseph F. Siler, Fort McPherson; Arthur M. Whaley, Fort Sheridan (temporarily at Fort Riley).

SHAW, Major HENRY A., surgeon, is relieved from duty at the U. S. General Hospital, Washington Barracks, November 1, and will proceed to Fort Adams for duty.

POLHEMUS, Major ADRIAN S., surgeon, having reported his arrival at San Francisco, Cal., will proceed to Fort Crook for duty, relieving First Lieutenant Charles E. Marrow, assistant surgeon. Lieutenant Marrow will proceed to Fort Sheridan for duty.

GANDY, Major CHARLES M., surgeon, now in San Francisco, Cal., is relieved from further duty in the division of the Philippines, and will proceed to Fort Wayne for duty.

CRABTREE, First Lieutenant GEORGE H., assistant surgeon, now at San Francisco, Cal., is relieved from further duty in the division of the Philippines, and will proceed to Fort Columbus for duty.

Changes in the Medical Corps of the U. S. Navy for the week ended October 17, 1903:

DELANCY, C. H., assistant surgeon, detached from the Hancock and ordered to the Petrel—October 9.

MCCLANAHAN, R. K., assistant surgeon, detached from treatment at the Naval Hospital, Mare Island, Cal., ordered home with three months sick leave—October 10.

DOUGLASS, S. W., pharmacist, detached from the Navy Yard, Portsmouth, N. H. and ordered to the Naval Magazine, Iona Island, N. Y.—October 10.

ARNOLD, W. F., surgeon, detached from treatment at Naval Hospital, Mare Island, ordered home with three months sick leave—October 12.

DUBOSE, W. R., medical inspector, commissioned medical inspector with the rank of commander from June 20, 1903—October 13.

DELANCY, C. H., passed assistant surgeon, commissioned a passed assistant surgeon, with rank of lieutenant, from June 7, 1903—October 13.

MORGAN, D. H., passed assistant surgeon, when discharged from Naval Hospital, Mare Island, granted sick leave for three months—October 15.

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PUBLISHED WEEKLY AT 1321 WALNUT STREET PHILADELPHIA BY THE AMERICAN-MEDICINE PUBLISHING COMPANY

VOL. VI, No. 18. OCTOBER 31, 1903. $5.00 YEARLY.

The American Society of Clinical Surgery will hold its first meeting in Baltimore and Philadelphia, November 13 and 14. Provisional officers have been elected: President, G. E. Brewer, of New York; secretary, J. G. Mumford, of Boston, and others. This society is organized upon a new and most commendable plan. The letter of announcement states this as follows: The stimulation of members to work along lines of original thought and research; the development and improvement of methods of surgical teaching; the promotion of good fellowship among the members, and the informal interchange of ideas pertaining to the above subjects; these objects shall be sought by affording members opportunities of demonstrating actively and personally advances in surgery and of showing the results of recent work, clinical, pathologic, or of any other nature susceptible of demonstration; so far as possible the results of each member's original work shall be offered first to this society for criticism and approval; the meetings shall be broadly clinical, and few if any, formal communications shall be allowed. In a general way it may be said that it is the aim of the movers to keep the organization so small that the demonstration of clinical methods may be made to the members gathered about the operating table. From two to four days will be set apart for each meeting, and at least two neighboring towns will be chosen for each (migratory) meeting. Two meetings a year will be held. The meetings will be in charge of the local members; visiting members may be invited to make contributions; guests may also be invited by the local members. No social entertainment will be provided. The program of the approaching meeting is given in our news columns. Not words, not politics, not social aims, but work and actual demonstration seem to be the objects of this admirably conceived organization.

State Control and Local Negligence.—Before these words are published Allegheny City, Pa., must have decided whether, on account of the epidemic of smallpox, it will submit to be quarantined by the State Board of Health or take adequate measures to prevent the spread of the disease. It is said that there has been concealment as to the number of cases, and unquestionably there has been negligence. There is thus once more illustrated the ever-repeated conflict as to local or State responsibility and control of infectious disease. If the city, town, or district, is careless, shall the State call it to account, and by quarantine or other methods preserve the citizens of the entire State and country from the ravages of the disease? There can be but one answer: The rights and health of the whole people are greater than the commercial advantage, and the freedom (to do wrong) of a part. Whenever, as in this case, smallpox is allowed to exist because of criminal negligence and to threaten the entire population, then the State, through its State Board, has a right and a duty to demand and enforce reform. In the case of a disease so easily and absolutely prevented as is smallpox there is no excuse for negligence. If the State itself should neglect its duty the remedy might still not lie in the interference of the general government, because if neighboring States were properly active the effective remedy would be in their hands. The backbone of almost every State Board of Health needs stiffening, and it is good to know that that of Pennsylvania is now erect.

The work of the sociologic department of the Colorado Fuel and Iron Company should arouse the attention of other commercial and manufacturing organizations. It demonstrates the fact, too likely to be forgotten that "a hand" is not only a hand, not only a body, and indeed not only one mind and soul, but represents others. It also demonstrates the great truth that it pays financially to look after these bodies and souls, as human beings, and not only as machines by means of which to get work done. The company deals with about 17,000 men and their families, in all about 80,000 persons, representing 32 nationalities, speaking at least 27 different languages. It is the godfather of industrial and other clubs for boys and girls, a system of "teachers' houses" (for teaching cooking, housekeeping, domestic sanitation, etc.) of kindergartens, schools, industrial homes, entertainments, libraries, lectures on hygiene and sanitation, circulating art collections, club houses, medical departments, hospitals, etc. During the year ending June 30, 1903, there were treated by the general medical department 82,821 patients. As to sanitary work, the report of the superintendent, Dr. Corwin, tells us that by the cooperation of the medical and sociologic departments sanitary improvement has been made throughout the system. This has consisted

in the sanitary laying out of new camps, the construction of model dwellings, the renovation and improvement of old houses, general sanitary improvement, such as cleaning wells and cisterns, and providing for systematic disposal of refuse. The new camps established by the company differ from those in the old style of mining communities. They are laid out with reference to proper sanitation; the dwellings are comfortable and convenient, and in many cases are furnished with water connections and electric lights. They are usually 4 to 6 room cottages. Dr. Baird, of Pictou, Colorado, is said to be very successful in interesting large numbers of the people in his lectures on physiologic and hygienic subjects, the hall being crowded on the evenings of his lectures.

Longevity and Abstinence.—The advantages of total abstinence as demonstrated by statistics have not received much attention in this country. Until very recently the great life insurance companies have not divided the persons they insure into moderate drinkers and abstainers and, as a result, reliable figures are not obtainable. The Equitable Assurance Society has now begun to make the distinction referred to and in about 15 years it will be in possession of some valuable information. If other companies can be induced to follow the example of the Equitable, that is, to put abstainers in a class by themselves, the coming generation will be in a position to know beyond reasonable doubt what influence "moderate" drinking has upon longevity. The British companies which have kept statistics upon this subject[1] are small as compared with any of the American "giants," the total number of policies issued in any one year by the biggest of them, The United Kingdom Temperance and General Provident Institution, being below 3,000, insuring less than $5,000,000. The medical profession would do well to urge upon life insurance officers the wisdom of separating abstainers from those who take alcoholic beverages. The premiums would, of course, be the same for both classes, and the additional clerical labor involved would be small. If teetotalers as a body live longer than nonabstainers, they are entitled to the benefit of this condition so far as dividends are concerned. Some foreign statistics upon this subject are at hand. In Bradford (England), a manufacturing place with a population of about 280,000, there are branches of the Rechabites (abstainers) and the Oddfellows. The latter consists chiefly of "moderate" drinkers. A few abstainers may belong to it, and a small number of excessive drinkers may have succeeded in being accepted. Taking the 10 years from 1893 to 1902, the average number of days of sickness per member was between ten days two hours (minimum in 1897), and 12 days six hours (maximum in 1901). The deathrate was one in 53 in 1893; one in 84 in 1902. (Total membership 1902, 5,162.) A Rechabite who has ceased to abstain from alcohol and yet is sufficiently dishonest to remain a member of the order must be a great rarity. The chances are that no such individual exists. The average duration of sickness per sick member in the Rechabites, taking the years 1893–1902, was six days two hours (minimum in 1893; seven days 14 hours (maximum in 1899). Deathrate 1893, one in 90; 1902, one in 161. (Total membership 1902, 3,895.) Unfortunately, the report of the latter organization does not give the age at death of its members, so that comparison cannot be made. The figures speak for themselves.

[1] *American Medicine*, August 8, 1903.

Longevity.—It is admitted that many lives are now prolonged which under the conditions of a century ago—or even half that period—would have inevitably been lost. The introduction of vaccination and other forms of preventive and curative inoculation—including the various antitoxins; the discovery of the means and methods of anesthesia and antisepsis; and the recognition of the importance of cleanliness, personal and circumferential, have in numberless instances, accomplished what would formerly have been regarded as scientific miracles in the preservation and prolongation of human life. But in considering the broad question of the actual increase of the length of life, there are several aspects from which it must be examined. Do we mean by increased longevity that a larger proportion of individuals attain centenarian rank, or that the average age at the time of death has become greater? Are we to understand that each individual lives longer than he would have lived under the conditions of one or more centuries ago? The deathrate has of recent years been decreasing in all the civilized countries. In this connection we must recollect that the mortality in every community varies with age. In infancy it is very high, in childhood very low, from 10 to 15 years of age it is lower than at any other period of life; it then continues low, but with gradual increase, until middle age is passed, after which it rises rapidly in every succeeding decade. We find that, according to the common consensus of statisticians, the only trustworthy means of conducting this inquiry is by examination of the life tables, by which we come to ascertain the expectation of life at each year of age. Such tables form the basis of all the calculations of insurance companies, and are constructed from the mean population for a series of years at the various ages, and the mean annual number of deaths at the corresponding ages. Now it is known that the contagious, infectious, and gastrointestinal diseases, which furnish so large a proportion of fatal cases in infancy and childhood, do not cause even 5% of the deaths which occur after the age of 45. On the other hand, the deaths of persons over 45 from alcoholism, cancer, tuberculosis, diabetes, old age, apoplexy, diseases of the heart and bloodvessels, of the respiratory and digestive organs, of the kidneys and bladder, and from violence, constitute about 90% of all such deaths. In fact, the deaths from some of these causes, in spite of all our sanitation, have increased at such a rate as to cause serious misgiving for the future. In the city of New York the deathrate from cancer and from diseases of the kidneys (Bright's disease in its various forms) has doubled in 30 years; so that in some respects the saving of life among the young, by the partial suppression of contagious and septic diseases, tends to be counterbalanced by an increased mortality after middle life from diseases depending more on personal habits than on external causes. We find that during the past half century the expectation of life for males at birth has increased by nearly four years. But the lowering of the deathrate and

the increase of the expectation of life do not necessarily imply increased longevity of the race as a whole. The saving of so many fragile young lives has the necessary effect of throwing forward into the later periods of life, a large number of weakly persons, and the average stamina of the population is consequently reduced; so that when the decline of life begins and the physical powers decay, this undue proportion of weakly lives tends to increase the mortality at advanced ages.

Empiric Discovery.—It still remains a fact—a humiliating but a true one—that many of the most important discoveries in the application of the ways and means of healing originated in false hypothesis and blundering ignorance. The two nearest approximations to absolutely "specific" medicines which have been transmitted to the practitioner of the twentieth century are sulfur and mercury. The genesis of their application in therapeutics is one of the curiosities of the history of human opinion. There still exist certain alchymico-mystico-medical works of one Basilius Valentinus. The English version (date 1671) of one volume bears the title:

"The Last Will and Testament of Basil Valentine, Monke of the Order of St. Bennet, which being alone, He hid under a Table of Marble, behind the High Altar of the Cathedral Church, in the Imperial City of Erford: leaving it there to be found by him, whom God's Providence should make worthy of it. To which is added TWO TREATISES. The First declaring his Manual Operations. The Second showing things Natural and Supernatural. Never before published in *English*."

The reader of this quaint title will easily guess that the personality (and even the existence) of that holy alchymist is somewhat ghostly—and like other ghosts, may well be "questioned." However, he, or the works which bear his name founded a school. Those documents, whoever their real author may have been, display the spirit of the great Renaissance—revolt against established spiritual and intellectual "authority." Hippocrates, Galen, and the "humoral" pathology had retained their supremacy during the "dark" ages. The scientific world was now let into the secret that all living bodies were formed—in the last resort—of combinations of 3 elements—salt, sulfur, and mercury. To the first was assigned the material consistence of the body; to the second, its growth and animal heat; to the third, the conservation of its fluids. To the office of the propagation of this new gospel of scientific salvation there arose in due time the redoubtable Aureolus Philippus Theophrastus Bombastus Paracelsus Magnus von Hohenheim! All morbid processes were now attributed to certain alchymicovital operations, which were called into play by special mysterious and malignant entities. Each of those pernicious agents possessed the faculty of producing either the effervescence of the salt, the combustion of the sulfur, or the coagulation of the mercury. The material so deranged or wasted must be supplied from without. The hypothesis led, of course, to legionary experimentation. Hence the discovery of the use of sulfur in scabies, and of mercury in syphilis. Hence the inspiration of the venerable classification of cutaneous diseases:

1. Those that mercury can cure.
2. Those that sulfur can cure.
3. Those that the devil himself cannot cure!—a classification which, we are sometimes tempted to think, might still be remembered with advantage.

Consumption cures are springing up every day and almost every little town has one, vieing with all the others to fall to a still lower depth of degradation. The wellknown "Koch cure" companies, despite attempts to check them, are still impudently carrying on their work in a number of cities. A subscriber has sent us circulars and letters of a cure located at Kalamazoo, and exploiting a product called *Tuberculozyne*. In attempting to arouse and picture the horror of death this literature paddles so joyously in the slush of its own tears that one may hope the company may defeat its own object. There is page upon page of this sort of stuff:

You undoubtedly realize the terribly fatal nature of the disease that has stricken your family, and that to dally with ordinary drugs, remedies, or family doctors is simply folly and a frightful waste of valuable time. The consumption germs are so terrible in their work, eating and burrowing into the lungs and membranous linings of the nose, throat, and air-passages. More terrible than all the poisons, it claims for its victims the child or wife of the rich or poor, and there is but one remedy in all the world for it—Tuberculozyne. We will ship you a full treatment for $10, which will last one month. It kills the germ. It is a positive cure. Consumption is worse, a thousand times worse than poison or lye—will you hesitate? Will you stop to ask if it is a sure cure? Will you wait to figure the cost? It will save the life so precious to you and your home. Will you wait and see? Is it possible that you will stand by and see one of your family slowly, but surely, fade away and die, while you say to yourself there have been many failures to find a cure for consumption—it may be another failure and I may lose my money. You have called the doctor—you have tried all his antidotes for the terrible germ—still the dear one is sinking, sinking; you can see each day, a little whiter, a little thinner, the eyes a little brighter, the breath a little hotter, the thin hands and arms a little thinner. What care you for the cost of the treatment with the life at stake? Will you wait? Will you allow any antipathy you may have to an advertised medicine—will you allow any doctor or other person to influence you against the use of a remedy that will surely save the life they have been forced to abandon? Life is so surely slipping away—think of it, you know in a few months, maybe in a few days, that dear form will lie still, the light gone from her eyes, the cheeks cold and marble white; the voice that talks to you now of other days and days that are to come, will be forever stilled unless something can be done to stop the ravages of the terrible disease. You have seen it from the first—this awful parting by death. At your heart there has been tugging a dull pain that made your throat burn and your eyes fill with tears as you note the silent change from day to day, and you see ahead the dark, lonesome time when there is only a little wind-swept mound, etc.

And this is allowed to go on by the consent of legislators, and because of our professional disorganization!

"Penological Surgery" is the term devised by an eminent social pathologist to express the fact of the killing of criminals by electricity. He says:

No one believes more thoroughly than myself in penological surgery. It seems to me, however, a fatal mistake for the State to wait until a young man has committed a capital crime, and then to apply this surgery in the electric chair, when the victim can have no benefit from the operation except that which may come from translation into another state of existence.

Members of the medical profession, and especially surgeons, may well stand aghast at the presumption and

misunderstanding shown in this misuse of words. However much one may have heard of the "operative furore," it is surely going farther than the most extreme would confess to, when surgery is made punitive, and a planned and purposive method of killing the patient. The object of a surgical operation is never punishment nor death, and more certainly never both at once.

Pulse and Rhythm.—A new and interesting dependence of the rhythms of human and animal life upon the physiologic pulse has been suggested by Miss Mary Hallock, a Philadelphia pianist, in the *Popular Science Monthly* for September. It is especially in music that an illustration of the theory is found. Beethoven's sonatas, for instance, in metronomic marking, correspond closely to the rhythm of the heart, and all music, together of course with the time of the march-step, is found to coincide with the pulse, which as we know varies from 60 to 80 per minute. Bandmasters testified that their "beat" in conducting was from 64 to 72 per minute. Music is an almost perfect illustration of the direct creative effort of the human brain, and Miss Hallock has opened up a valuable field of study. Poetry may prove another illustration of her thesis, and there remains for investigation the further study of the general zoologic pulse and its relation to the rhythmic acts of animal life.

Abortifacients and the U. S. Mails.—The United States postal authorities should be notified that the mails are being illegally used by many nostrum sellers. A particularly slimy illustration is sent us by a subscriber. From one of the circulars signed by "Dr. J. E. Wenman," and sent from Urichsville, Ohio, we cut the following passage:

Our Picricine will produce abortion in 3 cases out of 4. Hence must not be used when the lady is pregnant. This is a private hint, and is not stated in printed directions with the liquid for reasons known to the medical profession. If it should be used unlawfully the printed directions with our name attached will screen you from all blame. You are not supposed to know only what is on printed directions. Sometimes you come across a case where it is necessary to save the mother's life, to bring on labor in the early stages of pregnancy. In such cases a larger piece of cotton and more of the Picricine must be used. This saves the stomach from being injured with strong medicines and from the use of instruments. Hence its value is seen at a glance. This Ladie's Outfit costs you only 25 cents.

EDITORIAL ECHOES

A Patent Medicine Christening.—Take in illustration the account in a Hudson river paper of the launching of a new yacht and its christening with a bottle of "patent medicine." Two directors of the medicine-making corporation had the boat built, and the newspaper man was invited to witness the launching from the owners' tug. With a realization of the value of his news, the reporter began: "Perhaps this is the first time in the country's history that a boat has been christened with a 'patent medicine.' Messrs. Blank Brothers, the owners, as a delicate (!) compliment to Mr. Dash, who is president of the Dr. Doe Corporation, who manufactures the world famous kidney and liver medicine, Dr. Doe's Favorite Elixir, suggested that the time-honored custom of christening a boat with wine be departed from in this instance, and that a bottle of Favorite Elixir be substituted." It is further recorded that the "beautiful, charming, and graceful young daughter of the gentleman in whose honor the new yacht was named," taking in her hand a bottle in a pretty package, broke it over the noble vessel's bow, "staining the white paint of the boat's bow with the familiar dark color of Dr. Doe's Favorite Elixir." As the yacht slid into the water the wellknown figure of Bartholomew Doe "was seen perched on a high spile, displaying one of the new Favorite Elixir signs." There is no reason to doubt the statement that "taken all in all, the launching of the Augustus C. Dash will be long and pleasantly remembered."—[*The Evening Post.*]

BOOK REVIEWS

The New International Encyclopedia, Vol. X.—Dodd, Mead & Co., N. Y.

This number, running from Infantry to Laramendi contains an unusually long list of medical and related subjects to which a very fair share of space has been allotted. Among these are:

Infants, Feeding of	Iritis
Infection	Irritant
Inflammation	Itch
Influenza	Itch Mite
Inhalation	Jaborandi
Inoculation	Jalap
Insane Asylum	Jaundice
Insanity	Juniper
Insects, Poisonous	Kak'ké
Insects, Propagation of Disease by	Kermes Mineral
Insecticide	Kino
Intoxication	Kleptomania
Intussusception	Knock-knee
Iodin	Knots
Iodoform	Koosso
Ionization	Koumiss
Ipecacuanha	Lactometer
	Lachecarium

The articles as a whole are up to date, are well arranged, clear and concise. Among important subjects omitted or to which there are no cross references are:

Infantile Diseases	Iron (medical uses of)
Infusion of Saline Solutions	Jaws (diseases of)
Insurance (medical aspects of)	Jury-mast
Intestinal Diseases	Knee-joint Injuries
Intestinal Surgery	Labor (parturition)
Intubation	Lacrimal Disease
Iridectomy	Lactation

Over 40 medical men receive biographic mention, which seems a fair proportion, but it is regretable that there should have been omitted such names as those of Edward Jackson, Landolt, Koelliker, Krause, Landry, and Langerhans. Laparotomy, a term which suggests the greatest achievements in modern surgery, receives only a few lines with no cross reference to abdominal section or other synonym. The statement that a slight degree of alcoholic intoxication causes increased activity of nervous and mental processes does not correspond with the results of recent psychophysiologic investigations, but the article on this subject is otherwise unimpeachable. The statement that "Probably the virus of yellow fever may be conveyed through the atmosphere" with no reference to the role of the mosquito in this and in malaria makes us wonder from what back number the editor's assistant clipped the short paragraph on Infection, but the day is happily saved by the interesting article on Insects, Propagation of Disease by, a little further on.

Correction.—The name of Dr. James William White, of Philadelphia, coeditor with Dr. W. W. Keen, of "An American Textbook of Surgery," was inadvertently omitted by the reviewer from the heading of the review of this work, which appeared on page 574 of our issue for October 14. On page 575, under "Books Received," will be found a correct transcript of the title page of this work.

Diseases of the Skin: Their Description, Pathology, Diagnosis, and Treatment. With Special Reference to the Skin Eruptions of Children, and an Analysis of 15,000 Cases of Skin Disease.—By H. RADCLIFFE-CROCKER, M.D. (Lond.), F.R.C.P. Philadelphia: P. Blakiston's Son & Co., 1903.

Immediately upon its appearance, Crocker's treatise upon diseases of the skin was accorded a place in the very front rank of dermatologic literature, and each succeeding edition has but served to establish it more firmly in this enviable position. The present edition is a somewhat formidable looking volume of almost 1,500 pages, about one-half larger than the preceding one. Many new sections upon diseases not considered in previous editions have been added, and abundant evidence of a careful and thorough revision of the old matter is noticeable throughout the book. The plan of printing in small type matter of minor importance is followed in this, as in former editions, a plan which increases its usefulness as a textbook. Among the most important new subjects considered are Lichen Annulatus, X-ray Dermatitis, Toxin Serum Eruptions, Porokeratosis, Sarcoid, Leukemia and Pseudoleukemia Cutis, Hydrocystoma, Acne Necrotisans, Folliclis, Folliculitis Decalvans and Blastomycosis hominis. In recent years there has been a growing and confusing disagreement among writers as to what forms of inflammation of the skin ought to be included under the term eczema. Crocker excludes all forms of seborrheic dermatitis, and all those due to strong irritants; but he also finds it necessary to point out that there are forms of dermatitis arising from certain irritants which are quite indistinguishable from eczema, which illustrates some of the difficulties in defining this protean malady. Counterirritation over the nape of the neck or in the lumbar region by means of dry heat or mustard plasters, a method of treatment original with the author, we believe, is stated to be extremely serviceable in relieving itching in those cases of eczema characterized by frequent exacerbations. Unna's view that psoriasis is but one end of the chain of the seborrheic process is not regarded with any degree of favor, but the parasitic origin of the disease is considered probable, the parasite first attacking the skin and later entering the circulation, the entrance into the blood-current accounting for the frequently rapid spread and wide distribution of the eruption. The much debated question concerning the identity or nonidentity of the *Lichen ruber* of Hebra and the *Pityriasis rubra pilaris* of Devergie is decided by the author in favor of the identity of the 2 affections which he names *Lichen accuminatus*. We quite agree in this view of the question, but it seems to us that the name given the disease by Hebra might have been allowed to stand; the tendency among dermatologic writers to multiply names seems to be irresistible, more's the pity. The colored plates which are intended to represent the principal syphilids suffer greatly by comparison with some of the illustrations in other recent works on dermatology; without their titles it would be very difficult to recognize them. On the other hand, the black and white plates representing the several varieties of the trichophyton are excellent. This edition will easily maintain the position of the treatise which it has so long held among the very best upon diseases of the skin.

Ueber das maligne Chorionepitheliom und die analogen Wucherungen in Hodenteratom.—By W. RISEL. Arbeiten aus dem pathologischen Institute zu Leipzig. Herausgegeben von F. Marchand, Hirzel, Leipzig, 1903.

In this monograph of 170 pages Risel presents a very complete study of "deciduoma," or as he prefers to call it, "chorionepitheliom," and of the analagous development sometimes seen in teratomas of the testicle. The literature, comprising 131 references, is most thoroughly analyzed, and the writer's conclusions are based in part upon the results of this analysis and in part upon his own studies. Six new cases of deciduoma are described and the result of the study of the metastases of a previously reported case (Menge's) are also given. Of the six examples two developed after abortion, one without metastases, the other with extensive secondary involvement of practically all organs except the spleen. The remaining four cases were associated with uterine mole. In one there was no dissemination, while two were accompanied by metastases. The fourth belonged to the interesting group in which multiple metastases are found in the absence of a primary tumor of the uterus, the mucosa of the latter, however, being transformed into decidual tissue. In describing the histologic character of this tumor Risel uses the terms "typical" and "atypical" first introduced by Marchand. The former indicates a tumor in which is preserved the character of chorionic epithelium, as seen in the early periods of pregnancy (symmetric masses in irregular multinucleated branching processes with more or less prominently developed polyhedral decidual cells). The latter term indicates that this regular arrangement is more or less lost, the cells isolated, altered in form, and differing in their staining characteristics. The distinction, however, is not always easy, owing to the occurrence of transitory stages. Of especial interest are the observations upon the development of metastases in the skin; the ready penetration of the uterine vessels by tumor processes, thus explaining the secondary growths, and the relation which the new growth has to fibrin formation and the destruction of the invaded tissues. Two cases are described in which after abortion and curetage an extensive development of chorionic epithelium-like tissue occurred without, however, displaying malignant tendencies. From an analysis of the literature and the study of two specimens Risel comes to the conclusion that, although cell formations resembling chorionic epithelium may occur in teratoma of the testicle, there is no proof that they arise from included fetal membranes. Their origin is apparently from the fetal ectoderm and they are of the same importance as other ectodermal structures of teratomas. The work is illustrated by two figures in the text and by three plates.

A Nurse's Handbook of Obstetrics for use in Training Schools.—By JOSEPH BROWN COOKE. Philadelphia and London: J. B. Lippincott Company.

This book is undoubtedly one of the very best on the subject of obstetric nursing, and is to be highly recommended. Between the short, incomplete and purposely "popular" books on "maternity nursing," etc., and the strictly medical works on obstetrics, there is nothing to which the nurse can appeal for information. This volume very ably fills the gap. Statistics, discussions and unsubstantiated theories have been entirely omitted. The medical student and practitioner will find in this work many valuable practical suggestions. The profusion of illustrations of which 76 are original, materially enhances the value of the book.

A Manual of Obstetrics.—By A. F. A. KING. Philadelphia and New York: Lea Brothers & Co.

That the ninth edition of this volume has appeared is sufficient comment upon its practical value. It now comprises a work of 622 pages, and in its last revision such additions and changes have been made as the progressive development of obstetric science seem to require. The chapter on Puerperal Septicemia has been remodelled and, for the most part, rewritten. Some errors have been corrected and obsolete methods of practice omitted. The technic of arrangement of the various chapters has been so skilfully accomplished, as to afford a ready reference upon any obstetric subject, and for the student especially an excellent work is presented.

Radium and other Radioactive Substances.—By WILLIAM J. HAMMER, Consulting Electric Engineer. New York, D. Van Nostrand Company. Price, $1.00.

This monograph of 72 pages is made up of a lecture delivered at the recent joint meeting of the American Institute of Electrical Engineers and the American Electrochemical Society in New York. The topics considered are fluorescence, phosphorescence, radium, polonium, actinium, thorium, the properties and applications of selenium, and the treatment of disease by ultraviolet rays. The book contains 40 illustrations, including portraits of Becquerel and Finsen. From a strictly medical standpoint this book is of but little value, but it gives many facts regarding radioactivity and radioactive substances that should be known by every physician at this time when their therapeutic possibilities are the subjects of widespread discussion.

BOOKS RECEIVED.

[Prompt acknowledgment of books received will be made in this column, and from time to time critical reviews will be made of those of interest to our readers.]

Radium.—By WILLIAM J. HAMMER, Consulting Electrical Engineer. D. Van Nostrand Company, New York, 1903. Price, $1.00.

A Dictionary of Medical Science containing a full explanation of the various subjects and terms of Anatomy, Physiology, Medical Chemistry, Pharmacy, Pharmacology, Therapeutics, etc.—By ROBLEY DUNGLISON, M.D., LL.D., Late Professor of Institutes of Medicine and Medical Jurisprudence in the Jefferson Medical College of Philadelphia. Twenty-third edition, thoroughly revised by THOMAS L. SLEDMAN, A.M., M.D., Fellow of the New York Academy of Medicine. Lea Brothers & Co., Philadelphia and New York.

Principles and Practice of Surgery: Designed for Students and Practitioners.—By GEORGE TULLY VAUGHAN, M.D., (University of Virginia), Assistant Surgeon-General Public Health and Marine-Hospital Service of the United States; Professor of the Principles and Practice of Surgery, Georgetown University, Washington, D. C. Philadelphia and London: J. B. Lippincott Company, pages, 569.

Transactions of the Twenty-fifth Annual Meeting of the American Laryngological Association, at Washington, D. C., May 12, 13, 14, 1903. New York.—Published by the Association Secretary DR. JAMES E. NEWCOMB, 118 W. 69th street, New York City. Pages, 292.

Transactions of the Medical Society of the State of New York for the year 1903. Published by the Society. Pages, 514.

Modern Microscopy: A Handbook for Beginners and Students combining: **I. The Microscope and Instructions for Its Use.**—By M. I. CROSS, and **II. Microscopic Objects: How Prepared and Mounted,** by MARTIN J. COLE, Lecturer in Histology at Cooke's School of Anatomy. Third edition, to which is added **III. Microtomes: Their Choice and Use.** Chicago: W. T. Keener & Co. Price $1.50; pages, 292.

A Surgical Handbook: For the Use of Students, Practitioners, House-Surgeons and Dressers.—By FRANCIS M. CAIRD, M.B., F.R.C.S. (Ed.), Assistant Surgeon Royal Infirmary, Edinburgh and CHARLES W. CATHCART, M.B., F.R.C.S. (Eng. and Ed.), Surgeon Royal Infirmary, Edinburgh. Illustrated. Twelfth edition. London: Charles Griffin & Co. (Limited), Chicago: W. T. Keener & Co. Price, $2.75. Pages, 328.

Diseases of the Skin: An Outline of the Principles and Practice of Dermatology.—By MALCOLM MORRIS, Consulting Surgeon to the Skin Department, St. Mary's Hospital, London; Corresponding member of the K. K. Gesellschaft der Aerzte in Wien; Honorary Member of the Wiener Dermatologische Gesellschaft and of the Société Française de Dermatologie. Illustrated. New edition. Chicago: W. T. Keener & Co. Price, $2.50. Pages, 642.

A Manual of Operative Surgery.—By SIR FREDERICK TREVES, Bart., K.C.V.O., C.B., LL.D., F.R.C.S., Sergeant Surgeon-in-Ordinary to H. M. the King, Surgeon-in-Ordinary to H. R. H. the Prince of Wales; Consulting Surgeon to the London Hospital. New edition revised by the author and JONATHAN HUTCHINSON, JR., F.R.C.S., Surgeon to the London Hospital, Examiner in Surgery, Royal Army, Medical Department. Illustrated In two volumes: Volume I. Lea Brothers & Co., Philadelphia and New York. Pages, 750.

Consumption a Curable and Preventable Disease: What a Layman Should Know About It.—By LAWRENCE F. FLICK, M.D., Founder of the Pennsylvania Society for the Prevention of Tuberculosis; President of the Free Hospital for Poor Consumptives of Pennsylvania; Medical Director of the Henry Phipps Institute for the Study, Treatment, and Prevention of Tuberculosis, Philadelphia. David McKay, Publisher. 295 pages. Price, $1.00.

A Handbook of Obstetric Nursing for Nurses, Students, and Mothers: Comprising the Course of Instruction in Obstetric Nursing given to the Pupils of the Training School for Nurses connected with the Woman's Hospital of Philadelphia.—By ANNA M. FULLERTON, M.D., formerly Obstetrician, Gynecologist and Surgeon to the Woman's Hospital of Philadelphia, Physician-in-charge and Superintendent of its Nurse School; and Clinical Professor of Gynecology in the Woman's Medical College, etc. Sixth revised edition, illustrated. P. Blakiston's Son & Co., Philadelphia. 270 pages. Price, $1.00 net.

A Narrative of Medicine in America.—By JAMES GREGORY MUMFORD, M.D., Assistant Visiting Surgeon to the Massachusetts General Hospital, and Instructor in Surgery in the Harvard Medical School. J. B. Lippincott Company, Philadelphia and London. 508 pages. Price, $3.00.

Diseases of Nose and Throat.—By CHARLES HUNTOON KNIGHT, A.M., M.D., Professor of Laryngology, Cornell University Medical College; Surgeon Manhattan Eye and Ear Hospital, Throat Department, etc. Illustrated. P. Blakiston's Son & Co., Philadelphia. 423 pages. Price, $3.00.

Year Book of the United States Department of Agriculture for 1902.—Government Printing Office. 912 pages.

A Compend of Diseases of the Skin.—By JAY F. SCHAMBERG, A.B., M.D., Professor of Diseases of the Skin, Philadelphia Polyclinic and College for Graduates in Medicine, etc. Third edition, illustrated. P. Blakiston's Son & Co., Philadelphia. 291 pages. Price, $0.80 net.

Nurses' Guide to Surgical Bandaging and Dressings.—By W. JOHNSON SMITH, F.R.C.S. J. B. Lippincott Company, Philadelphia. 167 pages. Price, $0.75 net.

Progressive Medicine: A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences.—Edited by HOBART AMORY HARE, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College, etc. **Vol. III, Diseases of Thorax and Its Viscera:** Dermatology and Syphilis; Diseases of the Nervous System; Obstetrics.—Lea Brothers & Co., Philadelphia. 398 pages.

Serum Therapy, Bacterial Therapeutics, and Vaccines.—By R. T. HEWLETT, M.D., M.R.C.P., D.P.H. (LOND.), Professor of General Pathology and Bacteriology, Kings College, London; Physician to the Seaman's Hospital, Greenwich, etc. P. Blakiston's Son & Co., Philadelphia. 262 pages. Price, $1.75 net.

Transactions of the West Virginia State Medical Association for 1903.—144 pages.

Plain Hints for Busy Mothers.—By MARIANNA WHEELER, Superintendent of the Babies' Hospital, New York, since 1891, and author of "The Baby." E. B. Treat & Co., New York. 54 pages. Price, $0.35.

AMERICAN NEWS AND NOTES.

GENERAL.

Driving out Yellow Fever.—Dr. George Beyer, a member of the yellow fever commission sent to Mexico to study the source and progress of the disease, speaks highly of the measures taken by President Diaz and the federal government of Mexico, in the fight against yellow fever in the affected district. He believes that Mexico, like Cuba, will be entirely free from yellow fever by 1904, and this will mean the practical extermination of the malady in the Gulf of Mexico.

Folio Hæmotologics.—Dr. Charles E. Simon, of Baltimore, American editor of the *Folio Hæmotologics*, sends the following notice: Writers on hæmotologic topics are requested to send 2 reprints of their papers, or 2 numbers of the respective journals, to the undersigned for purpose of review in the *Folio Hæmotologics*. In the place of reprints authors' abstracts will also be received. These can be published immediately after, or coincidently with the appearance of the originals.

Program of the American Society of Clinical Surgery.—Baltimore, November 13: Local committee, Dr. Harvey Cushing, Dr. J. L. Bloodgood, Dr. J. M. T. Finney; 8.45 a.m., members will assemble at the Johns Hopkins Hospital for organization. Owing to alterations now in progress in the hospital it has been found impossible to arrange a definite program, but the local committee will provide a clinical entertainment. The Society will leave Baltimore for Philadelphia at 9 o'clock, Friday evening, November 13. Philadelphia, November 14: Local committee, Dr. C. H. Frazier, Dr. G. G. Davis, Dr. J. H. Gibbon, Dr. J. Chalmers Da Costa, Dr. R. H. Harte, Dr. R. G. Le Conte, Dr. Edward Martin. Morning session: Place of meeting, University of Pennsylvania; 10 a.m., Medical Hall. Dr. G. G. Davis, "The Teaching of Applied Anatomy." 11 a.m., Surgical Amphitheater, University Hospital. Dr. Edward Martin, (1) "Demonstration of the Effect of Head Positions upon the Epiglottis in Regard to Anesthetization;" (2) "Demonstration of a Mechanical Intestinal Suture;" (3) "Demonstration of Percussion and Auscultation in the Diagnosis of Fractures." 12 noon, Surgical Amphitheater, University Hospital. Dr. Charles H. Frazier, (1) "The Practice and Results of Division of the Sensory Root of the Gasserian Ganglion;" (2) "Some Observations upon the Technic of Intracranial Operations." 1.15 p.m., luncheon, Rittenhouse Club. Afternoon session: Place of meeting, Pennsylvania Hospital. 2.30 p.m., Dr. J. Chalmers Da Costa, "Traumatic Hemorrhage from the Lung." 3.15 p.m., Dr. Robert G. Le Conte, subject not selected. 4 p.m., Dr. John H. Gibbon, "The Diagnosis and Treatment of Perforating Gastric Ulcer."

Philippine Opium Traffic.—There is great difference of opinion in the United States concerning the importance of the lately postponed proposition to give out, under contract, for financial consideration, the right to sell opium in the Philippine Islands. As was explained by Governor Taft, in his speech of July 15, the bill was drawn by a commission appointed to inquire into the matter. This inquiry showed that under Spanish rule the Filipinos were forbidden the use of the drug, only Chinamen were allowed to use it, and the privilege of vending the drug was sold to the highest bidder in each province. On the arrival of Americans this law was laid aside and only an import duty restricted the free sale of the drug. In 1899 the opium imports amounted to 120,000 pounds, valued at $328,000. In 1901 the amount imported increased three-fold, while in 1902 there was a great diminution in the amount brought in. It was asserted that the Filipinos began to use the drug freely, hence the commission thought it best to revert to the original plan of restriction adopted by the Spanish Government. In opposition to the bill there was a petition presented, signed by 7,000 Chinese, while the various church organizations added their protest on moral grounds, and several Manila newspapers opposed it, out of a desire, it is asserted, merely to oppose Governor Taft. These forces were sufficiently strong to lay the bill on the table and cause abandonment of the proposed measure. In the meantime a commission, consisting of the chief health officer in the Philippines, Bishop Brent of the Episcopal Church, one of the opponents of the bill, and Dr. Albert, a Filipino physician, has been appointed to tour the Orient and study the opium problem from Calcutta to Canton. It is believed that antagonism to the measure will constantly increase as investigation proceeds, and totally different measures will eventually be adopted to deal with this menacing problem.

EASTERN STATES.

Boston Mortality.—The number of deaths reported to the Board of Health for the week ended October 17 is 180, as against 211 the corresponding week last year, showing a decrease of 31 deaths, and making the deathrate for the week 15.56.

Smallpox in Bangor, Maine.—Under date of October 19, the Board of Health of Bangor reports about 50 cases of smallpox in the city, of which only one is of a severe type. About 2,500 persons have been vaccinated thus far, and the rush continues unabated. As yet no order has been issued to close schools and other public places.

NEW YORK.

The State Medical Association at its recent meeting at the Academy of Medicine indorsed the dispensary law, notwithstanding the fact that in 1902 there had been 100,000 fewer patients treated at those places than in the previous year. Prior to the passage of this law, it was explained, well-to-do people were in the habit of applying for free treatment at the dispensaries.

Hope to Abolish Coroner's Office.—The New York State Medical Association held the first session of its twentieth annual meeting, October 20, in the New York Academy of Medicine, and pledged itself to make another attempt at the coming session of the Legislature to get through a bill abolishing the office of coroner here. A similar bill, introduced by Senator Elsberg, failed to pass the Assembly last year, but the Association's Legislative Committee is confident of getting one passed this year.

Is Typhoid Fever Carried from the South?—It is the belief of the Board's experts that the periodic recurrence of typhoid epidemics twice in each year is traceable, that of the spring to the winter vacations in the South; that of the fall, to summer vacations to farms having contaminated water supply. That summer vacations and winter trips to the South are fruitful sources of typhoid epidemics is the belief expressed by the secretary of the State Board of Health, in connection with an outbreak of typhoid in the town of Athens, Greene county.

Death in New York Streets.—A census of the casualties of New York City discloses the fact that 538 persons were killed in her streets last year. Most of them were run over. Had this number of people been killed in a war or riot it would have been sounded to the ends of the earth as infamous. It follows, then, that the mere fact of living in New York is more dangerous than travel by steamer or rail. The aged or infirm and the children take their lives in their hands when they venture into the streets unattended. Is it not possible to regulate traffic better?

Decision against Faith Cure.—A man at White Plains, N. Y., refused to call a physician, but trusted to faith cure for the healing of his adopted infant daughter. The child died and prosecution was instituted against the parent on the ground of having violated the State law, by refusing to call a physician in such a case. The lower court found the defendant guilty; appeal was taken to the Apellate Court, which reversed the decision of the lower court. Appeal was again made to a higher court, which confirmed the finding of the lower court and sustained its verdict, which was a fine of $500 and imprisonment for 500 days for the defendant. A New York exchange commenting upon the fact says: Reduced to its simplest terms, the decision of the New York Court of Appeals is an authoritative assertion that a person under legal obligation to provide another person with medical attendance cannot fulfill that obligation except by securing the services of a person licensed by the State to practise medicine. Twisted into another form, the decision is that "faith cure," in any one of its innumerable disguises, is not a legal substitute for the practice of medicine as the State understands that phrase—in other words, that "faith cure," despite all its denials, is in effect a pretense at practising medicine, but is, in reality, mere humbug. And right there one falls upon the unfortunate fact, lamented by Judge Mayer in his recent address before the Society of Medical Jurisprudence, that the State has not yet defined just what is meant by "the practice of medicine." Neglect to do this is the source of all our troubles in the protection of the citizen from his own folly and the folly of others in the matter of employing ignorant or dishonest "healers" to do the work of competent doctors.

PHILADELPHIA, PENNSYLVANIA, ETC.

Medico-Chirurgical College.—Dr. Judson Daland, since 1882 a member of the faculty of the University of Pennsylvania, has been elected professor of clinical medicine at the Medico-Chirurgical Medical College.

Marked Decrease in Smallpox for the Week Ended October 24.—New cases of contagious diseases decreased 63% last week compared with the previous 7 days. The official health report also shows the greatest decrease was in smallpox, in which there was a falling off of 45 cases.

Committee to Examine School Textbooks.—For the examination of school textbooks the following committee has been appointed: Andrew B. Brumbaugh, Huntingdon; John W. Ellenberger, Harrisburg; Edgar M. Green, Easton; Edward Stieren, Pittsburg; and S. Solis Cohen, Philadelphia.

Medical Inspection of Schools.—The Committee on Hygiene of the Board of Education has approved a plan for medical inspection of all schools and pupils. This inspection will not apply to vaccination marks alone, but to any slight physical imperfection which might, if neglected, lead to more serious results. Ears and eyes will be looked at, skin diseases, hip dislocation, diseases of spine and kindred ailments will have immediate attention.

Lecture on Tuberculosis.—On Saturday evening, October 24, Dr. Edward L. Trudeau, founder of the sanitarium for the tuberculous at Saranac Lake, N. Y., and himself once a victim of tuberculosis, delivered the first of a series of lectures given under the auspices of the Henry Phipps Institute of this city.

New Annex for Rush Hospital.—A new addition will be built to Rush Hospital, which is designed for the treatment of cases of tuberculosis. The annex will have rooms for 40 patients, as many as are now accommodated. The State has appropriated $20,000, a fourth of the amount needed, and it will be necessary for the friends of the institution to raise the balance by subscription.

The National Association for the Study of Epilepsy and the Care and Treatment of Epileptics will hold the sessions of its third annual meeting at the College of Physicians, Philadelphia, November 5, 1903. The first session will begin promptly at 2.30 p.m., and the second at 8 o'clock the same evening. A number of interesting and instructive papers will be presented and discussed.

Typhoid Increasing.—For the week ended October 17, there was a marked increase in the number of new cases of typhoid fever, of which 103 with 9 deaths were reported, as compared with 78 and 9 deaths for the previous week. The Twenty-sixth ward has the largest number, 13 in all, the next largest being 8 in the Twenty-fourth ward. An investigation is being made by the health officers into the cause of the prevalence of the disease in the former.

Gets $4,000 for a Broken Jaw.—A woman of Camden has been awarded $4,000 damages by a jury in the United States Circuit Court room as the result of her suit against the Alba Dentists Company to recover for a broken jaw inflicted by a dental student. She went to the Alba Dentists to have a tooth extracted, and a student employed by the company extracted a portion of her jaw, mistaking it for the root of a tooth. The woman caused the arrest of George C. Courtright, president of the company, and Dr. William M. Powell, manager, and they were convicted of conspiracy and false pretenses. Judge Beitler sentenced Courtright to a year, and Powell to 3 months' imprisonment.

SOUTHERN STATES.

To Prevent Tuberculosis.—In Washington, D. C., the executive committee of the Associated Charities Committee on the prevention of tuberculosis convened on October 21. Appropriate remarks were made by the heads of various committees and others. These included Surgeon-General Walter Wyman, General George M. Sternberg, Drs. Hickling, Kingsman, Woodward, and Mr. Smith.

Insane Asylum Annex for Tuberculous White Patients.—The proper authorities are making arrangements for 2 new annexes to the Insane Asylum at Jackson, Miss., in which will be treated the white tuberculous insane. This will make provision for 60 such patients of whom there are now about 30 at that institution. All of the colored insane of the State are to be moved to a new asylum at Pineville.

Typhoid at Richmond, Va.—Under date of October 22, reports received at the State Board of Health say that there are 9 cases of typhoid fever at the Virginia Military Institute, Lexington. There are students at the institute from all over the country. Two of the cases are said to be severe, while the others are mild. Vigorous steps have been taken to stamp out the disease. The patients are all in the hospital. No interruption of work has occurred at the institute by reason of the outbreak.

Yellow Fever in Texas.—Information from Laredo, under date of October 19, says, despite the fact that the physicians had expected a slight decrease in the number of yellow fever patients here, the report shows that the new cases number one more today than any previous day since the outbreak. The official bulletin issued tonight is as follows: New cases, 36; deaths, 5; total cases to date, 436; total deaths to date, 32. Nuevo Laredo reports the number of yellow fever cases in that city since the last report at 13. One death is mentioned.

The Board of Medical Supervisors of the District of Columbia, in answering the criticism which has been made that, though the board is empowered to revoke medical licenses for cause in the District of Columbia, yet this has not been done, makes the following statement: "In view of the fact that there has been some criticism of the board of supervisors because certain licentiates who are practising by virtue of their registration prior to the enactment of the law governing the practice of medicine in the District are openly using methods unprofessional and dishonorable to a degree which is intolerable in a community which respects the ordinary requirements of morality and honesty, it will be of interest to the medical profession to know that the board of medical supervisors is not unmindful of the fact that the law in positive language gives full power to the board of supervisors, by a vote of 4 members, to revoke the licenses of these parties, but it did not make clear the methods to be used to bring about this much-desired result." Hope is expressed that legal measures will soon be adopted which will make the way clear.

WESTERN STATES.

Hog Cholera in Kansas.—Hog cholera is devastating southeast portions of Shawnee and across the line in Douglas county. The farmers along the valley of the Wakarausa have lost over 1,000 animals in the last 2 weeks.

Great Decrease in Deathrate from Scarlet Fever and Diphtheria in Chicago.—The Bulletin of the Chicago Health Department for the week ended October 17, calls attention to the remarkable decrease in the deathrate from scarlet fever and diphtheria during the 8 years, 1895 to 1902 inclusive, as compared with a like period from 1887 to 1894 inclusive. In proportion to the increased population the scarlet fever deaths decreased exactly 50%, and the diphtheria and croup deaths decreased 59%. Had the deaths during the more recent period been as great per thousand as they were during the more remote period, there would have been 4,121 deaths from scarlet fever instead of 1,648 as actually reported; a saving in life amounting to 2,473. Likewise, in regard to the mortality in diphtheria there would have been 21,461 deaths instead of 7,093 actually reported; a saving of life amounting to 17,368. This makes a total constructive saving of nearly 20,000 lives from these 2 diseases alone during 8 years. The greater decrease of diphtheria mortality is ascribed to the antitoxin treatment of this disease.

Mississippi Valley Medical Association.—At the twenty-ninth annual session of the Mississippi Valley Medical Association held at Memphis, October 7–9 the following resolutions were adopted:

In view of the fact that more than 400 deaths from tetanus occurred following the Fourth of July celebration of 1903, as shown by the statistical report elaborated by Dr. S. C. Stanton, of Chicago, and published in the *Journal of the American Medical Association* of August 29, 1903, the great majority of which might have been prevented had proper precautions been taken: therefore, be it

Resolved, That the conclusions which follow, as offered by Dr. Stanton in a paper presented before the Association, at the above meeting, be endorsed as the sense of the Association, and further be it

Resolved, That the secretary be instructed to forward a copy of these resolutions and conclusions to the medical press, associated press, and the secretaries of the several state medical societies, with the request that they publish same and take suitable action thereon.

1. Enforcement of existing laws regarding the sale of toy pistols and other dangerous toys.
2. Enactment of laws by the nation, States, and municipalities prohibiting the manufacture and sale of toy pistols, blank cartridges, dynamite canes and caps, cannon crackers, etc.
3. Open treatment of all wounds, however insignificant, in which from the nature or environment there is any risk of tetanus.
4. Immediate use of tetanus antitoxin in all cases of Fourth of July wounds, or wounds received in barnyards, gardens, or other places where tetanus infection is likely to occur.
5. As a forlorn hope, the injection of tetanus antitoxin after tetanus symptoms have appeared.

FOREIGN NEWS AND NOTES

GENERAL.

Opium Smoking in France.—A report from Paris says that the habit of opium smoking is greatly increasing among the lower classes of the population in the cities bordering the Mediterranean, such as Marseilles and Toulon. The dealers in oriental curiosities all keep opium in their stores and advertise it to the public. The government will be asked to pass a law prohibiting the sale of opium by such stores.

Antituberculosis Crusade.—A permanent Antituberculosis Commission, comprising hygienists, physicians, members of ministries, and various chambers, has been organized in Paris under the presidency of M. Leon Bourgeois, president of the Chamber of Deputies. It was pointed out by Premier Combes, who was one of the organizers, that the commission would devote itself to the preservation of individual health against the disease, leaving others to seek remedies.

Miss Hickman's Body Found.—For more than 2 months the disappearance of Miss Hickman, a young woman doctor of high attainments, had caused anxious inquiry and extensive search in London. Various theories, such as suicide, murder, kidnapping, abduction and detention in explanation of her disappearance had been followed out exhaustively. It now transpires that the dead body of the unfortunate woman was found on a plantation in Richmond, Surrey, by some children who had strayed thither for chestnuts. It is believed that since she suffered from heart affection, and this being one of her haunts, she died suddenly of heart failure where the body was found.

London Doctors Rebel on Question of Etiquet.—The etiquet of the British medical profession forbids a practitioner from advertising himself. In this respect the medical etiquet is precisely the same as that of the bar. The doctors of London, however, have begun to rebel against what they deem the carrying on of this idea to an intolerable stage. The ethical committee of the British Medical Association is trying to coerce its brethren to keep their names out of the newspapers except when they are attending a royal patient. This, of course, confines the prerogative to the very few who do not need advertising. The committee, however, not content with applying pressure to the doctors, has now resolved to send a circular to the London newspapers asking them not to mention the names of physicians in any connection except in case of those who are in attendance on members of the royal family. The doctors argue that this is tyranny, as barristers and lawyers, whose etiquet is the same, are always mentioned in connection with cases.

OBITUARIES.

Asa Hopkins Churchill, at his home in Meriden, Conn., October 18, aged 72. He was born in Litchfield in 1831, received his academic education at the Hopkins Grammar School, New Haven, and graduated from the Yale Medical School in 1857. He was a member of the Connecticut Medical Society, and for many years physician at the State School for boys.

Samuel C. Johnson, at his home in Hudson, Wis., October 17, from heart disease; a graduate of the Long Island College Hospital, Brooklyn, in 1864. A former president of the Wisconsin State Board of Medical Examiners, member of the American Medical Association, American Public Health Association, and Wisconsin State Medical Society.

James Gamble, at his home in Le Claire, Iowa, October 6, after a brief illness, aged 82; a graduate of the medical department of the University of Missouri in 1847; one time president of the Iowa State Medical Society, and one of the oldest members of the Scott County Medical Society.

John W. Hulick, at his home in Springfield, Ohio, October 4, from typhoid fever, aged 45; a graduate of the Medical College of Ohio in 1882; member of the American Medical Association, American Association of Life Examining Surgeons, Ohio State Medical Society, etc.

Robert Aberdein, at the Hospital of the Good Shepherd, in Syracuse, N. Y., October 18, after a lingering illness of three years; a graduate of Bellevue Hospital Medical College, in 1867. He was one of the most prominent practising physicians in central New York.

Frances Hickman, the young woman doctor attached to the Royal Free Hospital in Grey's Inn Road, whose mysterious disappearance on August 15 excited much comment in London, was recently found dead in Richmond Park.

Joseph Hinson Mellichamp, at James Island, S. C., October 3, after a lingering illness, aged 74; a graduate of the Medical College of the State of South Carolina in 1852, and a surgeon in the Confederate service during the Civil war.

William C. Denman, at his home in Marion, Ohio, October 1, from Bright's disease, aged 52; a graduate of the Medical College of Ohio in 1876; member of the American Medical Association and the Marion County Medical Society.

Maurice F. Pilgrim, at his home in New York, October 18, of pneumonia. He was professor of psychiatry in the New York Post-graduate Medical School, and coeditor of the *Journal of Advanced Therapeutics*.

Charles Blackwell Sweeting, at his home in Brooklyn, N. Y., October 4, aged 58; a graduate of the London College Hospital in 1867; member of the American Medical Association and the Florida Medical Association.

George Landerkin, October 4, aged 64; a graduate of the University of Victoria College, Cobourg, Ontario, and a member of the Canadian House of Commons in 1873, and again from 1882 to 1896.

Albert S. Ammerman, at his home in Rapid City, S. D., October 6, aged 64; a graduate of the University of Michigan in 1871; twice representative in the State Legislature, and a pioneer of the West.

Virgil McDavitt, at his home in Quincy, Ill., October 2, from septicemia, aged 84; a graduate of the University of Louisville in 1850, and one time dean of the Quincy (Ill.) Medical College.

David Rector McKinney, at Gifford, Ill., September 29, aged 66; a graduate of the Medical College of Indiana in 1878; one time president of the Champaign County (Ill.) Medical Society.

John L. Waldie, at his home in Brooklyn, October 18, aged 32; a graduate of Long Island College, and a member of St. Mary's Hospital Staff and of the King's County Medical Society.

Edward E. Stonestreet, at his home in Rockville, Md., aged 73; a graduate of the University of Maryland, Baltimore, in 1852, and one of the oldest practitioners in the State.

John Polson, at his home in Laclede, Mo., October 13, aged 61; a member of the American Medical Association and Medical Association of the State of Missouri.

William A. Evans, at Aberdeen, Miss., October 8, from an accidental gunshot wound; a graduate of the New York University in 1859.

James Davis Gardiner, at Farmer City, Ill., from paralysis, September 28, aged 83; a graduate of Columbus (Ohio) Medical College in 1879.

Lyman M. Willard, at his home in Loomis, Wash.; a graduate of the University of Pennsylvania in 1870.

SOCIETY REPORTS

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

Twenty-ninth Annual Meeting, Held at Memphis, Tenn., October 7, 8, and 9, 1903.

[Specially reported for *American Medicine.*]

[*Continued from page 656.*]

Medical Section.

Chronic Interstitial Nephritis.—R. Alexander Bate (Louisville, Ky.) defined this disease, and referred to the anatomic changes occurring in the different forms of nephritis. The prognosis was favorable in direct proportion to the earliness of the diagnosis. Nephritic changes were the result primarily of altered circulation. The changes in the epithelium of the tubules were secondary to those in the arterioles. Death finally resulted because the epithelial cells failed to excrete toxic principles, more or less normally secreted within the system, and habitually eliminated by the kidneys. The changes which occurred in the vascular system were alluded to. In the many cases now reported where cures resulted from surgical operations upon kidneys which were the seat of chronic interstitial changes, the author thought that probably the stage of cardiac and arterial hypertrophy had not been reached. Certainly few tubular changes had occurred. Edebohls, Guiteras, and others, writing upon the subject, distinctly emphasize cardiac changes as a contraindication for the operation. Many of Edebohls' cases were unilateral and in young subjects; therefore, it might be presumed that the successful operations were done during the incipiency of the disease. The indications for surgical treatment appeared to be limited to cases complicated by a malposition of the kidney, and to those cases where medicinal measures had failed to arrest the destruction of the epithelium of the tubules.

The Use and Abuse of Fresh Air and Overfeeding in Tuberculosis.—W. H. Prioleau (Asheville, N. C.). This paper will appear in a future issue of *American Medicine.*

Surgical Section.

Why the General Practitioner Should Understand the Technic of Mirror Sight, with a Few Suggestions How to Learn it.—Allen De Vilbiss (Toledo, O.) said there were general practitioners who did not understand how to handle a laryngeal or rhinoscopic mirror. Every practitioner should understand the technic of mirror sight. Examination of the nose, nasopharynx, and larynx was made by a reflected light, as only the mouth and vestibule of the nose could be examined without it. A laryngoscope was a convenience for office use, but not a necessity, and either could be used by one who understood the technic of mirror sight. This could be acquired only by diligent practice. He described an easy way to learn it.

Principles in the Treatment of Chronic Otitis Media Purulenta.—John F. Barnhill (Indianapolis, Ind.) said a study of sections of the temporal bone, made through various parts of the middle ear and its neighboring connected cavities, would give the physician a necessary and wide opinion of the extent and importance of the hearing organ as a whole, which was too often ignored as trivial. Such study would teach: 1. That the cavity of the middle ear was not and should not be regarded either as an anatomic or pathologic entity, but that it was only a highly important division of the chain of cavities which comprised the conducting portion of the hearing apparatus, all of which cavities were directly connected and lined by mucous membrane. 2. That extension of disease from one cavity to another must not only be considered as a possibility, but more as a probability, either through contiguity of tissue or by the migration of pus-bearing fluids. 3. That the cavity of the middle ear was the only portion of the extensive irregular tract that was directly accessible to the view of the operator and to instrumentation. Therefore, when disease existed in the mastoid antrum, or the maze of the cells beyond it, the same could not be reached through the external meatus and middle ear. The manipulation of instruments was blindly done, and medicines, if possible to apply at all, were so used without definite information and on empiric principles. 4. That both the antrum and middle ear were separated from the cranial cavity by only a very thin osseous partition, and that therefore fluids pent up within these cavities were as likely to rupture into the cranium as upon its surface. The principles upon which successful treatment of this disease must be based were both surgical and medical, and did not differ materially in their application from the use of these methods for similar pathologic conditions in other parts of the body. All aural discharges were curable by these methods, except those due to tuberculous cancer, and such cure would be simple and easy were it not for the fact of the concealed and inaccessible situation of the disease. A positive diagnosis of the conditions present was of the first importance. Drug application or surgical interference was likely to be very unwisely directed until first the cause of the discharge had been discovered. Only those most highly skilled in aural diagnosis could hope to treat successfully many cases of chronic otorrhea. If, after all parts had been thoroughly treated that were accessible to surgical and medical measures through the route of the external meatus, the disease continued, sound surgical principle dictated that the disease should be followed to its origin and thoroughly eradicated. This necessitated in most instances the radical mastoid operation. This operation should not be undertaken until after a thorough knowledge of the case was secured by the physician, because when properly done it must always be classed with major surgery. Wilde's incision or gimlet trephining of the mastoid was not based upon sound surgical principles, and should be entirely abandoned. Only that thoroughness of modern surgery in general should have any place in a consideration of the principles of otologic surgery.

Nasopharyngeal Adenoids.—J. A. Stucky (Lexington, Ky.) drew the following conclusions: The obstructive and non-obstructive adenoid tissue, when diseased, was a menace to health, hearing, mental and physical development, and should be radically dealt with. It was far more serious in its effects than disease and enlargement of the faucial tonsils. Frequently when the pharyngeal tonsil was thoroughly removed, the enlarged faucial tonsils rapidly assumed normal size and function. While this was not the rule, he had seen it occur so frequently that it was safe to say it was far more than the exception to the rule. The technic of adenectomy was simple, as compared with many other surgical operations, but should be just as conscientiously carried out. When carefully and thoroughly done, the results obtained were only equalled by some of the socalled major operations performed by the general surgeon.

The Perfected Surgical Treatment of Fibroid Tumors of the Uterus.—Lewis S. McMurtry (Louisville, Ky.) read a paper with this title.

Dysmenorrhea.—Emil Ries (Chicago) after discussing the unsatisfactory condition of the present therapeutics of dysmenorrhea, described the Fliess treatment of the socalled nasal dysmenorrhea. The importance of suggestion and the toxic effect of cocain were reviewed in their possible bearing on the treatment.

Penetrating and Perforating Gunshot and Stab Wounds of the Abdomen.—John Young Brown (St. Louis, Mo.) discussed the preparation of the patient, search for visceral injuries, control of hemorrhage, irrigation and drainage, closure of incision, and then reported 9 cases of perforating wounds of the intestines, with 6 recoveries and 3 deaths. One death was due to shock. In this case the injury was so extensive that the patient never reacted. The second patient entered the hospital with general peritonitis, and while a perforation was everlooked it was probable that the result would have been the same if the injury had been repaired. The third patient he thought should have been saved. Of wounds of the liver, 5 cases in all, 4 recovered and 1 died. This patient died 3 hours after operation from shock, which was the result of hemorrhage. The case of wound of the pancreas recovered. To these cases he added 8 cases in which laparotomy was performed and no injury to the viscera found. This made a total of 23 cases, with 19 recoveries and 4 deaths.

Surgery of the Thyroid, Historic and Experimental, Illustrated with 100 Stereopticon Slides.—This was the title of an exhaustive paper by B. Merrill Ricketts (Cincinnati, O.) in which he drew the following conclusions: 1. The thyroid is oftener abnormal than normal in size, shape, number of lobes, and accessory lobes more frequently on the left side. 2. The physiologic function of the thyroid and its secretions and relation to other glands are not understood. 3. There may be but 1 lobe. It may be situated anywhere in the anterior, lateral, or posterior portion of the neck, or it may be intrathoracic, subclavicular, or postscapular. 4. It is the most constant of all the glands in animal life, and all vertebrates are subject to the same laws concerning it. 5. Absence of the thyroid at birth results in cretinism, and its destruction by disease, or otherwise, in adult life induces myxedema. 6. Parenchymatous goiter, cause not known. 7. May develop in fetal, infant, child, or adult life. 8. All animal life is subject to it. Cause of exophthalmic goiter unknown. 9. Patient may or may not have protrusion of eyeball. 10. Lesions of restiform body in rabbits and dogs, and probably all other animals, will induce exophthalmos and tachycardia, also tremor, polyuria, glycosuria, and salivation. 11. Medicaments are of no avail, except to palliate. None cured. Animal extracts most satisfactory for palliation. Surgery offers the only means of relief. 12. Thyroidectomy is the operation of choice, is done more quickly, with less mortality, and better results. 13. Concretions may be osseous or calcareous. 14. Cysts should be removed by thyroidectomy, whether they contain blood-serum, or pus of parasitic, benign or malignant origin. 15. Gangrenous and tuberculous thyroid tissue should be freely excised. 16. Syphilitic gummas may be congenital or acquired, and should be subjected to syphilitic remedies, to which they will succumb. 17. Transplanted segments of thyroid tissue will, more or less, contain life. 18. Electricity in any shape is not only useless, but very detrimental, in that it causes the formation of adhesions, which greatly interfere with subsequent surgical operations. 19. The use of the seton, and incision into the thyroid are seldom indicated, except for the removal of concretions or foreign bodies. 20. Injections of crystals, solutions, or cautery of any character, into the thyroid for any purpose should not be tolerated. Like local applications of any character, they should be condemned and relegated. 21. Division or resection of the thyroid isthmus does not cure. It has no place in thyroid surgery, and should

become obsolete. 22. Partial thyroidectomy is the proper term, as the entire gland is seldom removed. 23. Chloroform, local anesthesia, and the use of cocain for local anesthesia are the most desirable. 24. The mortality is less than 1% in the general application of thyroidectomy. It is the operation of choice. 25. All thyroid tissue should not be removed unless malignant. 26. Regeneration of thyroid tissue that will secrete thyroidin is just as impossible as the regeneration of a finger. 27. Death from hemorrhage in thyroidectomy need not occur, as bloodvessels of any size or in any location may be closed by ligature or forceps. 28. Ligation of the thyroid arteries is ineffectual and obsolete. 29. Compression of goiter sufficient to be beneficial would occlude the trachea and larger bloodvessels of the neck. 30. Tracheotomy is indicated when the goiter presses upon the trachea or bloodvessels, producing alarming effects, and then it should be done only to palliate until thyroidectomy can be performed.

Extrauterine Pregnancy.—A. H. CORDIER (Kansas City, Mo.) discussed the pathology, diagnosis and treatment of this condition. In 10 years he had had an experience of 44 cases. Intraperitoneal was to extraperitoneal rupture in the proportion of 3 to 1. When rupture took place between the layers of the broad ligament, the hemorrhage was limited by the resistance offered by the surrounding structures, death rarely occurring to the patient from the first rupture. The tubal mucous membrane played a very trifling part in the formation of the placenta in ectopic gestation. The placenta in these cases was derived almost entirely from the fetal structures. The diagnosis of ectopic pregnancy prior to rupture was attended with great difficulty and was rarely made. The question of treatment of these cases was so thoroughly settled as to admit of very little discussion. The technic of individual operations varied according to the indications to be met in the midst of the operation. The operation of choice was a median suprapubic section, with removal of diseased structures. Vault drainage in ectopic gestation was an incomplete procedure, attended with much danger at the time of the operation, leaving the woman with a pathology that would in most instances continue to produce disagreeable or dangerous symptoms until it was completely removed.

Ectopic Gestation.—ANDERSON WATKINS (Little Rock, Ark.) reported a case with complications. The points of interest were: 1. The typical history; a long period of sterility succeeding a normal pregnancy; the absence of menstruation for 4 months; enlargement of the breasts; morning sickness; shedding of the decidua, and finally a feeling on the part of the patient as though she were pregnant. 2. The evident repeated ruptures of small extent, followed by sepsis. 3. The impropriety of waiting a week after diagnosis to operate. 4. The use of drainage and irrigation. 5. The complicating nephritis, probably of toxic origin. 6. The intercurrent malarial infection during convalescence, and also the intestinal disturbances which were a constant drawback to improvement. 7. The location of the pregnancy, primarily tubal, although much disguised after rupture, and the exudation of plastic lymph.

The Causes of Occasional Failure of Operation to Cure Gallstone Disease.—WM. J. MAYO (Rochester, Minn.) said that the most common cause of future symptoms was incomplete removal of stones. Stones in the cystic duct frequently escaped attention, and it was only after several such misfortunes that he began to exercise greater care in exploring this canal. The parts were deeply situated, and as these patients were often obese, it was not easy to locate such a calculus previous to the development of the Robson technic. In most of the cases of stone impacted in the cystic duct, cholecystectomy was indicated. One source of failure of cholecystostomy to cure was from secondary obstruction of the cystic duct, preventing free drainage of the gallbladder down through the passages. This might eventuate in a mucous fistula or repeated attacks of colic, as the gallbladder secretions were periodically forced through the strictured canal. In septic cases, drainage was necessary for a long period of time, and if the fistula was allowed to close too quickly, severe symptoms might ensue. He had twice had to reopen and reestablish drainage in septic cholecystitis. Both cases were colon infections. Stones were often overlooked in the common duct, as they might lie quiescent for years. The jaundice might be very slight, and in some cases not noticeable. The gallbladder in the meantime might become obstructed at the cystic duct, so that this organ might be enlarged and cystic, with calculus at the neck and nothing to call attention to the common duct stone. Chronic pancreatitis might exist at the time of operation and to obtain a good result, drainage must be long continued. Cancer could also be said to be secondary to stone formation, and might take place after cholecystostomy or, being present, might be mistaken for inflammatory disease. All thick-walled gallbladders should be looked upon as suspicious, and as they were functionally useless, cholecystectomy should be done rather than cholecystostomy, and in this way many early cancers would be found and cured. Persistent biliary fistula usually meant obstruction of the common duct. Everyone understood the importance of not attaching the gallbladder to the skin. In the early days persistent biliary fistula was usually due to a mucocutaneous suture. This practice was now obsolete. The turning-in of the margins of the incision of the gallbladder, and drawing a pursestring suture closely about the drainage-tube in a similar manner to a Kader gastrostomy enabled healing of the fistula to take place most promptly after removing the drain. Secondary operations had been comparatively safe in his experience. The patient had become accustomed to the condition, and the adhesions formed a protective barrier. Separation of the adhesions, particularly about the liver, resulted in considerable hemorrhage. Rather prolonged gauze pressure usually checked the oozing as the blood-pressure in the liver was very low, and enabled completion of the operation. Most of the cases required a light gauze drain protected by guttapercha tissue at points of contact, with the stomach or intestine, to prevent troublesome adhesion to the gauze. Deep drains should be anchored with catgut to prevent displacement by movements of the liver, as affected by the diaphragm. The catgut became absorbed before the time for withdrawal. The drains should not be removed too early, 6 to 12 days being the usual limit as to the time of withdrawal.

The Diagnosis and Operation for Gallstones.—W. D. HAGGARD (Nashville) said the most valuable local sign was hypersensitiveness under the tip of the ninth costal cartilage. The best way of eliciting this sign was described. A distinct tumor was not often felt, and was therefore not diagnostic of gallstones. In long-standing cases of inflammation in and around the gallbladder, an ill-defined tumor was present, but the tenderness precluded its exact definition. Hydrops from a stone in the cystic duct gave the typically enlarged gallbladder, and empyema was also characterized by tumefaction. Stones in the gallbladder without inflammatory or other complications were never attended by enlargement, and an enlarged gallbladder meant there was no stone in the common duct, as enunciated by Courvoisier. This was a most valuable differential sign. In biliary obstruction manifested by chronic jaundice, an enlarged gallbladder meant that the obstruction was not due to a stone. Jaundice following attacks of biliary colic was not necessarily due to calculous obstruction, but was usually caused by an inflammatory turgescence of the bile tracts that offered a certain resistance to the outflow of bile. Aside from the difficulty of discriminating between gallstones and certain stomach, appendix or kidney lesions, it should be remembered that they might coexist with any one of them.

The Prophylaxis of Tetanus.—S. C. STANTON (Chicago) considered the subject under 5 heads: 1. The enforcement of existing laws regarding the sale of toy pistols and other dangerous toys. 2. The enactment of laws by Congress, State Legislatures and municipalities prohibiting the manufacture and sale of toy pistols, blank cartridges, dynamite canes and caps, cannon crackers, etc. 3. The open treatment of all wounds, however insignificant, in which from the nature or surroundings there was any risk of tetanus. 4. The immediate use of tetanus antitoxin in all cases of Fourth of July wounds, wounds received in barnyards, gardens, or other places where the tetanus bacillus was likely to be present, or tetanus infection to occur. 5. The injection of tetanus antitoxin as soon as tetanic symptoms became manifest.

[*To be continued.*]

CONFERENCE OF STATE AND PROVINCIAL BOARDS OF HEALTH OF NORTH AMERICA.

Eighteenth Annual Meeting, Held at Baltimore, Md., October 23 and 24, 1903.

[Specially reported for *American Medicine.*]

FIRST DAY.

Officers Elected.—President, John N. Hurty, Indianapolis, Ind.; vice-president, John S. Fulton, Baltimore, Md.; secretary, Gardner T. Swarts, Providence, R. I.; treasurer, James A. Egan, Springfield, Ill. Time and place of next meeting were left to the officers of the conference to decide.

Address of Welcome.—EUGENE F. CORDELL, who, in referring to the early medical history of Maryland, stated that the Medical and Chirurgical Faculty, organized in 1802, was the first to give its formal endorsement of vaccination. As a matter of equal importance, he mentioned that papers were written in 1807 by John Crawford, advocating and favoring the animalcular theory of disease. These papers were published in a non-medical journal, for the reason that the editor of no medical journal at that time would accept them. Crawford was erratic, but considered far ahead of his time. He was the first in any English-speaking country, so far as the speaker knew, to advocate the germ theory of disease. Crawford antedated Lister at least 50 years, and a perusal of Crawford's writings would show this.

WILLIAM H. WELCH (Baltimore) followed with an **address of welcome** on behalf of the State Board of Health of Maryland. He said, among other things, there was another name which should be mentioned in connection with the medical history of Maryland—John K. Mitchell, father of Weir Mitchell, whose book on the "Cryptogamic Origin of Malarial Fever" was really a classic. He thought Mitchell's name should be coupled with that of Henle, who forecast the doctrine of contagium vivum.

The Etiology and Prevention of Infantile Diarrhea.—JOHN H. MASON KNOX (Baltimore) said no single organism was considered to be the cause of infantile diarrhea until the

experimental work of Duval and Basset. At the suggestion of Flexner, the speaker and others undertook a series of investigations at the Wilson Sanitarium, and of 53 cases carefully examined, the Shiga organism was found in 42 in greater or less numbers. Careful clinical examination, however, showed definitely that no one type of the disease could be associated with this organism; that all types of intestinal diseases common among children in summer, were caused by the same organism. Laboratory investigation had shown 2 or 3 types of organisms very closely related. Thus far the great majority of cases in babies had been the acid Harris type. At the Wilson Sanitarium the speaker and his colleagues had a series of upward of 40 cases of infantile diarrhea which were found to have been produced by the same organism, and conference with those who had charge of the cases clinically led him to believe that the conclusions of the clinicians were the same as theirs. It was found that not only during the summer, but in the winter, sporadic cases of infantile diarrhea were associated with this organism. Wolfstein had reported 37 sporadic cases of infantile diarrhea as having occurred in winter, and Basset 4 cases, as having been seen in the Johns Hopkins Dispensary, due to this organism. Of 25 cases treated by injections of serum at the Wilson Sanitarium, some betterment was noticed after the injection in the cases that were seen early, but the improvement was not brilliant or startling. In 8 cases the serum had a beneficial action. In connection with the serum there were changes made in diet, and medication was used, so that the results obtained were confusing in their interpretation. In cases of long standing, associated with an inflammatory condition of the intestinal tract, in which there was probably ulceration, blood in the stools, etc., the serum was of no avail. No deleterious effect was observed in any of the cases.

Are the Laboratory Methods of Diagnosis in Infantile Diarrhea Applicable in Public Health Work?—Edwin G. Schorer (Baltimore), referring to methods of diagnosis, said that with the establishment of the etiology of infantile diarrhea, a great step in advance had been made, yet under the present conditions they were not available for, or applicable to public health work. This last statement might, however, be limited, inasmuch as a bacteriologic diagnosis would undoubtedly be of value in the limited number of persistent cases of diarrhea, and in those in which the antidysenteric serum was to be given. For this purpose the mailing case of Dr. Parks was to be recommended. The fact that at the present time the methods were not available for general diagnostic purposes, ought not to discourage any one from complying with any request Boards of Health might make. Much was still to be learned in regard to the dysentery organism and infantile diarrhea, a good share of which could be furnished by statistics obtained and facts learned from local Boards of Health. William H. Welch (Baltimore) referred to a point of historical interest, namely, that these scientific investigations in regard to the causal relation of the Shiga bacillus to infantile diarrhea received their initiative and support from the Rockefeller Institute of Medical Research. If one did not see for a moment how the discovery was to be utilized practically, it did not lessen the scientific interest in this great addition to our knowledge. It was a surprise to him that Knox had found the organism, which had been proved to be the cause of a prevalent group of cases of dysentery, to be the cause of summer diarrheas of children. One did not think of the ordinary summer diarrhea of children as belonging to the same group of cases as adult dysentery. The organism Welch said, must be found in other localities than Maryland in order to demonstrate that it had any causal relation to summer diarrhea of children. Some bacteriologists had found the Shiga bacillus in 90%, others in 60% to 70% of the cases of infantile diarrhea. These various percentages in finding the bacillus might be due to variations in skill or a more careful selection of cases on the part of the observers. The serum treatment of this disease, according to Flexner, was disappointing. The best results had been obtained in the treatment of adult dysenteries. Instances had been reported by Holt, Thayer, and others in private practice where the serum seemed to have had a marvelous effect. The evidence showed, however, that conditions in hospital and dispensary practice were unfavorable for obtaining satisfactory results with serum. Henry M. Bracken (Minneapolis, Minn.) said in the larger cities it was difficult to get a pure milk supply. What was generally known as certified milk was one of the best articles of artificial diet for children. At present much attention was being paid in some cities to securing a pure milk supply by excluding tuberculous cows from dairies. Even this would not insure a pure milk supply by any means. The testing of dairy herds for tuberculosis might be satisfactory to the dairyman and seemingly protect the people, but there were more infants that died every year from impure milk than from tuberculous milk. More attention should be given to the sanitary aspects of the dairy than to the diseased animal. Certified milk and pasteurized milk were as satisfactory articles of diet as could be obtained at the present time.

[*To be continued.*]

Women as Sanitary Inspectors.—There are 19 women holding the position of sanitary inspector under the London Government Board, and it is probable that every local authority will in the future require at least 1 woman inspector.

CLINICAL NOTES AND CORRESPONDENCE

[Communications are invited for this Department. The Editor is not responsible for the views advanced by any contributor.]

UTERINE HEMORRHAGE AS A COMPLICATION OF TYPHOID FEVER.

BY

WILLIAM EDGAR DARNALL, A.B., M.D.,

of Atlantic City, N. J.

Physician to the Mercer House for Invalid Women, and Gynecologist to the Atlantic City Hospital.

The following case presents a rare complication of typhoid fever, which is of sufficient interest and importance to make its report worthy of record:

Miss C., aged 30, of slight build and nervous temperament, gave a history of being run down and tired out, and said her physician had advised her to come to the seashore for a rest. On the way from Philadelphia she was overcome with a weak attack on the train. She entered the Mercer House for Invalid Women on June 9, complaining of headache and some pain in the stomach. She said she was tired, and would rest a day before going down on the Boardwalk.

The following letter is from her physician, Dr. Rhoades, of Germantown, who very kindly furnished me with an account of her case before coming here:

Germantown, Pa., June 19, 1903.

My Dear Dr. Darnall:

There is very little to say about my attendance on Miss C. She called at my office on May 21, complaining of headache, muscular pains, weakness, and indigestion. I found she had a slight fever, and advised her to rest from all work and take liquid food. I also gave her calomel in fractional doses and a pill of acetanilid, salol, and quinin. She called to see me again on May 25, still complaining of some headache and discomfort about the stomach. May 28 she again came to my office, said she felt better, but had vertical headache and was constipated. She had a temperature of 99.9°, pulse 100, and tongue was too red. On June 4, reported herself much better. She was free from fever but complained of a feeling of weight in the epigastrium, and that almost every mouthful swallowed caused her pain. I urged her to refrain from any resumption of her work (music teaching) until she had taken two weeks at Atlantic City, where she expected to go, on June 9. I have heard that she did give some lessons in the interval between her last call on me and her departure for Atlantic City. I considered her illness an attack of grip with gastric catarrh.

Sincerely yours,

Edward G. Rhoades.

Miss C. remained in bed the day after entering the Mercer House. The following day she complained of severe pain in the stomach and abdomen. Her temperature was 103°, pulse 120, respiration 36. A severe diarrhea had now set in. She was given a capsule containing bismuth, opium, carbolic acid, salol and aromatic powder, which checked the diarrhea somewhat. Liquid diet was ordered for her. About 8 p.m. her temperature had risen to 105°, and the menstrual flow appeared, although she had only had this two weeks previous. In this regard she had always been entirely regular and normal. She was mildly delirious all night. Notwithstanding the presence of the menses a cold sponge bath was given, bringing the temperature down to 102.3°. There was constant nausea and pain in the abdomen, while the stools became of a pea-soup character, and were more frequent.

June 13: Her temperature ranged between 99° and 102°; pulse, 84 to 104; respirations, 24, and she slept some. There was no movement of the bowels, but the menstrual flow continued more freely than ever, and micturition was difficult. In view of her very weak condition it was deemed wise to take some steps toward checking the uterine flow, which now assumed the proportions of a hemorrhage. She was given a mixture of ergot and liquor sedans, and an examination was made for any pelvic trouble that might cause a metrorrhagia. The sexual organs were found normal. There was no evidence of any miscarriage, for her reputation was above reproach. Not even an endometritis was found, and no lesion of any kind could be detected, either in the uterus, tubes or ovaries. The vagina was now packed with gauze, which was left in 24 hours, and this successfully checked the hemorrhage.

June 14: The temperature ranged between 101° and 103°; pulse varied all the way from 80 to 130, and was very weak; respirations, 32. The patient was in a more or less stupid condition, somewhat delirious, but sleeping the greater part of the time. The bowels became loose again and the patient was troubled with persistent hiccoughing. There was never much abdominal tenderness on pressure, or tympanites, but the specimen of blood taken on June 13 showed the Widal reaction, and on June 14, true rose spots were visible, though few in number. For stimulation, strychnin and whisky were being given; and starch water and laudanum enemas for defecation and micturition, which had now become involuntary. Cold sponging was employed constantly to keep the temperature within limits.

June 15 the temperature range was between 101° and 103°; pulse 114 to 142; respirations 24 to 42. No pain in the chest was

complained of, however, and no evidence of pneumonia could be detected after careful examinations of the lungs. The patient's condition was now critical, dejections involuntary, hiccoughing very troublesome, pulse very weak and at times imperceptible, and she had become at this time almost deaf, nausea and vomiting were so great that nothing could be kept on the stomach.

June 16, temperature between 102° and 103°; pulse 140 to 164, while the respirations dropped to 18, and later to 14, and were labored. Death intervened at 9.40 a.m.

At the autopsy, in which I was assisted by Dr. Milton F. Ireland, the intestines were found greatly distended with flatus. There were a number of Peyer's patches, very much enlarged and inflamed. Two such patches were just on the verge of perforation, but were not quite through. There was no peritonitis, either general or localized. The pelvic organs were given especial attention, in order to determine, if possible, any local cause for the hemorrhage. The uterus itself was in good position and perfectly normal, though perhaps a little under size; the ovaries and tubes did not show any indications of disease whatsoever, and there was nothing to indicate any cause for the uterine hemorrhage. They were not removed from the body, and further exploration of other organs was not entered into out of respect to the family. Sufficient was found, however, to prove the correctness of the clinical diagnosis of enteric fever, and to show that the severe uterine hemorrhage was not dependent upon any local condition of the pelvic organs.

In the literature at my command I can find very little reference to uterine hemorrhage as a complication of enteric fever. By most of the authors consulted, no mention whatever is made of it. Osler states: "That there is a rare and fatal form of typhoid fever characterized by cutaneous and mucous hemorrhages." Montgomery, in his "Gynecology," says: "Severe uterine hemorrhage may frequently usher in an attack of typhoid fever." In the present instance, however, this hemorrhage occurred in what must have been at least the third week of the trouble. The case seemed so mild up to the time she came to Atlantic City that she did not even confine herself to bed, but was up and around and able to visit her physician at his office, though undoubtedly she must have been affected as far back as May 21. To the laity these mild cases are known as "walking typhoid." The time of this hemorrhage also was just half way between the normal menstrual epochs, so that the time of the menstrual period could not figure in any way as a cause of the hemorrhage.

The case is an unusual one in many respects, and for that reason I have thought it worthy of record.

A CASE OF BRADYCARDIA.

BY

LAWRENCE E. HOLMES, M.D.,

of Biltmore, Asheville, N. C.

A few days after reading in *American Medicine*, August 1, 1903, Dr. Curtin's interesting paper on "Bradycardia as a Symptom," I saw the following case in which bradycardia was very pronounced, and which may be of interest in connection with that article.

The patient, a woman of 28, was never very robust. The only thing in her history, however, which might be of interest in connection with the present attack was the presence of a rightsided suppurative otitis media of 2 months' standing. Six months previously she had had an acute mastoiditis of the opposite side, from which she had completely recovered without operation.

For some time previous to the present attack the patient had been in very fair health.

On August 8, 1903, feeling pretty well and after having eaten a moderate supper, patient went to bed about 9.30, going to sleep at once. About 11.30 she woke up suddenly, rising up in the bed and gasping for breath, and dragged herself to an open window at the foot of the bed for fresh air. She felt as if she were dying, and really thought she was, saying good bye to her husband and charging him to take good care of their only child. She was extremely faint, very pale, was horribly nauseated and vomited several times.

On my arrival about 12.30 a.m., I found the patient in the condition described. She complained of great shortness of breath, or rather, air-hunger, and was breathing rapidly. She was still horribly nauseated, and soon after my arrival vomited again, and in the vomitus were fragments of fresh tomatoes, which she had eaten at supper, 7 hours before. She was very restless, tossing herself about in bed while gasping for breath. She said she felt numb all over, especially her hands and feet. She was extremely pallid, there was no sweating, though the prostration and relaxation were extreme. She complained of frontal headache. On feeling her pulse I was surprised to find it only 42, it was soft and regular, the heart sounds were normal, except for their extreme slowness. There was no vertigo; vision was normal in both eyes, and the pupils reacted normally. Her condition certainly looked alarming, but what was the cause of it? Knowing that she had had an otorrhea for some time past, some brain involvement was naturally thought of, but taking everything into consideration it seemed more probable that the condition was the result of an acute gastric toxemia, the vomiting of food, undigested after being in the stomach for 7 hours, making this supposition all the more probable, though the remarkably slow pulse was not what one would expect in that condition.

I gave strychnin sulfate 3 mg. ($\frac{1}{20}$ gr.) and morphin sulfate 2 cg. ($\frac{1}{4}$ gr.) hypodermically, and aromatic spirits of ammonia by the mouth. The pulse soon came up to 48, but in a short time was at 42 again. By 2.30 a.m. it had risen to 54, and the patient was feeling somewhat better. As soon as she was able to take it magnesium sulfate was given in free doses. At 3 p.m. I saw her again. Her pulse was then 62, the bowels had moved freely, though no undigested food had been passed. There had been no more vomiting, and the nausea had completely disappeared, though there was still absolute loss of appetite. She was feeling much better, but was very weak. In a day or two the patient was as well as usual, and has had no similar attack since, as she never had before. I may say that tomatoes are a frequent article of diet with her, so that it could not have been an idiosyncrasy. It is possible that they were not so fresh as they were supposed to be; for admitting an acute gastric toxemia to have been the cause of the condition, there was nothing else that she had eaten that could have possibly produced it.

I have seen the woman several times in the past 7 weeks, and her pulse has always been between 80 and 90, which, for her, may be considered normal. The otorrhea is still present, though her general health has been as good as, or even better than usual.

VACCINATION.

BY

W. A. HOWARD, M.D.,

of Waco, Texas.

To the Editor of American Medicine:—I have been very much interested in your editorials on vaccinia, and will relate my "individual" experience. I was successfully vaccinated by humanized virus, in 1864. It left a good scar. By scratching, the disease was reduplicated on and near first or initial point on left arm. The course of the last (a week later), was as typical as the first. While studying medicine in New York, 1877, the city physician revaccinated me, without success. Dr. J. W. Holland, in Louisville, 1880, again tried the experiment twice unsuccessfully. Since 1881 I have made at least 20 attempts to vaccinate myself with vaccine points. Once, in 1890, a small "strawberry" elevation resulted, leaving no scar. After the introduction of glycerinated lymph, I attempted the scarification process without success. I then had resort to the hypodermic syringe. This caused all the manifestations of a successful vaccination on the second, third, fourth and fifth days, as reddening, swelling, etc., a typical preeruption areola and glandular soreness, in axilla. By the sixth day all symptoms were rapidly disappearing, no vesicle having ever appeared. At the same time and from the same tube I successfully vaccinated another man who came in as I was finishing the personal experiment. I feel safe.

POPULUS MONILIFERA.

BY

W. M. ALTER, M.D.,

of England, Ark.

To the Editor of American Medicine:—About the year 1877, I discovered populus monilifera, or cottonwood, to be a powerful antiperiodic, and as near as may be a specific for the pathologic condition known as swamp fever or malarial hematuria. I have had vast numbers of opportunities for observing its effect, and have found it a reliable therapeutic agent. The bark of the root or the body of the tree is the part used. I communicated an article to the *Medical World* on this which was published in the March number of 1899, and later I wrote it up under its proper botanic or drug name in *The Eclectic Medical Journal*, p. 298, 1902.

ORIGINAL ARTICLES

THE DIETETIC TREATMENT OF CHRONIC NEPHRITIS.

BY

J. M. ANDERS, M.D., LL.D.,

of Philadelphia.

Professor of Medicine and Clinical Medicine, Medico-Chirurgical College.

There is no disease in which a judicious management of the diet is of greater practical importance to the patient than chronic nephritis. We have doubtless added much to our stores of experience in connection with the dietetic treatment of this disease, especially in meeting the vexatious and varied complications; but no one can hope to be even measurably successful who does not turn to solid account certain generally accepted facts as a basis for a starting point.

In the first instance, a dietary that fails to meet the requirements of nutrition, plus the loss of albumin which takes place through the kidneys, amounting to 1 dr., 2 dr., or even 3 dr. daily, is inadequate, and certain to be followed by the evidences of malnutrition. That efforts to lessen the degree of albuminuria at the expense of the quality of the blood and general nutrition are not so much blessings as evils, is an inevitable inference. Again, the unfavorable effects of an insufficient diet react prejudicially upon the kidney lesions, hastening, rather than postponing, the fatal issue.

Of medicinal measures, it may be safely affirmed that it is in a small minority of the cases only that they are of any decided value, *e. g.*, those that can be traced to a distinctly marked remedial etiologic condition such as malarial or syphilitic infection, or a chronic suppuration. Drugs may be wisely ignored in most cases, except in so far as they are useful in meeting certain symptomatic indications, which are most apt to present themselves during the advanced stages of the disease. The routine administration of drugs so commonly practised is likely to prove more harmful in its effects than beneficial, by interfering with the appetite, digestion, and elimination of waste products by the kidneys, and in other ways.

We must, therefore, rely principally upon hygienic measures to retard the progress of the affection; there is no direct treatment. Among helpful sanitary agencies intimately united with the quality and quantity of the ingesta in the minds of writers on the subject, are the methodic use of warm baths, suitable climatic conditions, and the systematic employment of muscular exercise, but it is not my purpose to discuss them at present writing, valuable as they are as adjuvants. The dietetic treatment is unquestionably of major importance by comparison. The medical profession, however, has not been sufficiently impressed with the necessity for a most careful and minute observance of the requirements of individual cases.

The diet exerts an important influence upon the course and symptomatology, more especially the nervous phenomena of the disease, thus postponing, if not preventing, the later development of true contracted kidney. There is, unfortunately, considerable diversity of opinion as to what constitutes the best form of alimentation in this affection. As before mentioned, the diet should be sufficient for good nutrition, if this does not unfavorably influence the kidney lesion, and the food should be of the highest digestive quality. Moreover, the diet must be flexible and adaptable to the various changing conditions of the patient, as well as the seasons. It should be recollected that individual cases present certain peculiarities, hence it is not possible to formulate a dietary that would be suitable for all cases. The indications vary also with the stage of the morbid process. In the presence of marked gastric irritability, and during acute exacerbations in the course of chronic nephritis, an exclusive milk diet may be necessary, but ordinarily it is not advisable to restrict the food to milk alone. Milk does not furnish sufficient either of the carbohydrates or iron to sustain the system. In my experience, a long-continued restriction of the diet to milk alone has repeatedly produced an undue general weakness. One is struck with the relative frequency with which the energetic use of pure water, milk, and fluids of various other kinds, are recommended in this disease.

The question as to what extent the volume of the blood may be increased by this ingestion of excessive quantities of milk, or water, or both, without increasing the labor of the heart—an already overburdened organ—is not to be omitted from serious consideration. Von Noorden has pointed out that inundation of the vascular system with water does correspondingly increase the work of the heart, which thus sustains permanent damage. In advanced cases of granular kidney, active heart disease is a constant concomitant, and it calls for careful management, with a view to preserving the functional integrity of the cardiovascular system. It seems to me that the usual prescriptions of water and milk with a free hand in established cases, must throw undue labor upon the cardiac forces, and as a consequence favor to some extent advancing dilation. I am, however, in favor of the free use of water and milk in this disease, and simply wish to utter a note of warning, lest an important article of diet, and one that is not attended with the development of toxic substances, as well as valuable means of elimination, be abused. Cases in which the appetite and digestion are still good, require a suitable, mixed dietary. It has been demonstrated by Dujardin-Beaumetz, and other investigators that on a full meat diet the amount of albumin secreted is doubled.

It has been shown experimentally, that an exclusive nitrogenous diet may cause chronic nephritis in the dog, and Adami contends that a similar diet may produce nephritis in a previously healthy human subject. It is clear, therefore, that the larger the quantity of proteid foods consumed beyond certain limits, the greater will be the accumulation of urea in the circulation. The most important solid constituent of the urine is urea; this is also the most irritating to the renal tissues, hence we here see an added reason why foods that contain a large proportion of nitrogen, such as meats, must be somewhat restricted in amount. Certain urinary salts, as chlorids, carbonates, and phosphates, but especially the chlorids, also act as irritants to the kidneys. Per contra, it is my conviction that clinicians manifest a too general tendency toward supplying to the system an insufficient amount of albuminous aliment, in view of the constant systemic drain. Moreover, proteids form the essential basis of all tissues, and perfect metabolism cannot be accomplished without a certain definite quantity of nitrogen, although it is important to employ those substances that are least irritating to the kidneys. On the other hand, it is no less obvious that an appropriate dietary must exercise an important prophylactic effect as regards the ominous uremic manifestations.

Fats in moderate quantity are allowable and often beneficial, hence the use of skim-milk instead of whole milk is not advisable as a rule. I also allow a fair amount of butter unless the patient be abnormally stout, when it should be excluded from the dietary.

As to whether the red meats are more injurious than white in their effects in this disease, there is a wide difference of opinion. Billings, Hare, and other leading clinicians contend that they are not, and with this view, I am inclined, owing to recent experience, to coincide.

Kauffman and Mohr have contributed experimental results on the subject of the relative harmfulness of light and dark meat; they reached the conclusion that owing to the marked variations in the excretion in cases of renal disease, it is difficult to decide upon the exact

importance of any data obtained in a study of nitrogen-excretion, although on the whole there is no evidence that light meat is associated with any better nitrogen-excretion than dark meat. Finally, we must not lose sight of the patient's physical constitution. From this point of view, he may require an increased amount of food on the one hand, or a lesser amount on the other.

The most convenient method of meeting the requirements of individual cases, or in other words, the best working formula is arrived at by considering first what quantity and quality of aliment the patient *should* take, and second, what he *can* take. While the quantity of food must, as stated above, be sufficient to maintain good nutrition, we should select those articles that furnish the smallest residuum to be eliminated through the kidneys.

In general, I would say that whole milk diluted should make up a considerable portion of the diet, while meats should be restricted as a rule, and that fruits, green vegetables, and rice, should be given more freely.

Tyson states that he has known the patient with contracted kidney to maintain, apparently, perfect health for many years on a mixed diet, composed of milk and vegetables, including the carbohydrates. The precise line of action, however, to be followed may be facilitated by indicating the daily physiologic quantity of food, which is, approximately 110 gm. to 130 gm. of albumin, 350 gm. to 400 gm. of carbohydrates, 75 gm. to 110 gm. of fat, 2,500 gm. to 3,000 gm. of water, and 18 gm. to 30 gm. of inorganic salts. Expressed in different terms, the body needs from 2,000 to 2,400 calories per diem during rest, and 2,400 to 3,000 calories during hard labor. This should consist of about 600 calories of proteids, 1,200 calories of carbohydrates, and 600 calories of fat. It may prove helpful to remember that 100 gm. of meat represent 213 calories, and 1 glass of milk equals 128 calories, and an ordinary slice of bread (30 gm.) equals 64 calories, while 18 gm. of butter equal 8 calories. The maximum amount of food physiologically required is also required in chronic nephritis, else subnutrition will manifest itself in anemia and loss of flesh and strength.

It is not practicable, however, to carry out a diet based upon a definite number of grains of nitrogen and carbon, for the reason that patients suffering from chronic nephritis, cannot, as a rule, be induced to adhere rigidly to a prescribed diet. On the other hand, it is feasible and advisable to ascertain what the patient's dietary is, and by simple suggestions make it conform as nearly as may be to an ideal standard. Among the commonest complications stands gastric disturbance, which greatly increases the difficulty of the situation. The particular combinations of animal and vegetable foods are governed to an extent, at least, by the special mode of life.

Considerations such as these bring the physician to the point of inquiring what forms of food, and how much, the patient in question can take. It often happens that milk is not well supported, and even positively refused, in which case the solid proteids or fruits and vegetables must be correspondingly increased. In this connection, it must be borne in mind that the percentage of nitrogen in milk is only a fourth as great as in meats. Vegetables, however, also contain nitrogen, hence we can supply a considerable proportion of this element by drawing more largely than is usual upon the vegetable kingdom.

Next to careful inquiry and experimentation, with regard to the kind and amount of food that can be taken and digested in the given case, stands the manner or system of feeding. Briefly put, the individual meals should be small and taken at 3-hour intervals. The exact extent to which a given diet contributes to the nutrition and the development of bodily strength must be carefully estimated; this is accomplished by noting the effect upon the intensity of the albuminuria; also, and more particularly, upon the kidney elimination of the normal metabolic products, as urea, creatinin, hippuric acid, phosphates, inorganic sulfates, potassium salts, uric acid, ammonium salts, amido acids, chlorids, carbonates, and the xanthin bases. The majority of these substances are imperfectly excreted (the first named six in particular) in marked renal lesions or during an acute exacerbation in the course of chronic nephritis. Ordinarily, the normal products of metabolism are fairly well excreted if the amount of aliment ingested is not excessive. Even during periods of exacerbation in the symptoms, certain products, *e. g.*, uric acid (somewhat irregularly), the xanthin bases, ammonium salts, aromatic sulfate, the chlorids, and carbonates, are well eliminated.

Von Noorden has shown that the secretory power of the kidney in chronic interstitial nephritis is not so great for extraneous substances, such as potassium iodid, salicylic acid, methylene-blue, atropin, quinin, as for the natural products of metabolism. This observer found that unfavorable variations in excretion take place in regard to most of our pharmaceutical preparations, including lead, arsenic, iron, iodin, bromin, boric acid, alkaloid, and many other remedies. Hence chemic substances are not recommended as a test of the secretory function of the kidney. It may be claimed that this method of determining the quantity and quality of albuminoid substances may be allowed in granular kidney, is too difficult and intricate for clinical purposes. While this point must be conceded, it is practicable to fix standard values expressed in bulk or weight, and Von Noorden has already pointed the way as the result of his own investigation: He found, calculating on the basis of 70 kg. body-weight, that from 13 gm. to 16 gm. of nitrogen, and in women 11 gm. to 14 gm., are ingested daily in nephritic patients who enjoy good general health. It was furthermore found that when the ingestion of albumin is increased, so that considerably more than 15 gm. of nitrogen daily have to be excreted by the kidneys, "the elimination becomes irregular and uncertain." Further investigation into the chemic examination of individual products of elimination is urgently required before we shall be able to lay down fixed rules with reference to the quantity of albuminoid substances to be allowed in chronic interstitial nephritis.

Another method of ascertaining experimentally, the secretory power of the kidneys is by cryoscopy. This has the advantage of being more readily carried out, and "gives an index of the total waste-products excreted by the urine instead of that of a single constituent." (Tinker.) Cryoscopy, serves to indicate the presence and degree of renal insufficiency. As a number of recent writers have pointed out, it is especially useful in showing the difference between the two kidneys as regards eliminative power, but the results of different observers are not so uniformly satisfactory as could be desired. I can, however, recommend the method in cases in which, for any reason, a thorough clinical examination is impracticable. Whenever possible, the chlorids and the percentage of urea should be carefully estimated in conjunction with cryoscopy, for the sake of greater certainty as to the condition of the renal lesions. The result is not so favorable when a mixed specimen is used, as when the urine is obtained by catheterization of the ureters. In all cases in which a catheter specimen is unobtainable, cryoscopic examination of the blood is to be given the preference, because the freezing point of normal human blood is practically constant, while that of the urine presents greater variations, hence affords correspondingly more reliable results. It is of the utmost importance that careful measurements of the ingesta be made in chronic nephritis, so that the equivalent of nitrogen and inorganic salts shall be definitely known. Under these circumstances, a chemic examination of the urine, or a cryoscopic examination of the blood,

would give trustworthy results as to the metabolic processes in general, and also indicate the extent of nitrogen retention, should any exist. No pains should be spared to impress upon the patient the necessity for keeping a careful record of the bodily weight at intervals, and the diet must be increased in case the general nutrition declines, as indicated by the strength and the bodily weight, the object being to force nutrition by means of suitable articles of diet to the utmost within the limits of the excretory power of the kidneys.

Finally, I would urge upon my hearers the signal value of systematic blood-examinations as a means of ascertaining the state of the general nutritive processes. A decline in the physical forces has, in my experience, usually coincided with the evidences of progressive, symptomatic anemia, and the latter is often found to be due largely to subnutrition from insufficient alimentation.

THE TECHNIC OF McGRAW'S METHOD OF GASTROENTEROSTOMY.

BY

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Gastroenterostomy was first performed by Wolfer[1] in 1881. He united the jejunum to the anterior wall of the stomach by interrupted silk sutures. We do not know whether Wolfer's patient suffered from "vicious circle" or not, but the patient operated upon by Billroth soon afterward died as a result of constant biliary vomiting, due to the persistent discharge of the bile and pancreatic juice into the stomach.

Courvoisier in 1883, and Von Hacker in 1885, suggested making the anastomosis on the posterior wall of the stomach as a means of avoiding this complication, and the plan is usually adopted, although the majority of surgeons nowadays go a step further and make an enteroenterostomy at the same time as the gastroenterostomy.

These operators used sutures throughout; and this was the mode of performing the operation up to the introduction of the Senn decalcified bone plates in 1887.[2] The Abbe and Davis rings were also employed. These latter devices for the time simplified the procedure, because they held the stomach and intestine in approximation, and gave a firm area to sew over. Sutures were still employed. At first only interrupted sutures were the rule, and much time was lost in tying so many knots. Gradually the interrupted sutures gave way to the continuous Lembert. This was a great element in reducing the time limit of the operation. Time is an important consideration in stomach surgery, as it should be, for that matter, in all operative work. The tendency was for many years following the general adoption of anesthesia, and especially after the introduction of antiseptic surgery, for the surgeon to be deliberate. This was due in large measure to the cumbrous detail and to the fact that surgeons were constantly advancing into new and untried fields. The tendency of late years has been to simplify all surgical technic as much as possible, and to reduce the time limit to the minimum. It is generally recognized that the surgeon whose knowledge of technic and general deftness enables him to complete the operation in the shortest possible time is, as a rule, the most successful in his results.

For this reason the excellent device of the button was hailed as a great advance in all stomach and intestinal work. But ingenious as this invention of Murphy's was, it soon became evident that it had its disadvantages, some of which, succeeding modifications have never completely overcome. In stomach work, especially, the



Fig. I.

button was disappointing to most operators. The large buttons were heavy and caused a constant feeling of distress to the patient. Sometimes they fell back into the stomach, causing uneasiness to both patient and surgeon, who could not but feel that the constant friction of so large a foreign body in an already diseased viscus could not correspond with physiologic ideas of rest and freedom from irritation.

In some cases the necrosis of tissue between the flanges of the button extended outside the line of sutures and caused a fatal extravasation. In several instances, too, the button became impacted in the intestine after it had escaped from the anastomotic area, and if a gastroenterostomy and enteroenterostomy are both performed at one sitting, two buttons must be reckoned with instead

of one. Many surgeons, therefore, gave up the button and fell back upon the suture as the most rational procedure, in spite of the fact that the statistics seem to be in favor of the mechanical methods.

I had already operated several times by the different methods suggested from time to time, when my attention was arrested by the article of Dr. Thos. A. McGraw, of Detroit, Mich., in the *New York Medical Journal*, January 26, 1901, and the opportunity of applying it came on August 31, 1901. So far I have only had 7 cases of this operation, but these cases suffice to indicate that the method is efficacious, rapid, and easily applied. It seems to me that the tying of a knot in the rubber ligature is the weak point in the technic. One of the ligatures in one of my cases broke during this part of the

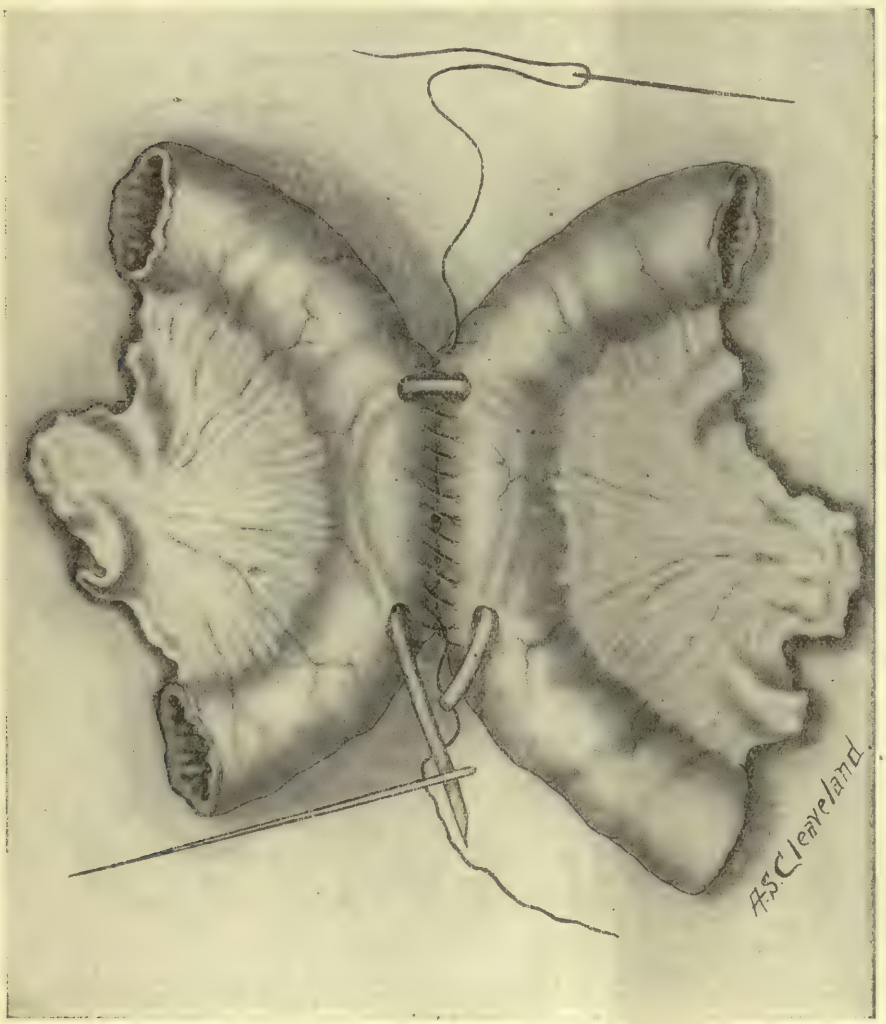


Fig. II.

operation, and then broke a second time. This also happened in Dr. Willy Meyer's first case. Passing the rubber through the stomach and bowel twice made the openings so large in my case that the ligatures did not fill them, and not feeling certain that the ligature was strong enough to hold, I cut it out and completed the operation in the usual way.

This, then, is the weak point in this operation—the danger of the breaking of the ligature. For this reason I think it would be better to make the ligature a little larger and to tie it together simply by means of the silk thread, rather than make a knot in the rubber ligature itself. I suppose Dr. McGraw did not advocate this method for fear the ligature would slip away from the retaining silk suture, but this can be readily prevented by sewing the ends of the silk thread through the rubber before cutting the silk ends short.

The method of application of this operation is as follows:

The stomach having been brought into the wound, the position of the anastomosis is selected on either the anterior or the posterior wall as the case may be. I am in favor of making the anastomosis on the posterior wall whenever possible. This position disturbs the anatomic arrangement of the structures less, and is in the end, I believe, more comfortable for the patient. It has seemed to me that my patients with an anterior anastomosis were not so comfortable as when I had been able to employ the posterior route. Kammerer,[3] speaking of the relative advantages of anterior and posterior gastrojejunostomy, says: "Doyen gives an excellent illustration of compression of the colon by the attached jejunum after anterior gastroenterostomy. But this was due to faulty technic, the point of attachment having been chosen too near the duodenum."

Chliemsky, speaking of posterior gastroenterostomy, says: "At Mikulicz's clinic I have observed a case in which the distended transverse colon compressed the legs of the loop attached to the stomach in such a manner that evacuation was impossible. One can conceive the possibility of such an occurrence in anterior gastroenterostomy, where the loop of small intestine between its attachments to the spinal column and the stomach wall almost encircles the transverse colon. But it is difficult to imagine compression of either colon or jejunum in posterior gastroenterostomy when the relation of these parts to one another has scarcely been changed. This must be extremely rare, and is due, perhaps, to the formation of adhesions—an occasional unpleasant sequel of any laparotomy."

With the stomach and the intestines held out of the way, the ligament of Trietz, the suspensory muscle of the duodenum and mesentery (Lockwood), is sought for opposite the second lumbar vertebra and below the pancreas. This should be seen as well as felt, says Jacobson. Accidents have frequently happened from not observing this precaution. Lauenstein[4] attached the ileum to the stomach only 15 inches from the ileocecal valve, and on the fourth day the patient began to have diarrhea, passed undigested food in the stools, and died on the eleventh day. Page[5] also had a similar experience in a case in which he made the anastomosis only 9 inches from the termination of the small intestine in the large gut. McGraw also had a similar experience in one of his cases. The advantage, therefore, of seeking for the duodenojejunal junction is obvious.

This point having been determined, it is essential, of course, to allow plenty of jejunum being free to allow for motion and prevent too great kinking. If it is a part of the plan to make a jejunojejunostomy as well as

the gastroenterostomy, the loop should be longer than when only one anastomosis is performed. I prefer this latter plan in all cases. Formerly it was claimed that the Courvoisier-Von Hacker operation, by placing the opening in the posterior gastric wall, prevented the regurgitation of the bile and pancreatic secretion into the stomach, but experience has proved that this was not always true.[6] The jejunum should then be followed from the musculus suspensorius duodeni (ligament of Trietz) downward for from 18 to 20 inches. An opening is then torn in the transverse mesocolon where it is free from bloodvessels and the posterior stomach wall drawn through, so as to expose a space about 3 inches long on its greater curvature. The jejunum is then attached along its upper surface, about a half inch from its free surface to the stomach, about an inch from the lower margin of the latter. The junction should be about 3 inches in length and should be made by a continuous Lembert suture. This completes the first step of the operation. (Fig. I.)

The rubber ligature, previously sterilized and threaded into a worsted needle, is then passed first through the stomach walls and then through the intestine. This is best done by seizing the stomach wall between the thumb and index finger, so as to press the stomach wall together over the whole area to be included in the suture, *i. e.*, within a half inch of each end of the line of the Lembert suture. While the assistant holds the rubber taut so as to stretch it, and in that way lessen its caliber, the surgeon passes the needle and draws it through the stomach wall. (Fig. II.)

In order that the exposed viscera may not be soiled by the rubber as it is drawn through the stomach, the whole wound, except that portion of the stomach in the grasp of the fingers, is covered over with a layer of gauze or a towel. So soon as the tension on the ligature is released, it expands and completely closes the orifices of entrance and exit. The intestine is then treated in the same way, the ligature being passed back through the intestine until it emerges opposite to the point of entrance into the stomach. A piece of strong silk is now laid along the line of sutures and the rubber ligature is drawn tight and tied with a single turn. If the rubber ligature is not tied it is simply drawn as tight as possible while the assistant ties the silk so as to prevent slipping. (Fig. III.) It is better to use the silk, whether the rubber is tied or not. The rubber is then tied again over the silk knot, which is once more tied firmly over the completed rubber knot. Silk and rubber are then cut short.

This procedure naturally puckers both stomach and intestine together, and McGraw says that at first he feared lest these folds becoming agglutinated together might be held in permanent corrugation. (Fig. IV.) In this he was agreeably disappointed. Examination of the operative field, even after 24 hours, and before the ligature had made any appreciable progress in cutting through, showed that those folds were already in process of obliteration—in some way the intestine accommodated itself to the new conditions and became speedily smooth and shapely.

Another danger that he apprehended was that the ligation and folding of the intestinal wall might cause irritation, or even obstruction, of the gut. He said that when we considered the severity of the symptoms produced by the pinching of even small segments of gut in strangulated hernia, we might reasonably expect the occurrence of similar phenomena with the extreme pinching of 2 adjacent intestines held together by a tightly-drawn rubber ligature. This never happened. Obstruction occurred in 1 or 2 cases, from too acute bending of an intestine, but ligation itself seemed in no wise to cause distress. Even in gastroenterostomy,



Fig. III.

when the involvement of the stomach in the ligature might warrant the fear of an uncontrollable gastric irritation, this did not occur. It was evident that mere pinching or constriction of portions of the abdominal wall would not of itself cause great irritation, provided that the nutrition of the gut was not seriously interfered with. The symptoms following the operation seemed in no case to depend upon injury done to the intestine. If the wound ran an aseptic course, the animal showed no distress, and in no case was there escape of feces or intestinal contents into the peritoneal cavity.

Starting now from the former line of Lembert sutures, another line is passed below the rubber ligature so as to bury it completely. This line should join the

former line at each end. While it is being put in, the stomach and intestine are held out so that folds may not remain through which leakage might take place. This completes the anastomosis, and in my hands the procedure has taken about 10 or 15 minutes. (Fig. V.)

The margins of the tear in the mesocolon are now attached by 2 to 4 interrupted sutures to the line of union between the stomach and jejunum. At the point where the proximal and distal loops of the jejunum lie closest together, a jejunojejunostomy is performed after the same manner.

McGraw says that in order to be successful it is essential to select the proper ligature. This should not be a rubber thread or a flat band; these lack the necessary strength to cut with certainty through the thick walls of the stomach. It is necessary to employ hard, round, smooth, and strong rubber cords, at least 2 mm. in diameter. This ligature must include in one loop all the tissues which it is desirable to sever. The formation of several small successive loops, as suggested by Bardenheuer in 1888, is an error. In general, the larger the amount of tissue included in the loop, the quicker and more certainly will it perform its work. The rubber ligature must be drawn as firmly and tightly together as possible without breaking, and then fastened by a silk thread which is tied around the knot. Before inserting the rubber ligature, the viscera should be joined by a row of Lembert sutures for a distance of from 6 cm. to 7 cm., and when the ligature has been tied a similar row in front should complete the function. If ever there should be an ill success with the ligature, he believes it would be due to faulty technic.

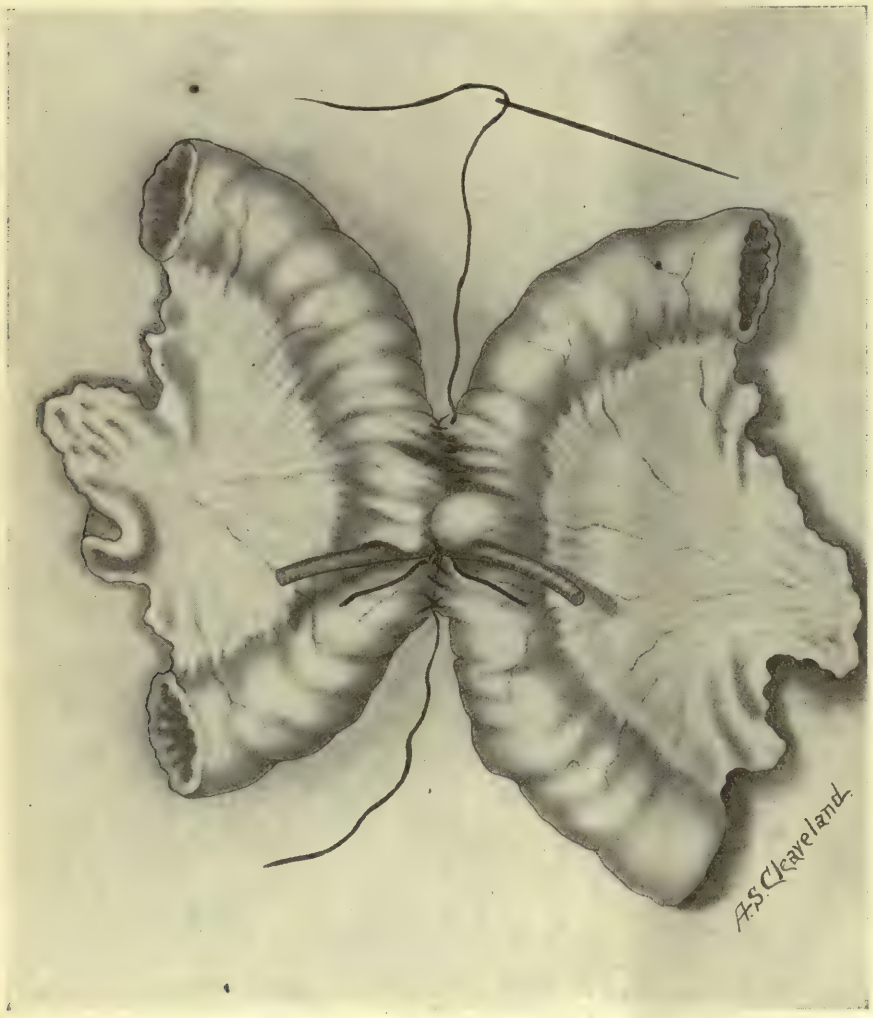


Fig. IV.

In this operation there is no incision of the bowel, no loss of blood, no escape of feces, and no exposure to peritoneal infection from the bowel contents. The operation is followed by a minimum of shock and pain, and in 3 or 4 days there is an anastomosis with a union by first intention. The bowel does not slough under the ligature, but undergoes a process of absorption, and in a few days the edges of the orifices are found closely united without any raw surface whatever.

The advantage of this method over the button is that the surgeon can govern exactly the length of the opening and make it large or small, as may seem best. McGraw also considers that the method is applicable in partial stenosis of the intestine other than the duodenum. In these cases, as a rule, the distress caused by the narrowing of the intestine does not interfere so seriously with the general nutrition as does a pyloric stenosis. He adds, however, that in complete obstruction from any cause requiring an incision into the bowel for the evacuation of gas or feces, anastomosis should be made by other methods.

Feeding may be begun after 48 hours.

H. O. Walker,[7] of Detroit, in a recent article, from which the drawings exhibited here have been kindly copied for me by Major W. H. Arthur, M.D., U. S. A., says that "of all the methods that have been suggested for the performance of lateral intestinal anastomosis, with most of which I have a liberal experience, none, to my mind, possesses the advantages of the McGraw elastic ligature:

1. Its simplicity, which is far greater than any other method yet presented.
2. Ease and rapidity with which it can be done.
3. Less liability to sepsis than by any other method.
4. No danger of a foreign body.
5. A larger opening can be made without liability to a cicatricial contraction.

In one case when he opened the abdomen 3 times, first after 6 weeks, then again after 2 months, later and finally at the end of another month, covering a total period of over 19 weeks, he found the opening very large with no tendency whatever to contraction.

I have been able to gather the histories of 18 operations for gastroenterostomy performed by this method—3 by Dr. Willy Meyer, with 1 death probably from acetonuria; 3 by Dr. H. O. Walker,[8] all recovered; 5 by Dr. McGraw,[9] 2 died from collapse, 1 from starvation, the anastomosis having been made too near the ileocecal valve, and the other from vicious circle. The first two must be considered as absolutely attributable to the operation, but the other two were due to errors in technic that would have occurred with any other operation.

Finally, I have had 7 cases of my own[10] without any deaths. Six of these were successfully carried through

by the McGraw method, but in the seventh the operation was completed by suture, owing to the breaking of the rubber ligature.

This makes a total of 18 cases with 5 deaths, and one failure. Three of the deaths, however, would have resulted, no matter what operative technic had been employed.

This series of cases demonstrates to my mind the feasibility of adopting this method in cases of gastroenterostomy and enteroenterostomy in stomach lesions. It would not be applicable, in my opinion, in cases of enteroenterostomy necessitated by a complete intestinal obstruction. That it might be applicable, however, to cases of incomplete obstruction to the intestine, I am ready to admit. In a letter received November 8, 1902, from Dr. McGraw, he relates a case of strangulated hernia in which he attempted to make the anastomosis by means of the ligature above the point of the gangrenous bowel, allowing a fecal fistula to remain in the hope that this might be closed by cicatrization after the anastomotic opening became patent. His patient, however, was almost moribund when he operated, and did not live long enough to demonstrate the application of the ligature in a case of this kind.

This method of operating saves considerable time and has some advantages over the button. As previously stated, one of the objections to the button is the comparative frequency with which it drops back into the stomach, remaining there as a constant menace to the integrity of an already diseased and possibly ulcerating organ. In the McGraw method, however, we have the advantage of being able to make as large an opening between the stomach and jejunum as we may desire. I believe that a better and stronger elastic ligature is desirable, and I think Dr. Meyer's suggestion of using a rubber cord 4 mm. in size should be adopted. Although Dr. McGraw takes exception to a ligature of this size, on account of its greater bulk and the clumsiness of the knot, the mass would by no means be so large as the button, and would offer none of the objections that are recognized as pertaining to that excellent device. In enteroenterostomies, however, I believe that the button or direct lateral anastomosis by suture is preferable to the employment of the ligature. So far as the feeding of the patient is concerned there is little to choose among all of the methods. There can be little doubt that when the ligature is employed the section of the stomach and intestine has progressed sufficiently by the end of 48 hours to allow of the passage of liquids; and that is as early as we can ordinarily expect to allow patients to take anything into the stomach.

In my opinion, it is a good plan to administer, in all cases in which the stomach is operated upon, a generous supply of peptonized milk and whisky at the time of the operation. For many years this has been my plan at the conclusion of all my gastrostomies, giving from 8 to 10 ounces of hot peptonized milk with an ounce of whisky so soon as the suturing of the stomach to the abdominal wall was completed. There is no objection, so far as I can see, to inserting through a fair-sized cannula the same amount into the intestine below the point of anastomosis, in these cases of gastroenterostomy. Regurgitation along the operative field can be readily prevented by the application of an intestinal clamp, and the small puncture wound can be readily closed by one or two Lembert stitches.



Fig. V.

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[9] New York Med. Jour., January 26, 1901; Jour. Am. Med. Asso., May 16, 1891; N. Y. Med Jour., October 6, 1901.
[10] Med. Jour., December 27, 1902.

Chemistry of the Hair.—There are many ways of classifying the hair, and anthropologists consider it from many standpoints. The chemist now has his word to say on the question, and M. J. Gaube has just furnished us with the following interesting information with reference to the appendages of the skin. Blond hair is characterized by a high proportion of soda and also of silica; red hair contains a very high proportion of silica; black is poor in soda and poor in silica—the latter being almost entirely lacking—but on the other hand is rich in potassium. Thus we have potassic hair, silicic hair, and sodic hair, and as the hair is continually growing and being cut or falling out, it is evident that by means of the hair there is both constant and important elimination of certain mineral compounds.

SUCCESSFUL INTRANEURAL INFILTRATION OF THE MEDIAN AND ULNAR NERVES DURING AN OPERATION FOR DUPUYTREN'S CONTRACTION OF THE FINGERS.[1]

BY

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The following case is reported to show the value of neural infiltration with cocain in a case in which general anesthesia would have been dangerous. The effects were no less gratifying to the patient than to the surgeon. The anesthesia was absolute and lasted for nearly an hour:

Miss H. N. B., aged 62, Sugartown, Pa., entered the Jefferson Medical College Hospital May 20, 1903.

Her father died of enteric fever, her mother of old age; one sister is living and well, another died of tuberculosis of the lungs; 7 other brothers and sisters are dead of unknown causes; one of her sisters has rheumatic gout.

For a number of years she has suffered with catarrhal gastroenteritis, but at no time has she been compelled to go to bed. She has also a troublesome chronic bronchitis. For the last 12 years she has had attacks of pain and stiffness involving the left shoulder, her knee, and finger-joints. She has a distinct cardiac murmur with the first sound of the heart, due to former attacks of rheumatism or gout, and she has gouty eczema. She is feeble far beyond her years, and very nervous about her heart and lungs.

About 6 years ago, without any known cause, a small lump formed on the palmar aspect of the left hand, involving the middle and ring fingers. After 3 or 4 years, contraction of the fingers began. Eight months ago, the flexion extended to the second joints, and now the tips of these fingers are almost buried in the palm of the hand. Her little finger has been flexed for several years, but there is no cord in the palm. Corresponding to the middle and ring fingers are 2 marked cords in the palm.

Urine is turbid, amber, 1.015, acid, a faint trace of albumin, no sugar, urea 1.6%. By the microscope amorphous phosphates and urates, squamous epithelium, and a few leukocytes are seen.

In view of the condition of her heart, her chronic bronchitis, and her general feeble health, I decided to use intraneural infiltration rather than a general anesthetic.

Operation.—May 23, 1903. I first infiltrated the tissues over the median and ulnar nerves at the wrist, in a few minutes exposed these 2 nerves, and injected about 12 or 15 drops of a 1% solution of cocain into each one. In a few minutes I began the operation in the palm of the hand, making 2 incisions, one from the first interphalangeal joint beyond the knuckle of the middle finger nearly up to the wrist in the line of the cord. A similar incision was made corresponding to the ring finger and its cord. The 2 contractured cords of the palmar fascia were then exposed by dissection and excised. The extension of the contracted cords onto the second phalanx of each finger was also thoroughly severed. In spite of this, however, while the knuckle-joints could be almost entirely extended, the second phalanges could not be placed entirely in a straight line, but were in nearly semiflexion. The incisions were then united by silk and the hand placed upon a straight splint which extended to the partially flexed fingers. The operation required a more than usually careful dissection, so that it lasted nearly 50 minutes. At no time did she suffer the slightest pain.

She had no rise of temperature after the operation, the sutures were removed in a week, and her fingers could be fully extended at the knuckles, but were still slightly contracted at the second joints.

DIGESTION OF MILK.*

BY

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Next to mother's milk the milk of various animals, principally that of the cow, is the most important of all foodstuffs. There is, however, a very marked difference between human milk and cow's milk which has been studied closely for many years, but without our having arrived at final results. Almost every day brings new data, supplementing and correcting what had been believed to be unquestionable facts.

As a secretion from an animal organism milk is in close relation to the blood which, by its circulation, supplies the various constituents of milk, but which is still as different in its composition from milk as it is different from other secretions and excretions, for instance the digestive juices, urine, and bile.[1] The peculiar process of secretion by glands can be studied best by observing the chemic and physical conditions present. Scientific research is confined to such limits. We endeavor to understand the influence of the nervous system upon secretions by methods of physical and chemic investigation.

One of the prominent features in physiologic chemistry is the action of ferments, or enzymes. Enzymes or ferments have been discovered in all the fluids and tissues of the body, not only in the intestinal canal, where they play a most important role as digestive ferments, like saliva, gastric juice, pancreatic or intestinal juice, but also in the blood, the urine, etc.[2], [6] Outside of the intestinal or digestive ferments hardly anything is known of their functions, their *raison d'être.*

The action of the digestive ferments seems to be the preparing of foodstuffs for absorption through the walls of the intestinal canal into the vascular system, directly or indirectly into the blood. Blood takes up food, conveys it to the different tissues, feeding them and again abstracting from them used-up materials, products of oxidation, to be excreted by kidneys, lungs, glands of the skin, and also by the liver. Blood also secretes certain substances which have a function either for the body direct—the digestive fluids, or for the future generation—like semen, the nutriments for the fetus in the womb, the milk. A function somewhat similar to that of the circulating blood is observed in the bile and in the digestive fluids. Bile is secreted by the liver, exercises its function in the intestinal canal and then is again, to the greater part, absorbed, while a smaller part forms an excrement and is expelled from the body together with the feces. An analogous process goes on with the saliva, the gastric juice, the pancreatic and the intestinal juices. Their production is intermittent, occurring practically only after food has been ingested. But the total amount generated during digestion is enormous: saliva, 1.5 liter; pepsin-hydrochloric acid, 1 liter; pancreatic fluid, 1.5 liter; liver fluid, 1 liter. As stated before, these liquids are eventually reabsorbed, carrying with them the products of digestion in an extremely diluted state. This absorption is not simply an act of diffusion, or of dialysis, but is accompanied by continuous chemic and other processes. Complex organic bodies like proteids are by hydration converted into peptones, starch into sugar, fat is split into its components, forming fatty acids, glycerin, soap, etc. While passing through the intestinal wall these bodies are changed again, reconverted into fats (emulsified), starch (glycogen), proteids. Peptones are not found in the blood, and albumoses, peptones, glucose injected directly into the blood are at once excreted by the kidneys unchanged.

This short enumeration of facts will make it clear how carefully experiments on digestion in the glass, imitating the natural processes in the body, have to be conducted. All results gained from experiments on artificial digestion must be verified by experiments on the living organism before they can be considered conclusive. It is at present not in our power to meet all the conditions of normal and natural digestive processes in the glass beakers and heating chambers of the laboratory. But I dare say, even inorganic chemistry has not yet succeeded in copying nature's whims in all its phases.

Concerning the digestion of milk, it will be worth our while to recapitulate what milk is. Milk, especially cow's milk, is a liquid consisting on an average of 87% of water and 13% of solids.

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[1] Read before the College of Physicians of Philadelphia, October 7, 1903.

* Abstract of papers read before the "St. Louis Chemical Society" and the "Verein Deutscher Aerzte," of St. Louis.

The solids are:

Butter fat, present in a fine emulsion	3.7 %
Proteids: Casein, not in solution, but like imbibition, soaked in the liquid (similar to gelatin)	3.0 %
Lactalbumin	0.5 %
Sugar of milk	4.9 %
Mineral salts (K_2O, Na_2O, CaO, MgO, F_2O_3, P_2O_5, chlorids), total	0.75%

and various extractives (traces of urea, citrates, lecithin, cholesterin), and enzymes, not isolated as yet.[3] The reaction of milk is amphoteric, the specific gravity averages about 1,032.

It would take too much time to enlarge upon the differences of milk from different animals, or of different periods of lactation, or of different breeds of cows. I shall only dwell upon a very few characteristic and important points. Butter fat is always slightly colored (yellowish). It congeals at 22° C., and melts at 34° C. It holds 87% of fatty acids, insoluble in water (while other fats contain 95% of fatty acids—a fact which assists in the analytic determination of pure butter fat). Furthermore, butter fat contains an unvarying proportion of 2% of volatile fatty acids, quite characteristic for this substance.[4]

The principal proteids are casein, lactoglobulin, and lactalbumin. Casein is precipitated by diluted acetic acid in the cold, lactalbumin by heat, and lactoglobulin by copper hydrate, etc. Casein is also coagulated by rennin, one of the ferments of the stomach. The filtrate from casein in milk is called whey. Rennin casein is also known as paracasein.[5] This is coagulated only in the presence of calcium salts.

Sugar of milk will not ferment with brewers' yeast, but with lactase-ferment and schizomycetes, the commercial products being kumyss and kephyr.

Milk contains also certain ferments which, however, have as yet not been isolated.[3] They are:

1. Milk trypsin, or galactase, a proteolytic enzyme dissolving casein and rendered inactive at a temperature of 76° C.

2. Milk catalase, decomposing hydrogen dioxid; rendered inactive at a temperature of over 80° C.

3. Milk peroxidase, an anaerobic enzyme, which transfers oxygen upon other bodies while it abstracts oxygen from superoxids; rendered inactive at 85° C.

The importance of these ferments lies in the fact that their presence can be demonstrated by the blue color which they give with tincture of guaiac, their absence proving that milk has been boiled or heated. The absence of lactalbumin, which is coagulated by boiling, would also show that the milk had been boiled.[7]

The specific gravity of milk depends upon the amounts of mineral salts and fat present. Skim milk is heavier, watered milk lighter than normal. A curious fact is that the specific gravity of milk sinks immediately after milking, and slowly rises again, to attain the constant value after about 12 hours.[8]

Many foreign substances are apt to enter into the milk from the circulation of the blood, as iodin, arsenic, mercury, and most of the socalled urophanous bodies, excepting bile.

Everybody knows that milk is apt to contain microorganisms. In all over 25 different specimens of them have been studied.[8] A few varieties are always present in pure milk, even before milking, within the gland ducts. Others get into the milk with the atmosphere, or from the rinsing water of the dairy containers, or they are added purposely in pure cultures, as, for instance, in cheese factories to impart certain flavors.

The socalled specific lactic acid bacteria (Hueppe) are always present in sour milk; they cause the coagulation of casein.

Fresh milk, as stated, contains a number of bacteria. But their absolute number decreases within the first few hours after milking, in other words, there is an agency present in fresh milk which destroys bacteria. This agency may possibly be exerted by the enzymes enumerated above, possibly also by the traces of fluorids present in normal milk. But after a certain period the bacteria will grow again and multiply (from spores).[9]

Pathogenic bacteria are very frequently found in milk. A very important fact is that the products of metabolism of the lactic acid bacteria destroy most of the pathogenic microorganisms. Neutralizing milk, for instance, with sodium bicarbonate will therefore prevent milk turning sour and at the same time favor the development of pathogenic bacilli. It should certainly be prohibited.

To render milk innocuous for children it is either boiled or sterilized. In either case all, or nearly all, bacteria are destroyed, but also the enzymes.[10] It is a sufficiently well-established fact, however, that sterilized or pasteurized milk does not agree with babies as a rule, and European and American physicians are abandoning the scheme of feeding babies with it. It is even claimed that pasteurized milk is apt to cause retardation of development and weaken the resistance of the infantile body.[11] This is most likely due to the destruction of the enzymes. Evidently such milk will keep well only while hermetically sealed. Carelessness with it after breaking the seal will not prevent a fresh and most dangerous infection of the milk.[12]

Milk, as the exclusive food of the infant, contains all the nutriment necessary for it in proper proportions. But conditions change with the growing of children and in the adult, and then milk is not properly composed to form the sole and exclusive diet.

Saliva has no important action on milk. Digestion of milk commences in the stomach. According to the latest investigations by Pawlow digestion of milk lasts longer than that of meat; accordingly more gastric juice and steatolytic ferment of the pancreas is secreted. The presence of milk in larger amounts (as the presence of carbohydrates) delays putrefaction in the intestines and diminishes ethersulfuric acids (phenols) in the urine.

Milk coagulates in the stomach by the action of the hydrochloric acid and of the rennin (the same is observed in dogs and rats whose stomach contains no rennin). Human milk is precipitated as a very fine floccular sediment and partly redissolved at once in the acid solution. Cow's milk coagulates in larger lumps. Lactalbumin becomes peptonized quickly. The casein is dissolved slowly, but never entirely. Little clumps of the same, gradually part from the coagulated mass and enter the intestine proper to undergo final digestion there. It is also in the intestine where milk sugar is inverted, a part of which had previously been converted into lactic acid. Fat is split up in the intestine; fatty acids and soaps forming are absorbed, the fat being regenerated at once, after absorption by synthesis of the constituents, the alkali returning into the intestine. In this digestion the steapsin or fat-splitting ferment of the pancreas participates, while the bile holds the fatty acids in solution.

Under physiologic conditions digestion of milk depends upon various circumstances. An exclusive milk diet results in a loss of the nitrogen (proteids) ingested, of 12%. Fat is more thoroughly used up, even after extirpation of the pancreas. According to researches by the United States Department of Agriculture, about 5% of butter fat appears in the feces. It has further been demonstrated that in the adult, milk is more thoroughly exhausted by digestion, if to it bread is added, just as bread remains to a larger extent undigested, if given alone than if milk is added to it.[13]

Sugar of milk is absorbed in quantities only when well diluted, as it is in milk. Any excess of it, or if not secreted by the breast normally, will appear in the urine and may be the source of mistakes in analyses of urine.

As stated before, experiments on digestion, to be conclusive, should imitate the natural process as closely as possible and must be verified by controls in the living organism.

Milk is first attacked by the gastric secretion, which is a mixture of hydrochloric acid, averaging 0.2%; pepsin, 0.02%; rennin (both in a very diluted state) and water. In the stomach, digestion goes on at a temperature of about 38° C. Mixing milk with an artificial gastric juice of such a concentration will rapidly curdle and gradually dissolve partially, never completely. The resulting solution should be continuously dialyzed out, which, as experience shows, favors further solution, more acid must be gradually added, the pepsin is usually present in sufficient amount. A measured quantity of milk having been treated in this manner, the whole is filtered through a weighed filter and then the digested filtrate examined, the residue on the filter quantitatively determined. Whatever has remained undigested, is collected again and treated with an artificial pancreatic juice. Pancreatin of about 0.5% in solution rendered alkaline by adding .25% of soda will continue the dissolving of proteids until only a very small percentage of undissolved matter remains, commonly called *dyspeptone*.

Experience has shown long ago that pancreatic juice is quite apt to putrefy, and that a decomposition of proteids may take place, leading to poisonous end products—indol, skatol, etc. One has, therefore, in experiments on artificial digestion generally added small proportions of antiseptics, like salicylic acid, boric acid, chloroform, etc., to keep the process within normal limits.

Milk, as stated, is not wholly digested in the stomach. Egg albumen and meat albumin (myosin), also fibrin are more completely converted into peptones by the gastric juice. This fact has frequently been overlooked by investigators. I have made a series of experiments on digestion of these substances with pepsin and with pancreatin, partly to test the comparative value of digestive ferments sold in the market, partly to study the effect of antiseptics on digestion. It has very frequently been stated that all antiseptics are dangerous, if not directly poisonous, in spite of the wellknown fact that artificial pancreatic digestion is almost always done in the presence of some antiseptic. It is claimed that antiseptics either exert an untoward influence upon the organism altogether, or attack the digesting surfaces of the intestinal canal, or render the foodstuffs indigestible by forming a chemic insoluble compound with them. One has not always treated this subject fairly. Alcohol in concentrated form is undoubtedly a poison and acts as a caustic on the lining membrane of the stomach, but greatly diluted it is not of such a character. Concentrated HCl is a very poisonous and caustic body. In great dilution it is a normal constituent of the gastric juice. So is distilled water and NaCl. Antiseptics are given in very large doses to patients without any ugly effects. Diseases of digestion are very frequently treated by giving large doses of antiseptics with most happy results. What logically has a curative effect upon an inflamed and disordered stomach ought not to be so deleterious to the healthy surfaces as is claimed.[14] The chemic action of all the antiseptics usually employed is that they rapidly form a combination with the protoplasm of bacteria, which paralyzes or destroys them. The antiseptics also simultaneously combine with the proteids present in solution. Any excess of such an antiseptic is apt to enter the blood by absorption, direct, or by later solution of its combination with the proteids in digestion. The question to be decided now is: What effect will such an antiseptic have upon the organism? Mercury sublimate is known to be a most violent poison for bacteria and for the human body. Phenol is not indifferent either. The antiseptic wanted, if needed at all, should be neither poisonous to the human organism, nor have a disagreeable taste, nor interfere with digestion.

Many experiments of the latest date seem to demonstrate that boric acid in large doses continued for many weeks is not innocuous to digestion, but may even cause gastric disorders.[15] Such doses are, however, not customary in preserving foodstuffs. Salicylic acid is claimed to have a bad effect upon inflamed kidneys. The assertion should be proved.[14] In severe forms of gout with Bright's disease it is frequently administered in large doses with beneficial results. Benzoates have not been proved harmful. It should be insisted upon that in discussing the question of the admissibility of preservatives mere assertions should be ignored; only scientifically conducted experiments can prove anything.

The most generally employed preservative at present is undoubtedly formaldehyd. Formaldehyd is believed to be one of the most important bodies in metabolism. Sunlight, acting on the green leaves of the plants, in the presence of carbon dioxid and water dissociates oxygen, after the formula: $CO_2+H_2O=CH_2O+O_2$. It is well known that plants under the influence of the rays of the sun generate free oxygen, decomposing carbon dioxid. The free oxygen escapes into the atmosphere. But CH_2O=formaldehyd is condensed into sugar, serving to build other compounds in the plant, which eventually becomes a food for animals.[1] The formaldehyd, at first free on the surface of the plants, also about the roots in the ground, acts furthermore as a protector of the plant against bacteria.

Medicinally, formaldehyd has been employed largely of late, usually in polymerized form, urotropin, cystogen, etc. I have not succeeded in finding any record of poisoning by it when administered in the usual large doses internally. As a gas, vapor, it has a very irritating effect upon the conjunctiva, the mucous membranes of the nose, larynx, etc. In concentrated form (the 40% solution usually advertised very rarely is that strong, that strength being the highest possible but not the commercial concentration) it benumbs the skin, and internally, by stomach or rectum, causes distress. It coagulates albumin, though not nearly so completely as concentrated alcohol would.

It has been stated that albumin coagulated in the presence of formaldehyd is insoluble. But such is not the case. In diluted form it will cause the casein precipitated by pepsin-hydrochloric acid to appear in larger lumps which do not dissolve as readily as if no formaldehyd was present, but the process depends entirely upon the dilution, as I have demonstrated by the following experiments. To simplify the experiment, skim milk was employed, containing 2,989% casein (beside the lactalbumin, etc.). To one portion was added formaldehyd (titrated with iodin and sodium hyposulfite) to make a solution of 1 : 1,000; to another portion to make it 1 : 10,000. Hard glass tubes were filled with accurately measured quantities of these two solutions, and to them added pepsic-hydrochloric acid (HCl 0.2%; pepsin [S & D], 0.02%), also pancreatin (Parke, Davis) of 0.6%, with Na_2CO_3, 0.3%, and altogether simultaneously immersed, well corked into a water bath digester with automatic stirrer and thermostat, for 2 hours, at 38°C, with frequent shaking of the contents. The formaldehyd had been allowed to act upon the milk for 24 hours, before the digestive fluids were added. The results were as follow:

Milk and pepsin-hydrochloric acid with or without formaldehyd coagulated rapidly, the latter, however, on shaking, forming a finer precipitate than the former. The precipitate of formaldehyd, 1 : 10,000, digested nearly as rapidly as the milk free from it, while of the solution 1 : 1,000 only about one-half as much was digested (the precipitates were collected on weighed filters, dried and weighed). As is well known, the pure pepsin-hydrochloric acid never digests all of the casein.

The pancreatic solutions acted quite rapidly. But of the pure solution not all was digested, an appreciable amount of sediment (dyspeptone) remaining in the filter, while the addition of formaldehyd (1 : 1,000 as well as 1 : 10,000) showed a complete digestion of all the casein, leaving no residue.

To decide what effect formaldehyd-pancreatin would

have on its curdled casein, resulting from the action of formaldehyd-(1 : 1,000)-pepsin-hydrochloric acid, a fresh portion of the milk was treated as above; after 2 hours the liquid decanted, the curd washed out, carefully neutralized, and then formol-pancreatin (1 : 1,000) added. An almost instantaneous solution of the casein was observed, leaving no residue whatever.

Such action evidently cannot be due to the fact that formaldehyd prevents the adverse effect of bacterial action. The change is altogether too rapid, and other "preservatives," though they favor the action of pancreatin, always leave a residue of dyspeptone. Further experiments in this direction are now being made in my laboratory.

But, as stated before, digesting experiments in the glass prove nothing, if not verified in the living organism. I find in the Experimental Station Record of the United States Agricultural Department, Vol. xiv, No. 7, p. 679, a report on the influence of preservatives upon the food value of milk. According to this, C. F. Doane and T. M. Price* found "on an average 1.31% more protein and 0.99% more fat were digested when the milk was preserved with formaldehyd (1 : 10,000, added just before feeding the calves) than when no formaldehyd was added." Borax and salicylic acid gave unfavorable figures. Experiments were conducted for 2 years. The authors conclude that adults may drink formaldehyd milk with impunity, "but in the tenement districts of the cities, where the babies have a hard struggle for life, it takes a very little to turn the scales either in favor or against their chances for life."

After my experiments in the glass, the experiments conducted by the Maryland Station are readily understood, and both experiments tend to show that under ordinary conditions milk containing a very small amount of formaldehyd is better digested than pure milk.

The ambiguous conclusion drawn by the authors quoted above would equally apply to ordinary "pure" milk. There is no evidence on record of the danger of formaldehyd in a dilution of 1 : 10,000, or, as usually sold, 1 : 25,000, but milk frequently contains pathogenic bacteria, and is the cause of most alarming mortality among infants. Formaldehyd destroys the bacteria (not the spores, however)[16] consequently when "the babies have a hard struggle for life, etc.," pure milk should be forbidden?

Chemic analysis of milk cannot discover anything but gross adulteration in its commercial value, and would prove nothing as to its wholesomeness. Bacteriologic examination of all the milk is practically impossible. The only safeguard for the public lies in a close surveillance of the cows, stables, and vessels used. Still, this cannot be done to perfection. Therefore, preservatives whose harmlessness is proved by careful experiments (not simply by off-hand assertions) should be used under the direction of the government. The idea that the use of preservatives would make the milk dealer careless I cannot indorse. The same would apply to the advice generally given, that the cans should be sterilized with live steam. That might induce the unclean wholesaler (there are such) to be just as careless.

At any rate, even an accidental overdose of an antiseptic is not nearly so harmful as infected milk.

In conclusion, I would state that when preservatives are used (on the sly) the mortality of infants has decreased to a marvelous degree, and where the most stringent milk laws are enforced the mortality rate remains alarmingly high, artificial infant foods adding to this effect.

The absolute forbidding of the use of preservatives in milk is illogical and detrimental to the health of the community.

Since writing the foregoing I found the following editorial remark in the *Medical Record* of May 30, 1903, referring to Dr. Mohler's experiments (U. S. Department of Agriculture):

> . . . Whether, however, it would be practicable to exclude all cows which react to the tuberculin test from use for dairy purposes is another matter. The number of cows affected to a greater or lesser degree with tuberculosis is enormous, and so long as the point in regard to the danger of milk containing tubercle bacilli as human food is unsettled, it would, perhaps, be asking too much of herd owners that they should not use animals which have reacted to the tuberculin test for dairy purposes. On the other hand, there can be no doubt that every possible step should be taken to extirpate tuberculosis in cattle, and to safeguard the public from the menace of infection by such means.

This seems to imply that herd owners need protection more than the "babies in the tenement districts."

* Maryland State Bulletin 86, p. 64.

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MERCURY: ITS ADMINISTRATION HYPODERMICALLY IN SYPHILIS.

BY

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As the history of mercurial injections has been sufficiently depicted in various essays, this article will pass over the period of its early ascendancy and confine itself to the recent advanced strides and perfected methods that this branch in syphilotherapy has made and sustained. To judge the merits of any comparatively new procedure needs an accurate weighing of all its phases, and this can only be accomplished by confining points of value under their respective headings and in the perusal of recent literature on the subject. In trying to follow these ideas I have adopted such divisions as will best allow the subject to be handled concisely and accurately.

METHODS OF ADMINISTERING MERCURY.

Internally, cutaneously, and hypodermically are the three methods generally employed in administering mercury for its therapeutic effects. Internal medication, the most popular form of treatment, answers the purpose in the majority of cases. The choice of the preparation of mercury to be used depends upon the case; if looseness of the bowels results, but little absorption can be depended upon unless some other preparation be found which is less irritating; on the other hand, when a secretory sluggishness exists, as in constipation and hepatic inactivity, a preparation nonsuitable in another case would lend additional value to its therapeutic action. Cutaneously, inunctions and fumigations have been the most popular methods, best accomplishing their purpose. Inhalation was for a time considered. The value of inunction must not be underestimated, as it is usually productive of the therapeutic results desired. Opposing it, only, lie the facts that it consumes a large amount of time and is uncleanly, both matters of slight importance when cures are concerned. Its greatest objection is its publicity, for the continual soiling of clothes and body may lead to embarrassing disclosures. Under this heading may be considered the intratracheal injections of

mercury as recommended by Carnot,[1] who uses an oily solution of mercuric iodid for direct injection into the trachea. He claims for this method ease and simplicity, no pain, and that the patient does not give the faintest suggestion of taking an antisyphilitic treatment. The stomach is not upset, and the treatment is well tolerated.

Its hypodermic use is productive of accuracy, secrecy, and results. The line between the physiologic and therapeutic effects of the medicine on one side and the constitutional effects on the other can be evenly sustained. It is the only method by which an accurate knowledge of the quantity of medicine used can be obtained. Leredde[2] states: That we have no reason to adhere to mercurial friction in the treatment of syphilis. Before the introduction of injections they were the best means known, and were generally more active than mercury by the gastric route, but that they should now be abandoned without regret. The only means of knowing the exact amount of mercury we are introducing into the system is by injecting it, and that injections are today the only mode of treatment which allows us to realize what may be called an intensive mercurial treatment. Under the hypodermic method comes that of intravenous mercurial injections, a manner of medication less called upon in syphilis than any other, still Tommasoli[3] has been using this method for aborting syphilis instead of using it as others have recommended, merely as a last resort.

FORMS OF MERCURY FOR INJECTION.

The list of mercurial salts has been most thoroughly searched in the effort to find one which will answer the best in every given case. Among the various preparations and their advocators we find the following: Mercuric chlorid (Hunter), calomel (Scarenzio), yellow oxid (Watraczewski), salicylate (Silva Aranjo, Neisser, Eich, Jadassohn), thymoloaceticum (Levy), succinimid (Arnaud, Seleniew), bicyanid (Boer), gray oil (Lang), and various others, all falling under 2 classifications, namely the soluble and insoluble salts. Chemic combinations of peptonates, albuminates, and benzoates, while suspensions in water, oil, glycerin, lanolin, paraffin, etc., have all been recommended with some special virtue. Deductions from literature lead me to state that up to the present time no one preparation has been accepted to fill all qualifications, the physical condition of the patient, his finances and available time must all be taken into consideration. Julien[4] states that no one of the soluble preparations is considered the best in all cases. Calomel is recommended by him when a rapid diagnosis is required to determine indications for operation. He finds the salicylate well borne, producing but little reaction upon the tissues, while the use of gray oil is more active but less well tolerated than the salicylate. Fuller,[5] in an article on this subject, states his preference for the salicylate. Heidingsfeld[6] advocates a modified formula of Lang (gray oil); Düring[7] the salicylate, Tommasoli[8] the mercuric chlorid, Leredde[9] cyanid, sublimate, benzoate, and biniodid, and in exceptional cases the mild chlorid. In this city, where baths are an adjuvant, daily injections of the sublimate have answered the purpose the best in the majority of cases.

TECHNIC AND PRECAUTIONS.

As the posttrochanteric region is freer from pressure and probably less sensitive than other portion of the body, it is the space usually chosen for injections. Antisepsis must be carefully observed, and the injections given deep into the muscles. The method I have adopted consists in the use of an all glass syringe with a platinum needle, thus allowing easy sterilization. For thin people I use a 1 inch needle, for the moderately fleshy I find a 1½ inch needle is necessary. The patient is placed upon a table, face downward, and told to relax the gluteal muscles. The surface is cleansed with either ether or alcohol, and then with the index finger and thumb of one hand, spread apart, about 3 inches, pressure is made on each side of the point of injection; this tightens the skin and flattens the subcutaneous tissues. The needle is entered perpendicularly to the surface and forced into the muscular tissues, the fluid is slowly injected, and after a few seconds the needle is rapidly withdrawn and the spot rubbed with alcohol. Care should be taken that the injection is not made into the subcutaneous tissues.

DOSAGE.

The dose must be individualized for each patient, no matter what preparation is being used; general observations, however, have given us certain well-defined limits. Leredde accepted .02 gm. of either the benzoate or the biniodid as being the general minimum dose in an adult for intensive treatment; and in severe nervous manifestations he advocates 3 cg. or 4 cg. of the cyanid or sublimate, or 6 cg. to 8 cg. of the benzoate or biniodid. Julien, in a general conclusion on mercury salicylate, states that an average dose of .065 gm. should be given twice weekly for ordinary cases. Tommasoli, in his abortion of syphilis by intravenous mercurial injections, usually begins with 6 mg. to 8 mg. of sublimate, and pushes it rapidly to 14 mg., 16 mg., or 18 mg., repeating the injection nearly every day in some cases, the same continued for from 15 to 32 injections as shown by his report on 44 cases. Düring uses the salicylate twice weekly in doses from .08 gm. to .10 gm. From the foregoing it will be seen that no fixed dose can be laid down that will serve equally well in all cases. Special care of the toilet of the mouth, nutritious food before and during treatment, exercise, and baths, greatly influence the quantity of medicine that may be given. The principle in severe cases is to give the largest doses possible without producing ptyalism.

GENERAL CONSIDERATIONS.

The first point to be considered is the immediate local action of the drug; this usually brings up the question of pain; this factor necessarily constitutes one of the chief objections to the use of injections, yet my experience has taught me that pain is by far the exception, instead of the rule. We find in medical literature many formulas for mercurial injections that are mentioned as having the special virtue of being comparatively painless. The danger of local complications has been minimized; proper technic, care in making the preparation, and cleanliness have all helped reduce the frequency of abscess formation. The following extract may be of interest here: Pezzoli[15] reports the histologic findings in a man who was killed by a stab wound while being treated for syphilis. He had been receiving the intramuscular injections of the mercury salicylate in liquid vaselin. Cavities were found in the muscles filled with vaselin, surrounded by giant-cells formed by the foreign bodies introduced. Besides, waxy degeneration of the muscle cells, round-cell infiltration, and hyperplasia of the fatty tissue were noted. Inflammation followed by necrosis resulted from the injections. Where there is such a great mass of muscle cells as in the gluteal region, the function remains unaffected by the injections, while the mercury is absorbed by the lymph-vessels and its therapeutic effects obtained.

As occasions for such histologic examinations do not present themselves very frequently, practically nothing can be told in reference to this subject. As for remote results at the point of injection, Kulisch[16] reports a peculiarly interesting case in which the formation of a syphilitic gumma occurred at the point of injection of the salicylate given 5 years previous. The gumma was opened and some of the broken-down muscular tissue examined and found to contain mercury. It is probable that in this case, the mercury, not being absorbed, acted as a foreign body, causing chronic inflammation which predisposed the tissue to the action of the syphilitic

gumma. Such findings, however, are exceedingly rare when we take into consideration the thousands of injections given annually.

Complications in remote parts of the body following mercurial injections may be considered very rare; such complications can occur when the end of the needle pierces a bloodvessel and an oily solution is injected immediately into the circulation, producing symptoms of embolism, such as cough, pain in the chest, dyspnea, syncope, etc. Any serious complications of this character are very unusual; in the majority of instances a few moments' time, during which the recumbent position is retained is usually sufficient to eradicate all symptoms. In the use of a watery solution of a soluble salt of mercury, there is not the slightest possibility of such a complication, even if the injection is made direct into the circulation; thrombosis, embolism, or coagulation do not occur; a slight headache or muscular weakness are at times the only remote symptoms. In over 2,000 injections of the sublimate I have never encountered any severe complications.

In a preliminary article[17] on this subject, I itemized the advantages and indications of this form of mercurial treatment, the whole being capable of being condensed into the following:

1. The hypodermic use of mercury is indicated in all cases in which other forms of treatment do not control the symptoms.

2. In all cases in which symptoms are controlled and held under abeyance by other forms of treatment, only as long as the treatment is continued. Cessation of same being soon followed by recurrence.

3. In all cases requiring secrecy; this method is especially adapted to such cases whether in man or woman.

4. When an intense mercurialization is required, for example, as necessary in the treatment of the severer nervous lesions.

Upon mere inspection, it can be seen that a great number of subheadings might be put under each of the above 4 clauses; but to cite all would only entail the use of a great amount of space and time. A point of interest may be elucidated under clause 4, this intense mercurialization being of special value when combined with full doses of the iodid by the mouth in many grave lesions of the nervous system when not beyond the point of being influenced by an antisyphilitic treatment. I have seen improvement take place in such individuals when all other methods had failed.

ACCESSORY TREATMENT.

To obtain the best results in an antisyphilitic treatment and to establish a greater tolerance for the medicine, certain details are of paramount importance. Special attention should be given the teeth and mouth, the former must be thoroughly cleansed of all tartar, cavities filled, and such stumps extracted as found necessary. During the treatment, the teeth should be thoroughly cleansed in the morning, after each meal, and before retiring. A medium tooth brush is to be used, so as to avoid mechanical irritation of the gums. After each cleansing of the teeth, the mouth is to be washed out with hydrogen dioxid followed by a mild astringent and antiseptic. Upon careful inspection of the mouth from time to time, points of inflammation, if found, should be touched with a solution of silver nitrate, chromic acid, or iodin. The use of alcohol should be absolutely interdicted. The diet should be wholesome, nutritious, and abundant, all condiments tending to produce an increased flow of saliva should be avoided. The observance of strict hygienic conditions, outdoor exercise, and baths plays a most important part in the treatment of every syphilitic. Outdoor exercise, fresh air, and sunshine are absolute prerequisites in the production of the best results. Douty,[18] in an article on "The Open-air Treatment of Syphilis," recommends highly the use of abundant fresh air and moderate systematic exercise in those cases of syphilis in which, despite well regulated doses of mercury and tonics, the patients are reduced in strength and vitality. If the food for thought in his article and the suggestions it imparts in reference to the foregoing factors were only more seriously considered in all cases of syphilis, complications and relapses would be less frequent. The value of baths is self-evident, their assistance in absorption, elimination, increased metabolism, and cleanliness are factors of great importance; greater quantities of medicine can be given and utilized, and beside, a matter of no less importance is that baths themselves are a decided tonic in all syphilitic subjects.

In conclusion, I will state that the more general adoption of mercurial injection in syphilis will be productive of the following results:

1. It will control and cure many cases which under other methods of medication were known as "irretractable forms of syphilis."

2. It will place the treatment of syphilis upon a more scientific basis, and will allow the keeping of better and more accurate records.

3. It may be considered absolutely essential in syphilitic lesions of the nervous system, still amenable to an antisyphilitic treatment. In this undoubtedly will be found its greatest field.

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VOLVULUS OF THE STOMACH.

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The time has come when the monopoly of "volvulus" for centuries held by the intestinal tract is to be wrested from it, and, as a result, "volvulus" will no longer be the exclusive trademark of the gut-trust. Another organ is in the field "hungry for trade." That the stomach may be displaced upward, downward, or laterally, and, that through adhesions, ulcerations, and tumors it may change its pear-shape into the shapes of all the fruits of the Garden of Eden, we have learned to admit with resignation. But that a stomach that for many a year has moved and had its being within the prescribed natural circle of peristaltic undulations should all at once perform a feat approaching that of "looping the loop," should make a complete turn around its axis and remain forever in that uncomfortable position unless relieved by some external force, is something we have not expected even from that wayward organ. But the older we grow the more we learn of the acrobatic pranks of the stomach.

Since none of the recent textbooks on practice of medicine and diseases of the stomach contains any reference to the subject of volvulus of the stomach, I think it pardonable, to say the least, to call the attention of the medical profession to this new gastric entanglement.*

*Since writing the above, I have come across a note made by Dr. Charles G. Stockton, the able editor of Riegel's Diseases of the Stomach (Nothnagel's Practice, 1903, Philadelphia, Saunders & Co., p. 457), which reads: "The stomach sometimes becomes twisted upon its axis, producing a state that may be called volvulus of the stomach, an instance of which has been reported by Wiesinger Beck also had had 2 cases in which he confirmed his diagnosis by operation" Here I take the opportunity of saying a word about the troubles one is liable to have as a result of a misspelled word. I spent some time and labor in procuring the *Centralbl. f. Chirur.*, September 3, 1898, to which reference is given of Beck's cases, to find that it is only an abstract and not an original article, and, what is more, that it is not Beck but Berg, whose report was known to me from another source.

So far as I know, the following cases are the first on record, and are destined to become classic so far as volvulus of the stomach is concerned. I shall therefore detail them at some length.

CASE I.—This case was reported by Berti,[1] in 1866. A woman of 60, in good health, 3 hours after partaking of a frugal meal, was taken suddenly with violent pain in the epigastric region, accompanied with nausea and vomiting. Her abdomen became distended. A dozen leeches were applied, 2 ounces of castor-oil were administered, but were at once rejected. In the morning her pain was not lessened, the abdomen grew more distended and tympanitic, vomiting occurred after each attempt at ingestion of fluid, constipation was absolute. Calomel was not retained, rectal enemas with asafetida produced no results. At 4 p.m. Berti found the patient extremely feeble, but the mind was perfectly lucid; face pale, skin cold, lips white, tongue white and cold, respiration quiet, pulse extremely small and weak corresponding to heart-beat; the epigastrium painful only to deep pressure, the abdomen enormously distended; vomiting after each ingestion of fluid, but never spontaneously; the vomitus colorless and odorless; urine scanty, no escape of flatus from anus. Palpation gave but little information; percussion elicited all over abdomen, a clear, high note except in the right hypochondrium under the last ribs, where a small area of dulness was found, and where under deep pressure some resistance was felt. She died a few hours after the examination. On opening the abdomen the stomach was found very much distended, occupying the entire peritoneal cavity; its surface was of a red hue, crossed by large veins. The orifices were twisted one around the other, and lay hidden under the body of the stomach in that region of the right hypochondrium where the dulness was elicited on percussion. The transverse colon was compressed between the stomach and diaphragm and liver; the intestines were empty. The spleen and pancreas were displaced together into the subpubic region. There were no adhesions between the esophagus and duodenum at the point of their entanglement; no obstruction of their lumen except the compression. It was sufficient to take the whole mass with both hands, including the spleen and pancreas, and give it two horizontal turns from left to right in order that each organ should resume its respective normal position, and that the 2 orifices should become permeable. The esophagus and duodenum were each tied at a short distance from their respective orifices and then the stomach was slit open. Gas escaped with a whistling sound, then followed the contents, partly liquid and partly solid, composed of the food and drink imbibed at the last meal, and also a little blood. The mucous membrane of the stomach was congested and stained black as if touched with some corrosive substance. The cardia and pylorus were normal. The black stain was due to ecchymosis produced by rupture of bloodvessels under the enormous distention of the stomach. No other acid except butyric was found, nor any mineral substance capable of producing destruction of tissue. The intestines were anemic except the transverse colon, which was red.

CASE II.—Berg[2] reported 2 cases in 1895. The first was that of a man of 41, who for several years suffered from nervousness, especially after exertion, and also from insomnia. On two occasions after violent exertion he coughed up some blood. Otherwise he was never sick. Although enjoying good digestion, he was thin. From time to time he suffered from belching, and on two occasions had an attack of pain in the abdomen, which came on from 2 hours to 3 hours after meals and lasted for about 2 hours; the pain shifted from one place to another. He never vomited nor had sour eructations, or pressure in epigastrium after meals. Stools were sluggish but regular. During the last 3 years, following his physician's advice, he took his meals 4 times a day, at regular hours, ate slowly, and avoided liquids as much as possible. During the last month, with a view of increasing his body weight, he drank large quantities of milk.

On November 12, though not having his usual appetite, he ate an unusually large meal at noon, during which he eructated gas, and immediately after he felt severe pain in the abdomen. He continued his meal, and the pain increased in severity. At this time he became nauseated. He went to his office where he vomited 3 or 4 times. At 3 p.m. he came home and vomited food for the last time. Nausea ceased, but the pain continued. He was put in bed. Hot fomentations were applied, and enema given, and pieces of ice given by the mouth. At 7 p.m. the patient complained of severe pain, nausea returned, temperature 37.7° C., pulse 80. The abdomen was not distended, but on percussion gave a tympanitic sound. The region along the outer border of the left side of the thorax for about 2 cm. downward was somewhat hard and sensitive. The vomited matter had a rancid odor, and was composed of discolored meat and a little fluid. A weak solution of soda given the patient was at once rejected. During the night the pain persisted, and every drop of water, medicine, or solid, swallowed was rejected. The restlessness increased. On the following day at 2 p.m. the left hypochondrium and mesogastric region were found distended, and the inferior half of the left thorax was projecting and felt like a tumor—sensitive to the slightest pressure, extending by its inferior convex border on the median line, 7 cm. above the umbilicus, and on the right to the region of liver dulness and to the parasternal line. Throughout the extent of the distention the percussion note was tympanitic, except the inferior zone which was absolutely flat for about 3 cm. to 4 cm., which on the left toward the spleen reached the size of a hand. When the patient changed his position, percussion gave a different note. The region which was flat before gave a tympanitic sound, and the lower region of the right side became flat. The rest of the abdomen was retracted, soft, and not sensitive. The cardiac pulsations were easily felt at the fifth intercostal space outside of the mammary line. The position of the lung was normal. Respiration not impeded; no palpitation. The pain varied with the position of the patient, but the distention remained permanent. An esophageal sound was introduced to a depth of 47 cm. from the dental arch when it met absolute resistance. Temperature 37.7° C. Pulse strong.

At 6 p.m. an abdominal incision 8 cm. long was made in the median line. The anterior surface of the tumor was covered with omentum. An exploratory sound was introduced into the tumor, but little gas escaped, and after some manipulation a clear liquid of acrid odor escaped in gushes. The sound was replaced by a trocar. The smaller the tumor became, the higher rose the point of the puncture together with the trocar toward the left side so much so that after having evacuated one liter of the fluid it was feared that the incision and trocar would disappear in the abdominal cavity to the left of the incision. The trocar was removed and the puncture closed up rapidly. The tumor was still too much distended to allow an examination. An oblique incision was now made along the left border of the thorax, when it was easy to notice that the omentum which covered the tumor increased in thickness from above downward, which confirmed the diagnosis of torsion of the stomach. An incision was then made into the tumor and two more liters of fluid which became more and more turbid and was mixed with food debris escaped. The tension entirely disappeared. The wound in the stomach was closed. When the omentum was pressed down, one could see from left to right the pylorus, normal in size and thickness; obliquely from right to left, and from below upward the right border of the fundus; a little farther the whole of the omentum as well as the transverse colon could be lifted up. There were no adhesions, no constrictions, no peritoneal changes. The walls of the stomach were thin, but otherwise normal. After having replaced the stomach, the small curvature appeared to lay deeper than in the normal state.

The further course was uneventful. There was no fever, no vomiting. Food was retained. The wound healed by first intention. Patient left the hospital 12 days after the operation, and was able to take up his vocation a week later.

CASE III.—The second case of Berg[2] was that of a female, aged 45, who for 14 days suffered from painful deglutition. She had had measles when 20 years old, and has never been sick since. She had no digestive trouble, except during her menstrual periods, and also after taking fatty substances, when she would experience a sensation of weight in her abdomen and belch up some acid liquid. Stools were frequently hard; had gas in abdomen and slight colicky pains. No hematemesis. Her dyspeptic troubles were not aggravated of late, but she always felt better after taking a few bottles of Vichy or Carlsbad water. On 2 occasions lately, after taking a large meal, she had severe pain in the epigastric region; there was some vomiting: from these attacks she recovered in 24 hours. Fourteen days ago she had a similar attack after eating an apple. It commenced in the night. She had violent pains in the epigastric region, and toward morning vomiting set in, which continued for 2 days. During the first days she experienced some difficulty in swallowing and retaining food, which gradually increased. Food was rejected a few minutes after ingestion without the effort of vomiting, and the patient had the sensation of having "a cork in her stomach." At first only solid foods were rejected, but soon liquids were also regurgitated, so that during a few days she could retain only a little tea. During the 2 days before she was admitted to the hospital she rejected every drop of water she swallowed. On the evening of October 30 the patient was examined. She was thin, but not cachectic. Face was flushed, no jaundice; pulse feeble, but of normal rate. Temperature 37.5° C. Heart, lungs, and kidneys normal. The abdomen was soft, not distended, not sensitive. No flatness on percussion. At the epigastrium one could feel some resistance as of tumor, right border of which extended about the breadth of a hand above the umbilicus to the median line, but on the left side the mass lost itself under the left border of the thorax. The tumor was not hard, of 2 fingers width and presented an inferior border; obliquely ascending from right to left, which terminated under the border of the chest; it was but slightly movable. A bougie was introduced to the depth of 50 cm. Immediately after, she was given a few drops of water, which she retained. She was then given a few more drops of water and wine. A nutritive enema was ordered.

October 31. The patient cannot retain anything. An esophageal sound was used, through which a glass of milk and 1 egg were introduced, all of which came up. A nutritive enema was given.

November 1. No change.

November 2. In order to wash the stomach before the operation, a soft esophageal bougie was introduced, which did not penetrate any farther than the cardia. A finer and stiffer bougie was used, which went deeper without difficulty. Water entered

in large quantities, but did not flow out easily, because the injection apparatus did not fit the tube. While the tube was being changed about 1 liter of fluid of chocolate color escaped, after which the stomach could be easily washed out. An hour later an anesthetic was administered. On palpation, no resistance could now be felt. An incision was made in the linea alba. After separating the border of the wound one could notice toward the left a hollow organ of an extraordinary shape. It was suspended like an inflated balloon, of a size a little larger than 2 fists. On the right it extended to the median line and downward to the umbilicus; on the left one could feel easily its round border. Above, the mass projected into a peritoneal opening. At the inferior border it was easy to recognize a small portion of the omentum. At the upper part of the incision one could feel deep down a tumor the size of a large gallnut, which was covered by the right border of the balloon. It was hard, mammilated, slightly movable. The organ was lifted up, and the pylorus was found a little above the middle of the abdominal incision. It was intact and lying above the duodenum to the left. To the left of the pylorus there was a hard kink formed by the twisting of the stomach between the posterior portion of the pylorus and the upturned posterior surface of the stomach. After somewhat difficult exploration it was ascertained that a small coil of the small intestine and a part of the transverse colon followed the torsion of the stomach, and were lifted over the pylorus from left to right and passed through a large tear in the small omentum. The two portions of the intestine were easily replaced through the tear downward and to the left. The pylorus being now lifted up it became clear that the hard mass belonged to the cardia. After the large curvature was drawn from before backward (which was easily done through the tear in the omentum) every organ resumed its natural position. The tumor was a finger's width and was situated in the cardia below the diaphragm. The portion of the cardia above the tumor was not dilated. The point of the torsion of the cardia was below the tumor. Almost the whole body of the stomach, therefore, made a complete turn around its axis, and which produced the tear in the omentum. It was thought that notwithstanding the fact that the volvulus was corrected, yet the existence of the tumor at the cardia would interfere with deglutition, it was therefore decided to perform a gastrostomy according to Nikolaysen. The operation was well borne. Already during the first few days she could drink without difficulty small quantities of water and wine, later she took larger quantities, and eventually solid food. In 4 weeks she left her bed and in 7 weeks the hospital.

Case IV.—Wiesinger[3] in 1901 reported the case of a man aged 41, who was taken sick suddenly with symptoms resembling intestinal obstruction. The patient always had good health. The characteristic symptoms were vomiting, constipation, pain and distention of the abdomen. The pain was marked in the left side of the abdomen, and principally in the left hypochondrium. The attending physician noticed that the distention increased slowly during the first few days, occupying the left upper portion of the abdomen. The vomiting was present only at the onset of the attack; afterward there was simply regurgitation of mucus. Every time the patient attempted to take solid or liquid food he rejected it at once. Wiesinger, who saw the case 3 days after the onset, found a tumor in the left side of the abdomen. Since the extension was extreme, the pulse small and frequent, and the general condition bad, an operation was undertaken at once. On opening the abdominal cavity a considerable quantity of serosanguineous fluid containing fibrinous clots was found. The peritoneum was very much congested. All the upper part of the left side of the abdomen from the left hypochondrium to the median line and downward to the umbilicus was occupied by a tumor the size of a man's head, greatly distended, immovable and entirely covered by omentum. The omentum was soft, edematous and fixed by recent numerous adhesions, difficult to break up. It contained many spots of fatty necrosis, which in the course of the operation were found in many other places, and principally in the neighborhood of the pancreas. The diagnosis of fatty necrosis was confirmed by microscopic examination. After pushing aside the omentum he recognized that the anterior surface of the tumor was nothing else than the anterior surface of the stomach. In order to diminish the tension a trocar was introduced and a liter of a brownish flocculent fluid was siphoned out. This contained lactic acid, but no trace of hydrochloric acid. Through an incision made in the stomach, 5 cm. long, 2 more liters of the same fluid were withdrawn. The pancreas, somewhat enlarged, was otherwise normal. The transverse colon was placed to the right above the stomach and under the liver. The stomach was completely twisted around its axis, 180°, and was fixed in that position by adhesions. The cardiac and pyloric orifices were occluded by the torsion. After the gastric incision was closed up, it was comparatively easy to break up the adhesions and to replace the organs in their proper positions. When the colon was placed in its normal position under the stomach, the latter turned around its axis, and the wound disappeared posteriorly and toward the front of the spine. The recovery was uninterrupted and the digestive organs acted henceforth normally.

Case V.—Dujon[4] during the current year reported a case of a boy aged 5. He had all the symptoms of occlusion of the intestines—vomiting after partaking of food, extreme distention of the abdomen, no flatus. His general condition was grave—pinched face, small, frequent and thready pulse. An exploratory incision was at once undertaken. On opening the peritoneum a quantity of serous fluid escaped. An enormous organ distended like a balloon appeared to occupy the whole of the abdominal cavity. The case being complicated and the child too weak to stand a prolonged operation, it was decided to close the abdomen. The patient died the following morning. At the autopsy it was found that the stomach distended to an extraordinary degree, filled up the whole of the abdominal cavity, pressing the transverse colon under the liver, and the empty coils of the small intestine against the pubes. After careful examination of the viscera it was found that the anterior surface of the tumor was the posterior surface of the stomach; that the organ was twisted around its transverse axis 180°. The small omentum served as a pivot. The pylorus was situated above and in front. The cardia was hidden behind, a little to the left. Both were kinked, compressed, and occluded on account of the torsion and the enormous dilation of the stomach. The large curvature was free throughout its length, except at the pyloric end, the gastrosplenic ligament and the great omentum being completely torn off. The stomach was opened and about 3 liters of sanguineous fluid mixed with food debris escaped. It was then only possible to replace the organs in their proper positions. No foreign body was found; the orifices and mucous membrane were intact.

Case VI.—Mazzotti's[5] case was in a woman of 50, who died from uncontrollable vomiting. At the autopsy it was found that there was a constriction in the middle of the stomach perpendicular to its long axis. Just at this point the stomach was twisted around its axis, caused by adhesions of the pylorus to the abdominal wall. The stomach, as a consequence, appeared as if composed of 2 halves, of which the pylorus made up the upper half. After breaking up the adhesions, the torsion gave way and the stomach assumed its normal position.

Case VII.—Langerhans[6] reported the findings of an autopsy on a woman of 47. For years she suffered from pain in her stomach, and a week before she died she was taken suddenly with severe colicky pains and violent vomiting. The diagnosis was made: Dilation of the stomach, due to cicatricial occlusion of the pylorus. She suffered a great deal from thirst and anuria, and died during an attack of cramps resembling tetanus. At the autopsy it was found that she had an hour-glass stomach, due to a cicatrix in the middle of the small curvature and a corresponding portion of the posterior wall of the stomach. A strong adhesion 3 cm. long was found between the contracted portion of the stomach and the anterior wall of the abdomen under the false ribs on the left parasternal line. The 2 halves of the stomach were found filled with fluid. The pyloric half greatly distended, was twisted around its longitudinal axis, while the large curvature was lifted forward and upward. The duodenum was kinked over the pylorus. This part was greatly hyperemic. The intestines were empty.

Case VIII.—Saakes'[7] case was that of a woman aged 67. She suffered from a feeling of heaviness and occasional vomiting. No marked pain after eating. No tumor was found. The stools were irregular. She appeared greatly emaciated. At the autopsy it was found that she had an hour-glass stomach divided into 2 nearly equal halves by a circular contraction. Notwithstanding the fact that ulcerations were found in both the cardia and pylorus, the latter being of a carcinomatous nature, yet Saakes found on a careful microscopic examination that the anomaly of hour-glass contraction was due to congenital malformation. No adhesions were found. The position of the 2 halves was such that the left part, attached to the esophagus, was situated in its right place, whereas the right convex half was twisted forward around its vertical axis in such a way that the pylorus seemed to have been pushed close to the cardia, to the right and back of it.

THE MECHANISM OF VOLVULUS OF THE STOMACH.

The mechanism of torsion of the stomach in cases in which adhesion, contraction and tumors were found can be explained by some effort of the imagination, but when no organic changes are found, the mechanism is an enigma. Dujon experimented on a cadaver. After ligating the esophagus and duodenum, he insufflated the stomach enough to make it somewhat rigid. He then made an attempt to produce torsion of the stomach. He never succeeded unless he tore off the gastrosplenic ligament and the greater omentum. He explains the mechanism of torsion in his case by an abnormally long and lax ligament and omentum. We will admit that it is so, that the *condition* was *favorable*, but it does not explain the primary cause of the torsion. Berti, in whose case the stomach made a double twist, explains the first twist as due to a spontaneous descent of the spleen and pancreas into the pelvis. The question is, why should the pancreas and spleen desert their lofty position and slide down into the nether regions? He admits, however, that it is beyond his comprehension why the stomach took the second turn about. He con-

cludes his article by saying, "Had there been present at the autopsy one of those ancient philosophers who believed in the existence of 3 souls, that of the head, of the chest, and the abdomen, he would have surely taken an oath that he was in the presence of the abdominal soul."

To my mind there is one thing certain, and that is that volvulus of the stomach is *never* produced spontaneously; that the condition which favored such an upheaval, works slowly and silently for many days and weeks, perhaps months and years. The last attack is simply that last straw that broke the camel's back. The narrowing of the lumen of the pyloric or cardiac end of the stomach, if not due to a foreign body will serve as an analogy. The patient may feel its effects come on suddenly, but we all know that the conditions were being slowly evolved. A careful study of the cases thus far reported brings out the fact that all the patients have suffered more or less from some gastric disturbance, from simple heaviness and obscure sensations to attacks of severe pain and vomiting. In volvulus of the intestine, for instance, we invariably find a history of constipation of long standing, and we are therefore justified in assigning to it an etiologic importance.

CONCLUSIONS.

1. The occurrence of volvulus of the stomach is a possibility beyond the shadow of a doubt; it remains, therefore, for physicians to bear this condition in mind when making a differential diagnosis between pyloric obstruction, occlusion of the bowels, poisoning, cyclic vomiting, cholelithiasis, peritonitis, etc.; for surgeons to be ready to operate when necessary and not to forget to empty stomach of its contents,* and for authors to devote some space to this condition in their text-books on diagnosis and surgery.

2. Volvulus of the stomach occurs in all ages and in both sexes.

3. Digestive disorders may be considered as etiologic factors.

4. From a pathologic standpoint volvulus of the stomach may be divided into (*a*) that due to organic changes produced by adhesions, ulcerations, tumors and contractions, and (*b*) that in which no visible organic changes have taken place.

5. The characteristic symptoms of volvulus are: Sudden onset; distention, which commences in the left hypochondriac region, and which gradually increases in size; a tumor, which gives on percussion a tympanitic sound; vomiting or regurgitation immediately following ingestion of food or drink; no belching, no escape of flatus; inability to pass a sound into the stomach.

6. When the condition is recognized, early operative interference is indicated, and recovery is almost certain.

Since the ability of turning around its axis is vouchsafed the stomach, I verily believe that the next thing we hear will be invagination of the stomach—the pylorus will slip into the funnel-shaped cardiac orifice, and for aught I know, may traverse the esophagus and prolapse itself from the mouth. To my articles of medical faith I shall add: I believe anything one may say of the stomach.

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[2] Berg: Zwei Fälle von Axendrehung des magens; Operation; Heilung. Nord. Med. Ark., Stockholm, F. xiii, Festband. Axel Key, 198.

[3] Wiesinger: Ein Fall von Volvulus des Magens, mit totalem dadurch bedingtem Verschluss von Cardia und Pylorus in akuter Fettnecrose. Deut. med. Woch., 1901.

[4] Dujon: Le Volvulus de l'Estomac. Gaz. Méd. de Paris, lxxiv, 1903, p. 109.

[5] Mazzotti: Di un vomite infrenabite dispendente da strangolamento rotatorio dello stomack. Rivista clinica di Bologna, 1899, iv, 280. Quoted by Berg, l. c.

[6] Langerhans: Ein Fall von innerer Einklemmung durch Achsendrehns der Pylorushoelfte einer Sanduhr Magens. Virchow's Archiv, Bd. iii, p. 387. Quoted by Berg, l. c.

[7] Saakes: Ein Fall von Sanduhr Magen. Virchow's Archiv, Bd. cxxxiv. Quoted by Berg, l. c.

* Dujon's case is an example. Had he recognized the condition, and withdrawn the gas and fluid from the stomach, which is a matter of a few minutes, reposition would have been easy, since there were no adhesions present. That the child could have stood the operation is evident from the fact that it died only the following day. It certainly would have had a chance of recovery.

MULTIPLE VISCERAL LESION.[1]

BY

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This title was introduced in an original article published in *Medicine*, in November, 1897, as a numerically more accurate substitute for the term *triple lesion*, used a generation or more ago. In this condition the heart, liver, and kidneys are chronically inflamed or degenerated, the lesions being more or less interdependent, on account of mechanical circulatory, or toxemic disturbances, which also produce somewhat similar lesions in the lungs, gastroenteric canal, pancreas, spleen, and perhaps in other viscera, as the ductless glands and central nervous system, and the tissues generally. The term does not include an acute general infectious disablement such as occurs in pyemia and the specific infections, nor traumatic and neoplastic conditions, nor purely coincidental involvement of the heart, liver, and kidneys, such as the occurrence of a gonorrheal pyelitis in a patient who has a hepatic cancer and an old heart murmur. Although the lesions of the heart, liver, and kidneys may appear to be simultaneous, they must be either interdependent or a vicious circle must have been established which has led to the toxemic and static lesions of other organs already mentioned. It is easy enough for anyone with a smattering of physiology to trace the possible effects of back pressure through the systemic, pulmonary, and portal circulations as well as through lymphatic stasis, and to add the influence of cholemia, lithemia, uremia, and other toxemias of autogenetic origin. At least it is easy to do so in theory, but I suspect that we sometimes start at the wrong part of the vicious circle, and go in the wrong direction, instead of reproducing the true order of events.

I shall take it for granted that you are familiar with this sort of inductive logic, and shall consider only certain practical problems, and not in a very orderly manner. These cases are all ultimately fatal, but they afford a field not for brilliant successes such as may be won by the surgeon or the practitioner in acute infectious cases, but for the painstaking, deliberate therapeutics which lengthen life and give comfort. Unfortunately, too, they afford an opportunity for the man who gives morphin on the slightest provocation, for the therapeutic nihilist, and for the man whose idea of therapeutics is to set up a symptom and knock it over.

You may ask, by what right is this group of cases included in the digestive specialty? The leaking and dilated heart, the catarrhal, edematous or consolidated lungs, the contracted or fatty degenerated kidneys, the dropsies, certainly seem to outweigh the gastroenteric congestion and catarrh or even the sclerosis of the liver, and perhaps of the pancreas. All this is granted on theoretic grounds, but the very practical fact remains that nearly half of consultation work by a digestive specialist in chronic cases in regard to the classification of which the general profession uses its best judgment, falls under the category of *multiple visceral lesion*. The reasons for this decision of the profession itself are as follow: 1. The nutrition of these patients requires the most detailed study. 2. The purely diagnostic problems involved, as in regard to the size of the liver, state of the urine, blood and stomach contents, are those of physical and chemic nature with which the gastro-

[1] Read before the Canadian Medical Association, August, 1903.

enterologist is necessarily familiar. 3. In most of these cases, at least at some time during their course, the actual treatment must be mainly directed toward the digestive organs. 4. In many instances the liver is more affected than the heart and kidneys, and the hepatic condition itself is quite directly dependent upon dyspeptic troubles.

The diet of these patients presents many interesting problems. Even when dropsy or fat masks the condition, there is usually a state of relative inanition and there is no apriori reasoning by which we can determine whether such patients are ingesting and assimilating sufficient of proteid, fat, carbohydrate, sodium chlorid, water, iron, iodin and various other dietetic requisites. By careful observation of the diet, including at least the perusal of written lists of articles eaten, and, in doubtful cases, of lists of the actual weight of solids and bulk of liquids ingested, we must first of all determine whether the patient is swallowing enough or too much of this or that nutriment. As a rule, we may forego the scientific but tedious and expensive analysis of samples of foods and depend upon analytic tables compiled by physiologic chemists. The assimilation of food must be judged by a comparison of intake and fecal waste. Proteid assimilation may also be estimated by a study of nitrogenous waste, which is mainly by the kidneys. Of course, we must discount the increased waste when the patient is also emaciating.

In ordering a diet, we must know the percentage composition of various foodstuffs, their digestibility; and we must not forget that the patient will not do well on distasteful food or that which is simply nourishment. We must please his palate as well as consider his alimentary canal and his tissues.

The administration of water requires both art and science. In some instances, an almost unlimited amount is beneficial, to aid elimination, in others, it is best to give as little as possible, to force the resorption of dropsical transfusions. But in neither case must we go to the extreme of producing physical discomfort. So far as the mere regulation of the amount of water is concerned, we may limit ourselves to its ordinary means of administration. Special effects may be produced by intravenous injection, hypodermoclysis, enteroclysis, and lavage, or gastroclysis. All these methods introduce water in considerable amount and quite rapidly into the vessels. A moment's consideration will show that it is usually more or less imperative to administer, not pure water, but that dissolving about the physiologic proportion of sodium chlorid or the other salts of the blood. A 5—6 per mille solution of sodium chlorid fulfils accurately enough the osmotic conditions of the body. I keep powders of 5 grams made up, and add one to a quart of water, which is a trifle less than 1,000 cc. In an emergency, a teaspoonful of salt may be added to a quart, or, indeed, there is usually no objection to increasing the amount of sodium chlorid. There is no question but that intravenous injection is the most rapid way of augmenting the contents of the vessels and sustaining the heart, but for practical purposes, one can often accomplish the result quicker by a rectal injection than by waiting to sterilize and to get apparatus ready for an intravenous operation. So far as cases of multiple visceral lesion are concerned, I can see no reason for hypodermoclysis—not intravenous injection—unless the state of the bowel prohibits enteroclysis. In one of my patients there was hepatic sclerosis with hemorrhage from internal varicosities, so that the bowels were filled with decomposing blood. Ordinarily one would not want to introduce liquid into the system under such conditions, on account of the danger of exciting fresh hemorrhage, but in this patient the condition of the heart seemed to outweigh this counterindication and hypodermoclysis was used, with excellent result.

In several instances I have ventured to introduce 50 grams of glucose with salt, by hypodermoclysis, purely as a matter of supplying fuel to the blood when the vitality was too low to allow any thought of nutrition in the ordinary manner. The immediate result has been good though, of course, all such patients have ultimately died. I have learned rather recently that von Noorden and 2 or 3 others have perhaps anticipated my own, independent use of sugar solutions.[1]

Enteroclysis and gastroclysis obviate the need of close attention to sterilization. Enteroclysis is, etymologically, a misnomer, as we ordinarily restrict *entero* to the small intestine. Personally, I am a sceptic as to the possibility of projecting a stream of water into the colon, so that it issues above the sigmoid. For practical purposes, therefore, I elevate the patient's hips, turn his body slightly toward the right side, hold the buttocks together, and introduce the liquid through an ordinary rectal tip. A thick, soft rubber colon tube allows the water to be inserted a few inches higher. A colon tube of the caliber of a stomach tube, or an ordinary catheter, will buckle in the rectum and discharge in a downward direction, just inside of the anus, in nine cases out of ten. Fenton Benedict Turck's experiments have shown that, to prevent relaxation of the abdominal vessels, the injection must be very nearly 55° C. or 131° F. We must keep very close to this temperature in treating shock and collapse for, otherwise, we either increase the trouble by draining the blood into the abdominal vessels or else we threaten the vitality of the parts by the heat used.

Aside from the local influence on the bowel and the removal of toxins, or the value as a cardiac and circulatory stimulant, enteroclysis is one of the best means of treating the renal element of multiple visceral lesion. A saline solution, however introduced, is one of the most efficient and harmless diuretics. When introduced at a temperature of 55° C., almost against the lower poles of the kidneys, the element of stimulation of function by heat is added and it is surprising to see the urinary elimination increase under such treatment.

Just as hot saline solutions in the lower bowel cleanse the alimentary canal from below and stimulate the kidneys, so does similar treatment of the stomach cleanse and improve the circulation of that organ and stimulate the hepatic function. So far as the stomach itself is concerned, in multiple visceral lesion, there is usually a state of congestion and catarrh which calls for my method of spraying with menthol vapor, after lavage, especially as the spraying does not necessitate a second passage of the tube and prolongs the seance only by a few minutes. In a very few cases, in which varicosities of the stomach have developed secondarily to the hepatic sclerosis, I have washed out the stomach with hot solutions of hydrogen dioxid, simply to stop hemorrhage. But, I would scarcely dare to invade the stomach with a tube and run the risk of increasing hemorrhage by the rise of blood-pressure incident to gagging, unless the patient already was habituated to the use of the tube. I have seen a case in which death from rupture of an esophageal varix would almost certainly have been precipitated, and, in another case, death from internal hemorrhage, probably esophageal and certainly due to varicosities in the portal area, occurred just prior to the hour set for washing out the stomach.

The very considerable danger of exciting local hemorrhage, bursting a sclerotic vessel, with or without aneurysm, at a distance, and stopping the heart by the reflex rise of blood-pressure incident to lavage, in these cases, should lead one to substitute the use of water by swallowing, whenever possible, and this simple method may also be employed for its effect on the liver. Our patient drinks a quart of water, with or without salt or other appropriate medication, in quantities of about 100 cc., every 15 or 20 minutes, and the water is as hot

[1] See Gumprecht's Die Technik der Speziellen Therapie, 1900. F. Voit and the author are credited in the bibliography with the dates 1896 and 1898, respectively. My own use, dates from about this time. In 1901, I had accumulated quite an experience, and suggested the use of this means in President McKinley's case.

as can be borne. Under these conditions, the water passes rapidly into the portal circulation—though probably rather from the upper intestine than the stomach itself—and the liver is not only warmed into functional activity, but it is washed. Free diuresis follows and there is a notable improvement on account of the removal of waste matter. This treatment may be repeated daily or weekly, according to the urgency of the condition.

It would trespass too much upon your time, to undertake a discussion of the wellknown pathologic items which make up multiple visceral lesion, or of the details of treatment. But I wish to emphasize a few points that are not well known. A few years ago, Packard collected 60 cases of fatal hemorrhage from varicosities due to back pressure in the portal system. I have personally seen nearly a dozen in which the hemorrhage was either fatal or must prove so from recurrence within a few years. Only one of my cases is included in Packard's list and the condition, though not common and comparatively unknown, must be far from rare. We must learn to recognize alimentary hemorrhages, without the appearance of bright red clots or tarry or coffee-ground matter in the vomitus or stools, such as attract the attention of the laity, and we must prevent the loss of valuable diagnostic evidence in the too convenient closet, by warning our nurses to save the feces for our inspection and analysis.

Another form of hemorrhage occurs in elderly patients with or without hepatic sclerosis and other items of multiple visceral lesion. The more I see of these two forms of hemorrhage, the less able I am to make the differential diagnosis before death. This second form is due to the development of a chronic gastric or possibly intestinal ulcer, from necrosis of tissue due to sclerotic or even calcareous degeneration of bloodvessels. It is perfectly possible that such a lesion may coexist with a varix due to back pressure in the portal circulation.

Another important point is that the pancreas is likely to participate in the sclerotic process which involves the liver. In either case, considerable sclerotic change may be compatible with fair functional activity and it is noteworthy that the hepatic lesion does not usually interfere markedly with the glycogenic function, nor does the pancreatic sclerosis usually involve the digestive portion of the gland and the islands of Langerhans at the same time, so that diabetes does not usually develop in these cases. But when the pancreas is sufficiently involved to interfere with the secretion of its digestive ferments, nutrition fails, because the intrinsic gastric and intestinal digestion combined are much inferior to that of the pancreas. The pancreatic lesion is rarely complete enough to give conspicuous signs and symptoms and the diagnosis must be made from the appearance of wasted nutriment in the feces, failure of weight in spite of ample ingestion and the general aspects of the case. As to treatment, one must do the best possible with predigested and easily digested food, not forgetting sugar, and with the administration of pepsin and hydrochloric acid to supplement any genuine deficiency in the gastric juice, but not simply according to what one imagines to be the state of the gastric juice. Not 1% of the cases in which an accurate examination can be made, shows a lack of pepsin, and the enormous use of this drug is based upon an imaginary condition in the other 99%. Of course, when pancreatic digestion fails, our efforts to aid digestion are on the principle of doing all we can, while realizing the all is very little.

In multiple visceral lesion, we must not forget the blood and the ductless glands. In many particulars we are still too ignorant to diagnose disease of these organs, or to appreciate or relieve a condition which we diagnose in a purely morbid anatomic sense. It is worth while to recall the very valuable, though recent and imperfect knowledge, which we have of the thyroid and suprarenal bodies. In a considerable number of cases of weak and dilated heart, with relaxed arteries, I have used adrenalin with very pleasing results. It certainly is logical to use this extract to give tone to vascular muscle, even if there is no rent in the vessels which we are trying to close. I have not personally noticed a lack of thyroid function in this group of cases, but have seen one or two instances in which the opposite condition existed, and in which harm had been done by the administration of thyroid extract, in violation of rational therapeutic law.

THE WORLD'S LATEST LITERATURE

Journal of the American Medical Association.

October 24, 1903. [Vol. XLI, No. 17.]

1. Conservative Perineal Prostatectomy: A Presentation of New Instruments and Technic. HUGH H. YOUNG.
2. A Case of Aerogenes Capsulatus Infection of the Neck. LOUIS LEROY.
3. Infection of the Gallbladder and Biliary Duct Contents. EDWIN RICKETTS.
4. Sarcomatous Transformation of Myomas. THOMAS S. CULLEN.
5. A Case of Acute Disseminated Encephalomyelitis, Presenting the Clinical Picture of Multiple Sclerosis. JOSEPH L. MILLER.
6. Drainage, Sewerage, and Water Supply of New Orleans. GEORGE G. EARL.
7. The Purification of Water Supplies by Slow Sand Filtration. (Concluded.)

1.—See *American Medicine*, Vol. V, No. 21, p. 815.

2.—Aerogenes Capsulatus Infection.—L. Leroy reports a case of interest from its rather infrequent occurrence, and from the fact that the bacillus was found 6 days before death, infection having entered through the throat without lesion of the epithelium. He describes the biologic characteristics of the bacillus. All the cultures made became intensely acid within 12 hours of growth. This was also the case with the tissues of animals, which died from inoculation, and in one test made from secretion from the patient's lesion. This may be valuable as an early diagnostic point. In animal experimentation with mixed cultures of *Staphylococcus aureus* and *B. aerogenes capsulatus* sloughing areas of necrosis followed subcutaneous injections. Cleansing of the necrotic area with hydrogen peroxid resulted in recovery. [H.M.]

3.—See *American Medicine*, Vol. V, No. 21, p. 820.

4.—See *American Medicine*, Vol. V, No. 27, p. 1,022.

5.—Acute Disseminated Encephalomyelitis.—J. L. Miller reports a case whose clinical picture is that of multiple sclerosis. The disease may manifest itself clinically as an ataxia or paraplegia. The characteristics of the ataxic form are scanning speech, ataxia, no sensory but often psychic disturbances. The ataxia is often more marked in the upper extremities or may be a hemiataxia. In the paraplegic type there is flaccid paralysis, loss of knee-jerk, sphincter involvement, and often sensory and trophic disturbances. It would be well to consider these cases of multiple sclerosis with acute onset. Treatment consists in rest in bed, followed later by massage and electricity and systematic exercises. [H.M.]

6.—See *American Medicine*, Vol. V, No. 22, p. 862.

7.—Purification of Water Supplies by Slow Sand Filtration.—The introduction of public water supplies has diminished typhoid, although in a sense peril to the whole community is greatly enhanced. The unit filter consists of a watertight tank with a surface area of ½ acre to 2 acres, with perforated pipes on the floors, covered by layers of crushed stone and gravel of increasing fineness, and over this a bed of sand from 2 feet to 4 feet in depth. It is generally advantageous to provide a settling basin, as turbid waters cause rapid clogging. Where ice would be formed, roofing is necessary. Roofing also prevents growth of algæ. The filtering area needed depends on the amount of turbidity. The filters are cleaned by draining and scraping away a thin layer of sand, which is washed and saved for replacement. This, on an average, must be done every 25 days. It is necessary in constructing to allow for the area temporarily out of service. Cost depends on local conditions, but averages about $7 to $9 per million gallons. In general 99% of bacteria are removed. A more conclusive measure of efficiency is in diminished typhoid statistics. A history of

the Lawrence filter shows the value of the test for *B. coli communis*. The Albany plant was built on an economic and highly efficient fashion. Cuts illustrate its construction, and tables show the cost and reduction in bacterial count and typhoid cases. The comprehensive Philadelphia plant has to provide for the enormous consumption of 175 to 200 gallons daily per capita. The Schuylkill water often contains vast volumes of red shale and coal dust, and in this scheme has been virtually abandoned for Delaware water, thus involving reconstruction of a large portion of the distribution system under enormous expense. By preliminary rapid filtration through gravel, slag, and sponge, the rate through the sand filters can be so increased as to yield 6,000,000 gallons daily per acre. The large expenditure, due to political corruption, may discourage similar attempts elsewhere. [H.M.]

Boston Medical and Surgical Journal.

October 22, 1903. [Vol. CXLIX, No. 17.]

1. Further Observations on Cervical Dislocation and its Reduction. G. L. WALTON.
2. Lesions that Augment the Development of Tetanus and other Infections in Gunshot Wounds. LOUIS A. LA GARDE.
3. The Plague of Athens. CHARLES GREENE CUMSTON.
4. The Condition of the Vasomotor Neurons in "Shock." W. T. PORTER and W. C. QUINBY.
5. A Hitherto Undescribed Membrane of the Eye and its Significance. FREDERICK HERMAN VERHOEFF.

1.—Cervical Dislocation and Its Reduction.—G. L. Walton states that this affection occurs with sufficient frequency to warrant attention. He has previously reported 8 such cases, and since then has observed as many more. As to the manner of its production, he says, in the lumbar and dorsal regions the articular processes are so nearly upright that dislocation can hardly occur without fracture. In the cervical region they are placed so nearly horizontal that a process of one vertebra may readily slip forward from the vertebra below and fall into the vertebral notch. Rarely both of the processes may be displaced. The side on which a dislocation has occurred can always be determined by the direction of the rotation. The question whether the articular process has slipped into the notch, which is a matter of secondary importance, may be determined by the tilting of the head. In unilateral dislocation the face is always turned away from the side of dislocation, and the head will be tilted toward or away from the affected side, as the process is in the intervertebral notch or has become caught in the crest of the process below. In the majority of unilateral cases no paralysis occurs, as the cord is not generally pressed upon. The author's method of reduction consists, briefly, in twisting the head of the patient so as to exaggerate its position in rotation, gently rock the head to unlock the vertebra, then rotate into the normal position. The patient should be in the sitting position and the head should be rocked without traction. In 7 cases, of which he has knowledge recently, 2 were reduced spontaneously during sleep, 3 during etherization, and 2 by the method as briefly described. [A.B.C.]

2.—Lesions that Augment the Development of Tetanus and Other Infections in Gunshot Wounds.—L. A. La Garde says in gunshot wounds not only is there injury in the immediate vicinity of the channel made by the projectile, but it will appear in the parts beyond to an extent dependent upon the sectional area of the bullet, its velocity, and the resistance encountered. He holds that hematoma in a wound exercises a strong predisposition to infection. Projectiles of high velocity pulpify or macerate the tissue for some distance around the course pursued by the moving bullet, much more than do those of low velocity. Hemorrhage occurring into this lacerated tissue acts practically as a medium in favoring infection from tetanus and other germs. Several illustrations, elucidating the subject are presented. Gunshot wounds cannot be thoroughly antisepticized, and it would appear from collected data that attempts to do so are useless. Extended experiments were conducted by Muller and Koller, in which they essayed various methods of treatment of the channel track in gunshot wounds caused by projectiles that were primarily infected, namely: (1) Controls, for which nothing was done; (2) those treated with a glass drain; (3) those treated with an iodoform gauze drain; (4) those irrigated with a 5% solution of carbolic acid; (5) those treated by rubbing with a cotton mop soaked in tincture of iodin; (6) those treated by cauterizing the wound. However treated, all the wounds were dressed with a clean sterile dressing. The results showed that the animals treated by a simple dressing did best of all, and that all those treated by radical measures, such as swabbing with iodin and the application of the thermocautery, gave evidence of suppuration in every instance. [A.B.C.]

3.—Plague of Athens.—C. G. Cumston repeats Thucydides' description of the plague, discusses its differentiation from typhus, bubonic plague, and smallpox, and concludes that it cannot be compared with any of the diseases known at present, and should be considered a special exanthem now extinct. [H.M.]

4.—Condition of Vasomotor Neurons in Shock.—Porter and Quinby sought, by a number of experiments, to determine the condition of the vasomotor neurons during shock; this, by estimating the blood-pressure and temperature of cats and rabbits. When the central end of the depressor nerve was stimulated, and again during shock, the measurements were repeated. Their conclusions are that exhaustion in the vasoconstrictor neurons can not be the essential cause of the symptoms termed shock. [A.B.C.]

5.—A Hitherto Undescribed Membrane of the Eye.—F. H. Verhoeff describes a fenestrated membrane in the pigment layer of the retina identical in structure and staining reactions with the membrana limitans externa. He believes the rods and cones are not nervous elements, but modified ependymal cells, and are analogous to sensory epithelium. The limiting membrane of the rosets of glioma retinæ is a fenestrated membrane similar to the membrana limitans externa, and the rosets correspond to the neuroepithelium of the normal retina. The structure of their limiting membrane explains why they assume their characteristic spheric and spiral-like forms. "Neuroepithelioma retinæ" is no more suitable than "glioma retinæ" for the class of tumors to which these terms have been applied. [H.M.]

Medical Record.

October 24, 1903. [Vol. 64, No. 17.]

1. Prostatectomy and Galvanocaustic Prostatotomy (Bottini's Operation): Their Present Status in the Radical Treatment of the Hypertrophied Prostate Gland. WILLY MEYER.
2. The Röntgen and Finsen Rays: Electrolysis, Galvanism, Faradism, High-tension Discharges, and Diagnostic Illumination. SINCLAIR TOUSEY.
3. The Choice of Method for the Relief of Retroversion and Retroflexion. JOHN VAN DOREN YOUNG.
4. The Nonmedicinal Treatment of Constipation. SAMUEL G. GANT.
5. The Frequency Wave of Epileptic Seizures. WILLIAM P. SPRATLING.

1.—See *American Medicine*, Vol. VI, No. 1, p. 8.

2.—Röntgen and Finsen Rays: Electrolysis, Galvanism, Faradism, High-tension Discharges, and Diagnostic Elimination.—Under the above heading Sinclair Tousey describes the mechanical apparatus necessary for the proper production and utilization of these forms of energy. The clinical aspects are discussed only in their relation to a thorough explanation of the mechanical appliances. A special advantage claimed is, that electricity from the street can be utilized in manipulating these machines, which is a great advantage over the static machine in therapeutic uses. The article is interesting and instructive, but does not lend itself to valuable abstract. [A.B.C.]

3.—Relief of Retroversion and Retroflexion.—J. V. Young reviews the causes of retroversion and retroflexion, the different operations for their relief, and makes the following deductions: The uterosacral ligaments are the only suspensory ligaments of the uterus when the patient stands, and are the only ligaments not affected by gestation and parturition. They suspend the uterus by their attachment to the lower segment, and act as a swing in supporting the rectum. All methods for holding the fundus forward must rely upon the integrity of the uterosacral ligaments, together with the fibrous connective tissue of the broad ligaments to suspend the uterus. The Alexander operation has a limited field of usefulness, and is of value only when the other ligaments are strong enough to support the uterus. Ventral fixation is applicable only when the patient has passed the child-bearing period. The ideal procedure is as

follows: Curetage, repair of injuries to the cervix, retrovaginal septum, and anterior wall of the vagina. Laparotomy. Sacrosuspension. Bissell operation. The disadvantages are the length of time necessary for the operation and its difficulty of performance in fat subjects. In place of the Bissell operation, a ventral suspension may be substituted. This is wise when many adhesions have been broken up and the posterior surface of the uterus is denuded of peritoneal covering or the patient's condition demands haste, this operation being performed with ease and rapidity. In nulliparas a pessary should be worn for 6 months to prevent traction on the uterosacral ligaments until they have regained their tone. [W.K.]

4.—Nonmedicinal Treatment of Constipation.—Samuel G. Gant holds that the causes of constipation are often such as do not yield to medical treatment, such as fissure, polyp, hemorrhoids, hypertrophy of the rectal valve, congenital malformations, benign or malignant strictures, and other diseases of the rectum, sigmoid or colon, requiring operation or local treatment. Many cases are again due to irregular habits, improper diet, lack of tonicity, and glandular secretion of the bowel, or insufficient exercise; all of which can be successfully treated without internal medication. The writer reports that since 1891 he has treated by the nonmedical method several hundred patients affected with constipation, and the majority were permanently cured, while the remainder are, for the most part, relieved to a greater or less degree. Prominent features in the nonmedical treatment are proper education, the administration of enemas early in the case, but not continued; massage, the application of electricity, divulsion or division of the sphincter muscle, and valvotomy. The patient should be warned that immediate relief will not be experienced, and a permanent cure can be hoped for only after a thorough regulation of the system and the removal of the obstructing cause. Under the subject of proper education, he insists upon a regular time for evacuation of the bowels, the free drinking of water throughout the day, the eating of laxative fruits either early in the morning or before retiring at night, and exercise in the open air. The administration of enemas daily is a most pernicious practice, and should be avoided. The other methods of treatment are appropriately discussed, and the author describes his method of valvotomy, which consists in the application of a small metal clamp, through a rectal speculum, to the obstructing valve, which after 4 or 5 days sloughs and permits the clamp to escape. [A.B.C.]

5.—Frequency Wave of Epileptic Seizures.—W. P. Spratling cites cases showing great variation in the frequency of epileptic attacks, but a study of 1,374 cases shows a crude periodicity in the majority. Attacks occurred weekly or oftener in 775, about every 2 weeks in 173, about every 3 weeks in 61, about every 4 weeks in 244, about every 8 weeks in 42, about every 12 weeks in 49, every 6 months or over in 30. The attacks among the 775 vary from 100 daily to 2 or 3 weekly, most of them about the latter frequency; 50% of confirmed epileptics have attacks weekly or oftener. The increase at the 4 weeks period over the preceding is due to the grouping of the attacks about menstruation in women. The wave of frequency may have relationship to rhythmic intoxications of the central nervous system. [H.M.]

New York Medical Journal.

October 17, 1903. [Vol. LXXVIII, No. 16.]

1. Some Aspects of Genitourinary Disease, from a General Practitioner's Point of View. WILLIAM H. THOMPSON.
2. The Value of Albuminuria in Differentiating Pyelitis from Cystitis. THOMAS R. BROWN.
3. On Determining the Specific Gravity of Small Volumes of Urine: with a Preliminary Note on a Special Hydrometer (Urino-Pyknometer) Designed to Work with a Few Cubic Centimeters of a Fluid. G. A. DE SANTOS SAXE.
4. Left-sided Appendicitis. EDMUND W. HOLMES.
5. The Treatment of Convergent Strabismus. WILLIAM G. CRAIG.
6. Differences in the Management of Appendicitis and Salpingitis. GEORGE ERETY SHOEMAKER.

1.—Genitourinary Disease.—W. H. Thompson calls attention first to the high tension pulse of nephritis, due to an agent similar to adrenalin in the blood, which causes kidney shrinkage and diminished urea excretion. He considers aconite the best vasodilator and restorer of the urea output and prescribes it in all kidney diseases when the pulse tension is high, though when general endarteritis has led to extensive obliteration of the arterioles, particularly in the aged, he does not expect, of course, to dilate vessels which have practically ceased to exist, and aconite then has to be given with discrimination, limiting its administration to times when the pulse is rapid as well as of high tension, and discontinuing it when the rate falls to 80. He also calls attention to the cases of renal insufficiency, due to gastrointestinal derangement, and shows that there is a close relationship between the alimentary canal and urea elimination by the kidneys. In all such patients, the tension of the pulse is low instead of high, and one peculiarity about them is that they feel worse in the morning and better in the evening, as if they suffered from some nocturnally generated poison in the blood. In such cases a biweekly dose of blue pill, alternating with the compound licorice powder and the steady administration of intestinal antiseptics, along with a regulation of the diet, will in time relieve them from their multitudinous nervous symptoms. Acute septic infections of the kidneys in the course of chronic nephritis, due to a septic invasion of the kidneys by bacteria, of which the commonest form is the colon bacillus, is also discussed. In such cases a prompt mercurial cathartic, followed every 2 or 3 hours by 10 gr. of urotropin, combined with sodium benzoate, should be given. For chronic spermatorrhea the author has devised a perineal pad, which has proved of great value. [C.A.O.]

2.—Diagnosis between Pyelitis and Cystitis.—T. R. Brown believes he has, in the examination of the urine, especially with reference to the grade of pyuria and of albuminuria, a very satisfactory and simple means of differentiating pyelitis and cystitis, and one which, in the great majority of cases, will give accurate results. Recently he has examined with great care all cases of infection of the urinary tract, whether of bladder, ureter, or kidney; and from his observations he concludes that pyuria, due to a cystitis, even if of high grade, is associated with but a small amount of albumin if the urine is examined immediately after catheterization, if the pyuria is not accompanied by hematuria. On the other hand, in all cases of pyelitis, even if the grade of pyuria is low, there is always, or at least almost always, a considerable quantity of albumin present. Nine cases are reported in which the diagnosis of pyelitis was either made or rendered probable by the examination of the urine and the discovery of an amount of albumin too great to be accounted for by vesical infection, which in almost all the cases was also present. [C.A.O.]

3.—Specific Gravity of Urine.—G. A. De Santos Saxe discusses the subject of determining the specific gravity of small volumes of urine, and describes in detail a special hydrometer (urino-pyknometer) designed to work with a few cubic centimeters of fluid. [C.A.O.]

4.—Left-sided Appendicitis.—E. W. Holmes reports 2 autopsies which are of practical interest in explaining the cause of left-sided pain in appendicitis. The specimens are remarkable, not only as instances of left-sided appendicitis, but also as illustrating some remarkable displacement of the viscera, explicable only from an embryologic standpoint. In the first case the appendix was attached to the ileum, just below the ileocecal valve, on the left side of the fourth lumbar vertebra, turning upward and backward toward the liver. In the second case the apendix was a little to the left of the median line, on an equator bisecting the two anterior superior spinous processes, the vermiform itself running down in front of the omega loop over the iliopectineal line. [C.A.O.]

5.—Convergent Strabismus.—W. G. Craig calls attention to the following points: 1. The earlier the child is seen, the better the prospect for a cure. 2. The vision of squinting eyes can in a majority of cases be improved and some function restored if treatment is begun early. 3. A small percentage of cases of convergent squint can be cured by mydriatics, glasses, and proper exercises, alone without operation. 4. The correction by nonoperative methods is much to be preferred, as the motility of the eye is more perfect and the deformity produced by sinking of the caruncle is avoided. 5. Operative procedures should be employed in those cases in which nonoperative treatment after a thorough trial has failed, and in those cases in adults in which we operate for cosmetic effect. [C.A.O.]

6.—See *American Medicine*, Vol. VI, No. 15, p. 578.

Medical News.

October 24, 1903. [Vol. 83, No. 17.]

1. The History of the Tuberculosis Work at Saranac Lake. E. L. Trudeau.
2. Congenital Hypertrophic Stenosis of the Pylorus. B. G. A. Moynihan.
3. Timely Operation in Primary Appendicitis. William H. Wathen.
4. On the Hypodermic Use of Adrenalin Chlorid in the Treatment of Asthmatic Attacks. Jesse G. M. Bullowa and David M. Kaplan.

1.—Tuberculosis Work at Saranac Lake.—E. L. Trudeau describes the origin and growth of the sanitarium and town. In 1902, of the 165 cases at whatever stage treated 30% were discharged as apparently cured; in 41% the disease was arrested, 19% were improved, 7% failed, in 2% the diagnosis was doubtful, and 1% died in the institution; 75% of the incipient cases were apparently cured. Of 1,500 cases treated and discharged, from 2 to 17 years ago, 31% of all cases and 66% of the incipient ones have remained well. There is a percentage in favor of tuberculin treated cases. Its use is inadmissible in active types of the disease. The writer describes the primitive outfit of his first laboratory, and the work accomplished in this and the present one in testing proposed specific methods and in trying to develop artificial immunity. Toxin and bacterial immunity do not go hand in hand. It is only in the use of living cultures as a protective inoculation in rabbits that he met with any success, but this success is enough to justify the hope of some safe method of immunization applicable to man. [H.M.]

2.—Congenital Hypertrophic Stenosis of the Pylorus.—B. G. A. Moynihan gives a brief review of cases that have been reported, and states that symptoms appear soon after the birth of the child, usually within the first day or two, but sometimes not until 3 or 4 weeks have elapsed. The child begins to vomit, to lose weight, it becomes emaciated, there is constipation, bile is never present in the vomit, and it takes on a general marasmic appearance. When the abdomen is observed, fine waves of contraction can be seen across the stomach, from left to right, and a tumor may be palpated in the vicinity of the pylorus. The pathologic findings are very similar in all cases. The stomach is large, the walls thickened by hypertrophy of the muscular fibers, the pyloric region shows a funnel-shaped circular thickening, which feels like a solid cylinder. On being cut this is dense and thick. The stomach in appearance and feel, closely resembles the dissected out bladder and prostate, the latter being comparable to the thickened pyloric portion. No satisfactory explanation of the cause of this condition has been given. Pyloric hypertrophy has never yet been observed in the fetus. Despite the fact that recovery from the condition may take place under lavage and careful feeding, there will remain a large portion of cases that can only be dealt with satisfactorily by surgical means. Many cases have been treated by operation, but considerable diversity of opinion exists as to the best and safest method. The operations which have been performed are: Dilation of the pylorus according to Loreta; pyloroplasty; gastroenterostomy; and pylorectomy. The latter is too formidable an operation for an infant. The statistic results up to 1902 are as follows: Pyloroplasty had been performed 3 times, successfully; in a fourth case, recorded by Sonnenburg, a pyloroplasty was performed, and as the relief was imperfect, a gastroenterostomy was subsequently performed with good results. Gastroenterostomy, always anterior, had been performed 9 times; 5 patients recovered, 4 died. In one of these, death was due to acute obstruction caused by a Murphy button which had been used to effect the anastomosis. Loreta's operation had been performed 9 times with 7 recoveries. [A.B.C.]

3.—Timely Operation in Primary Appendicitis.—W. H. Wathen is emphatic in his belief that every case of primary appendicitis should be operated upon timely, that is, before the disease has extended beyond the appendix, or complications have arisen, if there is no positive contraindication, and the operator is an experienced abdominal surgeon. The fact that many cases recover without operation is not proof that the latter should not have been performed. The disease may often occur because the appendix has become constricted so as to interfere with or obstruct drainage. The condition is similar to a stricturred urethra, in which neglect in treatment is often disastrous. He dissents from the view that it is best to await and operate in the interval, provided the patient can be reached during the primary attack. More and more is appendicitis becoming recognized as a purely surgical malady, and when this is fully recognized, and the attending physician, who first sees the patient, requests the presence of a surgeon for consultation, the sooner the mortality in appendicitis will be reduced. Amelioration in symptoms do not contraindicate surgical interference, for dangerous pathologic changes may progress rapidly under apparently favorable conditions. The question of what we should do when the case has gone beyond the primary stage is a serious one and can not be answerable in a general way; each case must be a law unto itself. [A.B.C.]

4.—Hypodermic Use of Adrenalin Chlorid in Asthma.—J. G. M. Bullowa and D. M. Kaplan report several cases in which the usual remedies as well as adrenalin by mouth and as a spray failed. On account of resultant emphysema quick abortion of asthmatic attacks is important. Repeated failures of antispasmodics to cut short attacks, suggested the employment of adrenalin chlorid hypodermically as a vasoconstrictor to relieve obstruction possibly caused by turgidity of the bronchial mucosa. During attacks pulse tension is diminished. Excessive constriction is followed by a short chill without pyrexia, pain and palpitation, lightheadedness or headache, tingling and numbness of the extremities. A general blanching of skin and mucous membranes and tremor of the extremities occur. This has never lasted over 10 minutes and is not marked after a proper dose. In persons with stiff arteries the drug must be given cautiously. Doses large enough to cause too marked constriction of the capillaries, such as will be followed by muscular fatigue and consequent loss of vascular tone, are sure to be followed by vasodilation and a return of symptoms. With fresh preparations .18 cc. to .36 cc. (3 m. to 6 m.) of the 1-1,000 solution is generally sufficient. With older preparations the dose must be increased. The injections are not painful and will cut short an attack in from 2 to 20 minutes. [H.M.]

CLINICAL MEDICINE

David Riesman A. O. J. Kelly

EDITORIAL COMMENT

Acute Bilateral Tonsillitis.—In very aggravated cases this is one of the most un-get-at-able of diseases. The mouth cannot be opened, and the teeth cannot be separated, even so as to interpose the edge of a knife between—not to say beyond. And, although the inflamed organ is situated comparatively near the surface, in the posterior region of the digastric space, there is no spot of corresponding area over the whole of the body, in which the peculiar vascular arrangements render the introduction of a knife so completely out of the question. In such cases the application of soothing heat must be to the cutaneous surface of the neck; and the abscesses must be left to open of themselves. And herein lies the chief danger in such cases. The respiration is already shallow and feeble; the respiratory passages being almost entirely obstructed by the tumid tonsils. Accordingly, it is no matter for surprise that in some such cases the tonsillar abscess has burst into the larynx with the result of instantaneous suffocation. In such peculiar conditions of danger it is interesting to learn how laughter has served as a natural method of cure.

John Radcliffe, the founder of the Oxford College, which bears his name, was not, strictly speaking, a scientific physician. But he was a thorough man of the world. And knew how to utilize human weaknesses and peculiarities. On one occasion he had charge of an English nobleman suffering from very bad double tonsillitis. His keen powers of observation told him that abscess had formed, and must soon burst. It was evening. He must remain for the night with his noble patient. The bed-room was, of course, ample and richly furnished. His man, John, as thorough a man of the world as himself, came in toward supper hour with letters and messages. Those were very numerous, and required in many cases replies "by return." Radcliffe could not think of leaving the room, and begged the permission of his noble patient to have John take

some supper with his master, at the table which had already been laid for the latter. John was known to all the great doctor's patients as a character, and his master's services being indispensable, the request was freely granted. Those were, of course, the days of wigs and gold-headed canes in the profession. John was at first shy and sheepish. After a couple of glasses of wine, he began to feel his opinions and stand on them. Another glass made him argue with his master. After another he flatly contradicted him! Radcliffe's *bonhommie* could not endure this; he took his glass, which happened to be full, and dashed the contents in John's face. John immediately snatched up his plate of meat and vegetables and spread out the contents over his master's face and ruffles. Both master and man took the floor, and thumped one another vigorously, using at the same time words of vilest import. John knocked off his master's wig and kicked it about the place. The whole demonstration was so monstrous, as well as unforeseen, that the suffering man forgot his pain. A couple of ghastly attempts to laugh squeezed the tonsil tightly between the palatofaucial muscles, and a gurgling gasp was heard from the bed. Radcliffe held up his index finger and ran to his patient. John ran as promptly for the basin. With a sudden rolling over of the sick man, and a couple of vigorous slaps on the back, the whole of the tonsillar pus was lodged in the bottom of the basin. The mouth was then washed out, and the suffering nobleman was convalescent! Radcliffe received an enormous fee for his services in that case.

The celebrated collector of curious clinical records, Schenck, relates in a tone of chuckling appreciation the following case, of the authenticity of which he professes himself quite satisfied:

A certain Cardinal was sick of an impostume, and now the collected matter was got in such manner in his throat that it caused great difficulty of breathing, and threatened to strangle him immediately. The physicians had deserted him, as a man whose case was utterly desperate, when his servants eager after spoil, enter his chamber, seize upon all the ornaments of it. They took down the hangings, pictures, statues, carry out the carpets, cushions, and the very clothes of their master; yea, his cardinal's gown, while he yet breathed and looked upon them. The Cardinal kept an ape, and he having observed how his fellow servants had been busied, comes also himself into the chamber, looks round about him to see what there was left for him, he finds nothing but only the Cardinal's cap, which lay neglected upon the ground; this he merrily takes up, and puts upon his own head. This spectacle moved the almost dying Cardinal to a most extreme laughter. The laughter broke the impostume, and after he had well vomited he was restored to his health, and to the recovery of his embezzled goods.

There is little doubt, after all, that some of the crude methods which are sometimes employed by nature for the cure of disease might, even in the twentieth century, be imitated with advantage by the scientific healer. But who would undertake to act the monkey's part?

REVIEW OF LITERATURE

Polyarthritis Syphilitica.—K. F. Willanen[1] records a unique case of multiple joint inflammation, due to syphilis. The arthritis involved both knees, both feet, one ankle, and one shoulder. Rheumatism was excluded by the absence of fever, by the nightly exacerbations, the noninvolvement of the heart, the insidious onset, and the failure of antirheumatic remedies. On the other hand, a course of antisyphilitic treatment was crowned with prompt success. The patient was suffering from syphilis in the condylomatous stage and the author's diagnosis of the joint affection is chronic hydrops and gummatous osteoarthritis. It is worthy of note that mercury combined with potassium iodid gave rapid and excellent results in this case, while the iodid alone, which was tried first, was rather ineffectual. [L.J.]

Tonsillar Ulcer of Vincent.—L. T. Royster[2] describes a case of this condition occurring in a colored female of 7. The ulcer nearly covered the right tonsil, and in appearance suggested either diphtheria or syphilis. Smears stained with carbol fuchsin revealed the fusiform bacillus and spirillum of Vincent. The ulcer disappeared in 3 days under the use of gargles of hot normal salt solution and the application of iodin. The mild constitutional symptoms accompanying the condition distinguish it from diphtheria, but a positive diagnosis from syphilis can be made only by the microscope. [A.G.E.]

[1] Russki Vratch, June 21, 1903.
[2] Archives of Pediatrics, August, 1903.

GENERAL SURGERY

MARTIN B. TINKER

A. B. CRAIG C. A. ORR

EDITORIAL COMMENT

Oral Hygiene and Dental Pathology in the Medical Curriculum.—The National Dental Association at the recent meeting held in Asheville, N. C., passed a resolution stating it was the sense of the association that each medical college in the United States should include in its curriculum a lectureship on oral hygiene, prophylaxis, and dental pathology. It is suggested that the association is likewise striving to have the teaching of oral hygiene introduced in the public schools. With the present curriculum of a four years' graded medical course already crowded, most colleges will probably consider as impractical the addition thereto of a correlated but not absolutely necessary branch, however desirable it may be from an educational standpoint. We are quite ready to admit that there is need for the average medical graduate to know more of oral hygiene and its attendant branches, but the ever widening field of medicine renders it practically impossible to add any but the very necessary subjects to the curriculum. This, in the sense that the medical student fails to receive instruction that is highly desirable, is to be regreted; but we are "confronting a condition and not a theory." It appears to us then, that hope lies in the other suggestion of the association, viz.: oral hygiene instruction in the public schools. The average child, especially on arriving at the "age of pride" is acutely sensitive to his or her personal appearance. How easy then to assist in the crusade for oral cleanliness by appealing to the pride alone. If a portion of the time with which a teacher in the public schools entertains her pupils with the intricacies of digestion were devoted to a proper care of the teeth much would be gained. That the American Dental Association has not sounded a false note is evidenced by the report in 1900, of the committee appointed by the British Dental Association to investigate and report on the condition of the teeth of school children. This report shows that only 10% to 13% of school children from 6 to 16 years of age have "sound dentition," *i. e.*, a condition in which no permanent tooth has at any time been attacked by caries. This is certainly not a hopeful showing, and it points unmistakably to serious neglect in a vital matter. It has been shown by Miller, of Berlin, that dental caries is due largely to the presence of lactic acid in the mouth. This acid attacks the enamel and soon leads to dental decay. Its presence is due largely to the fermentation and decomposition of starchy food particles which have remained in the mouth. How necessary then that oral cleanliness should be insisted upon by parent, teacher, physician, and dentist; and that systematic instruction in oral hygiene should be made part of the regular course in the public schools. The stand taken by the American Dental Association is creditable, and we regret that the suggestion in reference to the medical curriculum does not at present appear more feasible.

REVIEW OF LITERATURE

Biologic Symptoms of Typhoid Fever.—Under this heading M. F. Widal[1] classes the various aids to diagnosis that have been evolved during the last few years. Of these but three have thus far proved to be of practical value—agglutination, presence of *B. typhosus* in the blood, and the diazo-reaction of Ehrlich. The entire article is devoted to the consideration of agglutination. Widal has found this reaction as early as the third day of the disease, but it is during the second week that reliable results are generally obtained. Regarding its constancy, Widal says that the average of all reported cases is that it fails in one case of every forty of typhoid. It has been positive in a dilution of 1–8,000. [A.G.E.]

[1] La Médecine Moderne, August 19, 1903.

TREATMENT

Solomon Solis Cohen
H. C. Wood, Jr. L. F. Appleman

REVIEW OF LITERATURE

The Influence of Adrenalin and Some Other Glandular Products upon Muscular Contraction.—Mlle. J. Ioteyko,[1] after a careful study of the question, concludes that adrenalin acts upon the muscles the more energetically the richer they are in sarcoplasma. It is a sarcoplasmic excitant. A similar action is caused by other glandular products, such as extract of thyroid gland, the hypophysis, the testicle, and the ovary. She proposes the name "physiologic muscle poisons" for the products of these glands, which in acting chemically upon the muscular substance, and principally upon the sarcoplasma, have the remarkable property of considerably increasing the muscular tone of the muscles. This increase in the tone becomes especially apparent when the muscle is excited electrically. She believes that this muscular tone produced by the glandular products is a physiologic phenomenon, which facilitates the action of the nerve stimulus and constitutes a preparatory act to contraction. She calls these substances *sensibilisatrices*, and states that their role is to increase the sensibility (receptive) of the muscle to nerve stimuli. [J.H.W.R.]

NERVOUS AND MENTAL DISEASES

J. K. Mitchell F. Savary Pearce

EDITORIAL COMMENT

Music in Medicine.—The therapeutic value of music, which some have recently endeavored to impress on their professional brethren, has been looked upon by many persons of limited range of reading as one of the numberless latter-day innovations by which a temporary notoriety may be sought or secured. But as music notably affects the various emotions so very conspicuously, and as the emotions influence the circulation so very obviously indeed, an explanation is not at all far to seek of the undeniable fact that music may very sensibly affect nutrition. And accordingly, the fact has always been recognized, more or less definitely; and as well by the courtier as the savage. Saul employed David to soothe his melancholy with the notes of his harp. Clinias, the famous disciple of Pythagoras, displayed one of the best traits of his philosophy by always flying to his harp whenever his temper happened to have got badly ruffled. We read of a lady of Rouen, in France, who lived to the age of 106, that:

> All her life-time did never use the help of any Physick, how great soever her infirmities were: but in all her hurts, diseases, child-birth and lameness, she only desired one who could skilfully play on the Tabour and Pipe instead of a Physician.

When the Roman Emperor Theodosius lost his temper with the refractory citizens of Antioch, and was holding council as to the most effective method of making them suffer for their political sins, the entreaties of the bishop Flavianus were utterly rejected, even when offered in person at the feet of the enraged monarch. But the diplomatic guardian of souls gained his end by tampering with those who had personal (and musical) charge of the boys who habitually sang at his majesty's meals. The prayers and supplications of the city of Antioch were tactfully introduced into this festal music, with the result that the Emperor succumbed—with tears. One of the most venerable of medical traditions is to the effect that:

> Asclepiades, a noble Physician, as oft as he had Phrenetick Patients, or such as were unhinged, or evil affected in their minds, did make use of nothing so much for the cure of them, and restauration of their health, as Symphony and sweet harmony and consent of voices.

We are also assured that Ismenias, the Theban,

> used to cure divers of the Bæotians of the Sciatica, or Hipgout, by the use of Musick; and . . . it is reported by divers, and Memorials are made of it, that when the Sciatica pains are the most exquisite, they are allayed and asswaged with Musick.

We are told by Philostratus that when Apollonius asked Canus, a Rhodian musician, what he could do with his instrument,

> he told him that he could make a melancholy man merry, and him that was merry, much merrier than he was before; a lover more enamoured, and a Religious man more devout, and more attentive to the worship of the gods.

The most definitely antidotal action of music appears to be that effected in cases of tarantula-bite. We are told by one of the older English travelers that:

> In part of Calabria are great store of Tarantula's, a serpent peculiar to this country, and taking that name from the city of Tarentum. Some hold them to be a kind of spiders, others of Effts; but they are greater than the one and less than the other; the sting is deadly, and the contrary operations thereof most miraculous. For some so stung, are still oppressed with a leaden sleep; others are vexed with continued waking. Some fling up and down; and others are extremely lazy; he sweats; a second vomits; a third runs mad; some weep, and others laugh continually, and that is the most usual. The merry, the mad, and otherwise actively disposed are cured by Musick, at least it is the cause, in that it incites them to dance indefatigably, for by labour and sweat the poyson is expel'd. And Musick also by a certain high excellency hath been found by experience to stir in the sad and drowsie so strange an alacrity, that they have wearied the Spectators with continued dancing; in the mean time the pain hath asswaged, the infection being driven from the heart, and the mind released of her sufferance; if the music intermit, the malady renews; but again continued and it vanisheth.

REVIEW OF LITERATURE

A Case of Luetic Bilateral Posticus Paralysis Resulting in Cure.—Steinhaus[1] reports the case of a man of 39 who, two years after syphilitic infection, began to complain of violent pain in the region of the sciatic nerve, symptoms of formication and parasthesia, difficulty in walking, etc. He had exaggerated knee-jerks, patellar and ankle-clonus, and incomplete pupillary reaction to light. Antirheumatic treatment was of no avail, and it was thought the initial symptoms of locomotor ataxia were present, in spite of the increase of tendon-jerks. About this time he was suddenly seized with pain in his neck, dysphagia, and violent inspiratory dyspnea. A laryngeal examination revealed paralysis of both posterior cricoarytenoid muscles. Upon the strength of the patient's history he was placed upon mercurial treatment (hypodermic injections of mercury), and not only did the paralysis disappear, but also the other symptoms complained of. [E.L.]

Psychologic Substrata of the Hypnotic State.—T. E. Rybakoff[2] attributes the hypnotic state to a peculiar emotion which he calls the hypnotic emotion. It is akin to the well-known disagreeable feeling excited in us by a domineering personality, and appears to be composed of anger and a consciousness of our own weakness. Merely physical procedures like "passes," fixation of bright objects, etc., are in themselves unable to bring about the hypnotic state; neither is it produced by fatigue of attention or by concentration of thought; in all cases the "hypnotic emotion" is indispensable. This emotion is evidenced by the altered pulse and respiration, by the subjective account of the hypnotized person, and by the subsequent phenomena of fatigue. This view is original with the author, and appears to be more in harmony with facts than current theories concerning hypnotism. [L.J.]

Chronic Mania.—Siefert[3] reports the case of a man of 36 suffering from a slight maniacal excitation, a hypomania for many years. The symptoms of this condition, euphoria, irresistible impulse to speak and gesticulate, ideas of grandeur, etc., were present in a typical manner, and no symptoms not belonging to the classical picture of mania were found. Memory, judgment, etc., were excellent. The possibility of periodic mania existing over a prolonged period of time must be thought of, but as far as history and examination permit the author to judge, he considers the case one of pure chronic mania. Its rarity warrants its being reported. [E.L.]

The Direct Pyramidal Tract and the "Crescentic Tract."—It has been the opinion of anatomists that the fibers

[1] Jour. Méd. de Brux., 1903, Nos. 27, 28, and 29.

[1] Münchener medicinische Wochenschrift, November 11, 1902.
[2] Russki Vratch, January 25 and February 1, 1903.
[3] Allgemeine Zeitschrift für Psychiatrie, etc., 1902, Vol. lix, p. 261.

of the direct pyramidal tract in the spinal cord have their origin in cells of the cerebral cortex. P. Marie and G. Guillain[1] show by recent investigations that this view is to a certain extent untenable. By careful study of the brain and spinal cord in cases of hemiplegia that have come to autopsy they have found that even with most extensive destruction of the cerebral hemisphere the area of degeneration in the anterior column of the cord is extremely limited, and is situated in the inner and posterior part of the column. On the other hand, consecutive to lesions of the crura or pons, the authors have found in the anterior column a degeneration much more extensive, occupying in fact the inner third or even half of the column. The degenerated fibers, as seen in cross section, form a crescent along the inner and anterior borders of the column, and the tract has therefore been named the "crescentic tract" (faisceau en croissant). The exact origin of these fibers is not known. It seems probable that they arise from the cells that are found in the peduncle, subthalamic region, and pons, in the neighborhood of the pyramidal tracts. Hence there are two distinct varieties of degeneration observed in the anterior column—the degeneration of cerebral type, and that of mesencephalic type. [B.K.]

Hypertrophic Cervical Pachymeningitis and Hemorrhagic Internal Pachymeningitis in Slowly Progressing Idiocy of Adolescence.—Probst[2] reports the case of a girl of 15 with bad antecedents (lues, insanity) and the history of a difficult forceps delivery. She was reported to have had hydrocephalus, which manifested itself by occasional symptoms of cerebral irritation. She learned and developed splendidly until her thirteenth year, when she fell, striking her occiput heavily. An hour later she had an attack of Jacksonian epilepsy, beginning in right cheek and spreading along the right side of body, also implicating the tongue. She did not lose consciousness. From this on she dragged her right leg. The attacks returned frequently; headache, dizziness, loss of memory, and increasing dulness were complained of. Occasionally instead of convulsions she had stinging and formication. During the following two years she gradually subsided into a complete idiot; incontinence developed, her limbs became spastic and paralyzed; there was inability to speak; stiff, painful neck; enlargement of right pupil; yawning; slow pulse; some atrophy of muscles; contractures, etc. Autopsy showed chronic external hydrocephalus, chronic internal hemorrhagic pachymeningitis of left side of cerebrum, and chronic pachymeningitis of the cervical and dorsal cord. A very extensive microscopic study was made and based upon it. Probst concludes that the pathologic changes began in the cerebrum and spread from this to the cord, the spinal pachymeningitis being secondary to the cerebral lesions; the hemorrhagic pachymeningitis developed later in the chronically inflamed dura. [E.L.]

Insanity after Burns.—Current textbooks on mental diseases ignore burns as an etiologic factor. A very small number of reports may be found in literature. N. Toporkoff[3] observed a case of insanity in a woman of 25, following extensive burns. The entire face and some portions of the body elsewhere had been severely burned. About two weeks afterward delirium and hallucinations were noticed. She was depressed and mentally confused. All details of the clinical picture pointed to the diagnosis of acute hallucinatory dementia (delirium hallucinatorium). She recovered completely in a few weeks. The author is inclined to postulate a state of autointoxication with bacterial toxins as the immediate cause of the psychosis, since the latter appeared only after the patient had left the hospital and had begun to dress her wounds with rancid oils and filthy rags. [L.J.]

Memory Disturbances in Organic Brain Disease.—Nitsche[4] defines memory as the psychic ability to deposit pictures of perceptions and occurrences, to retain them for a time and to be able to recall them whenever suitable associations so require. He reports the cases of two patients, one afflicted with paralytic dementia, the other with cerebral syphilis. In the former the ability to observe, to deposit memories, and to reproduce them, was markedly diminished. In particular was the first of these lowered, thus making the existing weakness of memory appear much greater than it actually was. The nature of his disease produces a weakening of all his psychic functions, and it is worthy of note to see how the diminution of memory precedes the diminution of all other psychic functions. In the second patient was noted the same lowering of all three divisions of memory, but in particular was the power to store pictures deficient, thus making his weakness of memory much graver than that of the paralytic. In this case was also noted a deficiency of judgment, directly due to his lack of retaining memory. At times this produced delusions in him, thus showing that all portions of psychic activity are diminished by this. Sight memories were retained much better than others, and the oftener the occurrences were repeated, the deeper they impregnated themselves. Weariness weakened his memory still more. [E.L.]

Obstinate Constipation and Hypnotic Suggestion.—Paul Farez[1] reports the case of a woman, aged 35, who suffered from obstinate constipation. Laxatives produced no effect; injections were impossible because of spasm of the anal sphincter, which prevented the entrance of the nozzle of a syringe. A single attempt at hypnotic suggestion caused the spasm to relax and the muscular movements of the intestine to return; the same evening and the following day frequent and abundant movements occurred; afterward, daily rectal injections were well tolerated and resulted in very satisfactory movements. [L.F.A.]

A Mimic Center in the Mesial Nucleus of the Optic Thalamus.—In diseases of the optic thalamus it has been observed that voluntary movements of the opposite side of the face were possible, while emotional involuntary movements, as laughing, crying, etc., were not. Therefore, the theory that the optic thalami are connected with emotional gestures, as well as the mimical centers of the cortex, is assumed. Which portion of the thalamus is at the bottom of this disturbance has not yet been definitely determined. Kirchhoff[2] publishes the details of a case which points to the mesial nucleus of the thalamus as the seat of this mimic center. [E.L.]

Macroesthesia.—This peculiar phenomenon was described by Tranor and Shtcherlak in 1895. T. T. Tranor[3] now reports two additional instances. The name denotes a disturbance of the tactile and stereognostic sense, in consequence of which objects touched or handled by the patient seem to him larger than their real size. The first reported case is that of a young woman who pricked the tip of her index finger with a needle. Suppuration took place, and after its subsidence the finger remained weak and sensation was impaired. About two months later, while these complaints were gradually tending toward improvement, she noticed that objects touched with the affected finger seemed to be rough and large. In the second case the same disorder followed an injury to the hand of a army officer who fell on the point of a bayonet. Hysteria could be excluded in both instances. The affection is evidently due to a peripheral neuritis, and the time of its appearance corresponds to the regenerative process in the nerve. We may, therefore, assume that the new nerve tonics and the central perceptive apparatus have not as yet adjusted themselves to the novel task and err by overestimation. [L.J.]

Metastatic Carcinoma of the Brain.—A remarkable case of carcinoma of the brain, secondary to carcinoma of the lung in a woman of 47 is reported by Barany.[4] She had been ill for over a year, the condition starting with an exudative pleurisy which had never resolved completely. About six months after she was seized with peculiar epileptoid attacks, which were followed by difficulty in speaking, with occasional complete loss of speech; this difficulty later became constant. During the next five months numerous hysteroidal symptoms were constantly complained of. Suddenly five weeks ago she began

[1] La Semaine Médicale, January 21, 1903.
[2] Archiv für Psychiatrie und Nervenkrankheiten, 1902, Vol. xxxvi, p. 114.
[3] Medizinskoe Obosrenie, lix, No. 1.
[4] Allgemeine Zeitschrift für Psychiatrie, etc., Vol. lix, p. 211, 1902.

[1] La Médecine Moderne, Vol. xiii, No. 7, 1902, p. 63.
[2] Archiv für Psychiatrie und Nervenkrankheiten, 1902, Vol. xxxv, p. 814.
[3] Obosrenie Psychiatrii, etc., 1902, No. 9.
[4] Wiener klinische Wochenschrift, October 16, 1902.

paralyzed on the right side, this lasting, however, but a short time. From this until her death, five weeks later, numerous examinations were made of the patient, the details of which are given at great length in the paper. The most important points in the case were the almost complete absence of eye symptoms, the hypochondriac depression at the onset, the sudden attacks of fleeting and incomprehensible loss of speech, the right hand-clonus and bilateral foot-clonus, the absence of increase in the knee-jerks, and the peculiar psychic state of the patient: she would persevere at one question for hours. Necropsy showed primary carcinoma of the right lung, with metastasis to the liver and the glands of the neck. Multiple growths were found in the cortex and medulla of both cerebral hemisphere and in the dura mater. [E.L.]

Progressive Muscular Atrophy of Spinal Origin.—This case is reported by Harris[1] chiefly because of the definite etiologic history of cold with fatigue. The patient was a man of 30, who had for four years been prospecting about Dawson. In March, 1902, he traveled 41 miles, walking very fast or running the entire distance, with the exception of 10 miles ridden in a sleigh. The thermometer was at zero when he started, but rapidly fell until it was 40° below zero when he reached his destination. After a temporary fatigue of two days the patient felt well for two weeks, when numbness, fibrillary contractions, etc., began, typical progressive muscular atrophy finally being established. [A.G.E.]

A Case of Aphasia with Agraphia and Alexia.—Risch[2] reports the case of a man of 61 who, after a severe cold, suddenly lost his speech, became apathetic, would not rise from bed, nor keep himself clean. There is marked loss of strength in the muscles of the upper and lower extremities; cutaneous sensation is less acute than normal. His memory was weak, the power of spontaneous speech and writing was destroyed, and he could neither read nor understand things read to him. He was able to repeat some words, but could not write to dictation. Risch thinks the lesion is in the island, extending from there along the various conducting paths which go toward the reading center. [E.L.]

Circular Insanity.—P. B. Gannushkin and S. A. Suchanoff[3] have studied 86 cases of this psychiatric form, which should not be confounded with the merely circular course of certain well-defined psychoses. Thus, general paresis and others may show a distinct circularity or rhythmic alternation of excitement and depression, but this feature does not make them circular insanity. The latter is a form *sui generis*. It is met oftener in women than in men; it is twice as frequent as mania, and three times less frequent than melancholia; the hereditary element plays an important role; in almost two-thirds of all cases the affections begin between the ages of 16 and 25, the first phase being usually a depressive one. The prognosis is bad so far as cure is concerned. The published reports of "cures" generally deal with some other affection which simulated circular insanity. [L.J.]

Concerning the Connection Between the Cortex, the Subcortical Ganglia and the Visual Act of the Dog.—Hitzig[4] performed experiments on dogs to solve the following questions: 1. Can cortical visual disturbances arise only when "Munk's visual area" is injured, or will they also follow after injury to other parts of the cortex? 2. Are the disturbances brought about by these lesions of the hemianopsic type? 3. Are the disturbances, in part or all, directly traceable to these cortical lesions, or brought about through subcortical destruction? He concludes from his experiments (1) that even if only the pia is exposed, it leads to more or less injury to the convolutions beneath, sometimes also to their neighboring structures; (2) the same symptoms are noted after such operations, as after local extirpations, or other lesions in these regions—they differ only quantitatively; (3) the anatomic changes described are sufficient to explain these symptoms—there is no necessity to seek for additional injuries; (4) the fact that lesions of other areas (gyrus sigmoides) besides the "visual area" produce these visual disturbances is proved by his experiments. Munk's theory, therefore, is disproved. [E.L.]

Paresis.—M. O. Detrain[1] analyzed 119 cases of paresis which had been treated in the Saint-Jean Hospital of Brussels. Of these 84 were among men, and 35 among women. Of the 84 men 47 manifested symptoms of simple dementia, with insignificant or no ideas of grandeur; 10 with marked ideas of grandeur; 20 with ideas of persecution; 10 with delirious conception of a hypochondriac nature. Of the 35 women, 26 showed symptoms of simply dementia without ideas of grandeur or with ideas of grandeur of insignificant degree; 6 had marked ideas of grandeur; 2 had ideas of grandeur of moderate degree; 1 had ideas of persecution; 3 had delirious conceptions of a hypochondriac nature. This analysis demonstrates the fact that the "forme dementielle" is more common than the maniacal form. Neurasthenia may be confounded with the demented form of paresis. Of 84 cases in men at the onset 13 were under 35 years of age, 65 were between 35 and 50 years, and 6 were over 50 years old. Of the 35 cases in women, 10 were under 35 years, 23 were between 35 and 50 years, and 2 were over 50 years. [J.H.W.R.]

A Case of "Functional" Bulbar Paralysis.—Grosz[2] reports the case of a girl, who was suddenly taken with disturbance of speech, followed a few days later with difficulty in swallowing. In the course of a week the complete clinical picture of an acute bulbar palsy developed. She was unable to speak, could swallow only liquids, and these with difficulty; had weakness of all voluntary muscles, could not move tongue, etc. She was put upon iodids, bromids, and iron, and in three weeks from the time of onset was completely cured, thus excluding all possibilities of an organic bulbar palsy. The chief points of interest in the case are the age of the patient, the rapid development of the symptoms, the short duration of the disease, and the complete cure which resulted. Discussing the nature of the case, he concludes that it belongs to the cases described by Oppenheim as "bulbar palsies without pathologic base," and by Strümpell as "asthenic bulbar palsies." He considers the term "functional bulbar palsy" a better one, and believes his case to have been one of hysterical nature. [E.L.]

[1] California State Journal of Medicine, January, 1903.
[2] Allgemeine Zeitschrift für Psychiatrie, etc., 1902, Vol. lix, p. 56.
[3] Medizinskoe Obosrenie, lix, No. 1.
[4] Archiv für Psychiatrie und Nervenkrankheiten, 1902, Vol. xxxv, Heft 3.

THE PUBLIC SERVICE

Health Reports.—The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended October 23, 1903:

	SMALLPOX—UNITED STATES.		Cases	Deaths
California:	Los Angeles	Oct. 4-10	1	
Colorado:	Denver	Aug. 29-Sept. 26	4	
Florida:	Jacksonville	Oct. 11-17	1	
Illinois:	Chicago	Oct. 11-17	3	
	Danville	Oct. 11-17	1	
Louisiana:	New Orleans	Oct. 11-17	2	
			Imported.	
Maryland:	Baltimore	Oct. 11-17	1	
Mississippi:	Natchez	Oct. 12-19	1	
Missouri:	St. Louis	Oct. 3-10	2	
New Hampshire:	Manchester	Oct. 11-17	3	
New Jersey:	Camden	Oct. 11-17	1	
Ohio:	Cincinnati	Oct. 9-16	2	
	Cleveland	Oct. 11-17	1	
Pennsylvania:	Altoona	Oct. 11-17	1	
	Johnstown	Oct. 11-17	14	
	Philadelphia	Oct. 11-17	54	4
	Pittsburg	Sept. 12-Oct. 17	279	60
			7 cases imported.	
South Carolina:	Charleston	Oct. 11-17	1	1
West Virginia:	Jefferson County	Oct. 1-15	14	
	Wheeling	July 1-Sept. 30	4	2
Wisconsin:	Milwaukee	Oct. 11-17	9	
	SMALLPOX—INSULAR.			
Philippine Islands:	Cebu	Aug. 1-31	8	4
	Manila	Aug. 30-Sept. 12		3
	SMALLPOX—FOREIGN.			
Brazil:	Pernambuco	Aug. 16-Sept. 15		23
	Rio de Janeiro	Sept. 14-27	109	40
Chile:	Antofogasta	Aug. 25-31		9
Colombia:	Barranquilla	Sept. 28-Oct. 4		2
Formosa:		Aug. 1-31	1	
Great Britain:	Birmingham	Sept. 27-Oct. 3	9	
	Bristol	Sept. 27-Oct. 3	1	
	Glasgow	Oct. 2-9	1	
	Leeds	Oct. 4-10	4	

[1] Journal Méd. de Bruxelles, February 12, 1903, p. 83.
[2] Archiv für Kinderheilkunde, 1902, Vol. xxxiv, 39.

Great Britain:	Liverpool	Sept. 27-Oct. 3	8	
	London	Sept. 27-Oct. 3	1	
	Manchester	Sept. 27-Oct. 3	2	
	Newcastle-on-Tyne	Sept. 27-Oct. 3	5	1
Malta:		Sept. 20-26	6	
Mexico:	Merida	Oct. 11	1	
	Mexico	Sept. 28-Oct. 11	5	4
Russia:	Odessa	Sept. 27-Oct. 3		1
	St. Petersburg	Sept. 20-26	19	2
	Warsaw	Aug. 28-Sept. 12		7
Spain:	Barcelona	Sept. 27-Oct. 3		4
Turkey:	Constantinople	Sept. 28-Oct 4		3
	Smyrna	Sept. 28-Oct. 4		77
Venezuela:	Yaritagua	Sept. 23	Prevalent.	

YELLOW FEVER—UNITED STATES.

Texas:	Connell	Oct. 20	1	
	Castroville	Oct. 21	1	
	Hondo	Oct. 19	1	
	Laredo	Oct. 14-21	98	7
	San Antonio	To Oct. 21	13	3

YELLOW FEVER—FOREIGN.

Brazil:	Rio de Janeiro	Sept. 14-27	5	3
Mexico:	Merida	Oct. 4	14	
	Mexico	Sept. 28-Oct. 4	1	1
	Nuevo Laredo	Oct. 13-21	14	2
	Progreso	Oct. 4-11	2	
	Tampico	Sept. 30-Oct. 10		6
	Vera Cruz	Sept. 3-10	38	11
Venezuela:	Puerto Cabello	Sept. 20-26		1

CHOLERA—INSULAR.

Philippine Islands:	Manila	Aug. 30-Sept. 12	94	76
	Provinces	Aug. 30-Sept. 12	1614	1394

CHOLERA—FOREIGN.

China:	Hankow	Sept. 12-19	1	1
	Hongkong	Sept. 5		1
	Shanghai	Oct. 12-19		21
	Tientsin	Sept. 12-19	3	1
India:	Calcutta	Sept. 6-12		4
	Madras	Sept. 6-12		3
Straits Settlements:	Singapore	Aug. 29-Sept. 5		11

PLAGUE—UNITED STATES.

California:	San Francisco	Oct. 7	1	1

PLAGUE—INSULAR.

Philippine Islands:	Cebu	Aug. 19-Sept. 12	6	3
	Manila	Aug. 30-Sept. 12	3	3

PLAGUE—FOREIGN.

Brazil:	Rio de Janeiro	Sept. 14-27	62	24
Chile:	Iquique	Aug. 28-Sept. 11	9	5
China:	Newchwang	Sept. 12-19	73	62
Egypt:	Alexandria	Sept. 12-18	8	4
	Damiette	Sept. 12-19	1	1
Formosa:		June 1-Aug. 31	164	142
India:	Calcutta	Sept. 6-12		13
Italy:	Licata	Sept. 13-20	1	1

In the report to the journals for September 19, eleven cases of smallpox were accredited to Ogden, Utah, when there should have been only one.

Changes in the Medical Corps of the U. S. Army for the week ended October 24, 1903:

The following assignments to duty, of officers of the medical department, recently arrived on the transport Sheridan, are made: Department of Mindanao, Major William H. Corbusier, surgeon; department of Luzon, First Lieutenants Samuel J. Morris, Harry S. Purnell, and George H. Scott, assistant surgeons; department of the Visayas, First Lieutenant Horace D. Bloombergh, assistant surgeon.

MCMILLAN, CLEMENS W., contract surgeon, is granted leave for 2 months, with permission to visit the United States, to take effect about October 15.

GANDY, Major CHARLES M., is granted leave for 1 month.

WATKINS, VICTOR E., contract surgeon, is relieved from duty in the department of the Colorado, and will proceed from Fort Huachuca to Eagle Pass, Texas, for duty, to relieve First Lieutenant Park Howell, assistant surgeon.

HARRIS, First Lieutenant JESSE R., assistant surgeon, is relieved from duty at Fort Myer, to take effect about November 20, and will report to the commanding officer, Second Cavalry, for duty to accompany that regiment to Manila, P. I., for duty.

The board of officers appointed by orders of May 4 to consider certain matters pertaining to the hospital corps of the Army, will as early as practicable after the termination of the maneuvers at Fort Riley reassemble at Fort Sam Houston to complete its work under instructions to be communicated to it by the surgeon-general of the Army. Captains Francis A. Winter and Frederick P. Reynolds, assistant surgeons, will upon the conclusion of the maneuvers at Fort Riley proceed to Fort Sam Houston for this purpose, and upon the completion of the work of the board will return to their respective stations.

CRAMPTON, Lieutenant-Colonel LOUIS W., deputy surgeon-general, is granted leave for 13 days, from about November 1.

LAMSON, First Lieutenant THEODORE, assistant surgeon (recently appointed), will proceed from Auburndale, Mass., to Fort Myer, for duty until November 3, on which date he will be relieved from duty at that station, and will report at the Army Medical School for a course of instruction.

So much of orders of October 13, as relieve First Lieutenant Orville G. Brown, assistant surgeon, from duty at Fort Monroe, is amended so as to relieve Lieutenant Brown from further duty at Fort Monroe, and direct him to proceed to Washington, D. C., and report at the Army General Hospital, Washington barracks, for assignment to duty until November 3, on which date he will be relieved to enable him to report at the Army Medical School.

JONES, JOHN F., contract surgeon, is relieved from further duty at Fort Schuyler, and will proceed to Fort Totten for duty.

MANSFIELD, ELMER E., contract surgeon, leave granted August 19 is extended to include November 30.

HARTSOCK, First Lieutenant FREDERICK M., assistant surgeon, will report to Lieutenant-Colonel Henry S. Kilbourne, deputy surgeon-general, president of the examining board at the Presidio, for examination for advancement.

NIEDMAN, WILLIAM F. DE, contract surgeon, leave granted September 19 is extended 20 days.

Changes in the Medical Corps of the U. S. Navy for the week ended October 24, 1903:

WRIGHT, B. L., passed assistant surgeon, commissioned a passed assistant surgeon from March 3, 1903—October 17.

BOGAN, F. M., PAYNE, J. H., JR., and SNYDER, J. J., assistant surgeons, commissioned passed assistant surgeons from June 7, 1903—October 17.

MILLER, J., JR., TAYLOR, E. C., CAMPBELL, F. E., GILL, J. E., and REEVES, I. S. K., appointed assistant surgeons from October 12, 1903—October 17.

PUGH, W. S., assistant surgeon, ordered to the Naval Museum of Hygiene and Medical School, Washington—October 19.

COWAN, J., pharmacist, retired from active service October 19, 1903, under the provision of Sec. 1,453, R. S.—October 21.

Changes in the Public Health and Marine-Hospital Service for the three weeks ended October 22, 1903:

BAILHACHE, PRESTON H., surgeon, detailed to represent the service at the meeting of the American Public Health Association at Washington, D. C., October 26—October 15, 1903.

CARMICHAEL, D. A., surgeon, granted leave of absence for 30 days from October 16—October 5, 1903.

KALLOCH, P. C., surgeon, granted leave of absence for 3 days—October 5, 1903.

WHITE, J. H., surgeon, to proceed to Gulf Quarantine Station and assume temporary command—October 8, 1903.

CARRINGTON, P. M., surgeon, 2 days' leave of absence from October 15, 1903, under paragraph 189 of the regulations.

MAGRUDER, G. M., surgeon, granted extension of leave of absence on account of sickness, for 2 weeks from October 7—October 13, 1903.

WERTENBAKER, C. P., passed assistant surgeon, to proceed to Beaumont and Houston, Texas, for special temporary duty—October 2, 1903. To proceed to El Paso, Texas, for special temporary duty—October 5, 1903.

PERRY, J. C., passed assistant surgeon, to proceed to Charlestown, W. Va., for special temporary duty—October 12, 1903.

BROWN, B. W., passed assistant surgeon, granted leave of absence for 1 day, October 18—October 15, 1903.

NYDEGGER, J. A., passed assistant surgeon—Bureau letter of September 4, granting Passed Assistant Surgeon Nydegger leave of absence for 1 month from September 13, 1903, amended so that said leave shall be for 1 month from September 23, 1903—October 10, 1903. Granted leave of absence for 10 days, on account of sickness, from September 13—October 13, 1903.

MATHEWSON, H. S., passed assistant surgeon—Department letter of September 22, granting Passed Assistant Surgeon Mathewson leave of absence for 45 days from September 22, 1903, amended so that said leave shall be for 45 days from October 3—October 7, 1903.

GRUBBS, S. B., passed assistant surgeon, granted leave of absence for 5 days—October 8, 1903.

LUMSDEN, L. L., passed assistant surgeon, to proceed to Beaumont, Texas, for special temporary duty—October 4, 1903. To proceed to Eagle Pass, Texas, for special temporary duty—October 5, 1903. To proceed to El Paso, Texas, and assume temporary command of the station—October 13, 1903.

ANDERSON, J. F., passed assistant surgeon, to proceed to Baltimore, Md., for special temporary duty—October 1, 1903.

FRICKS, L. D., passed assistant surgeon, granted leave of absence for 1 month from November 1—October 17, 1903.

RICHARDSON, T. F., assistant surgeon, to proceed to San Antonio, Texas, for special temporary duty—October 21, 1903.

KING, W. W., assistant surgeon, detailed as inspector of unserviceable property, at Ponce, P. R.—October 17, 1903.

FRANCIS, EDWARD, assistant surgeon, to proceed to the City of Mexico, Mexico, for special temporary duty—October 6, 1903.

BEHRENBURG, L. P. H., assistant surgeon, granted leave of absence for 7 days from October 14, 1903, under paragraph 191 of the regulations. Granted extension of leave of absence for 7 days from October 22—October 17, 1903.

FORD, C. B., acting assistant surgeon, granted leave of absence for 3 days from October 24—October 22, 1903.

GOLDSBOROUGH, B. W., acting assistant surgeon—Department letter of September 10, 1903, granting Acting Assistant Surgeon Goldsborough leave of absence for 3 weeks from September 10, 1903, amended so that said leave shall be for 3 weeks from September 22—October 9, 1903.

JACKSON, J. M., acting assistant surgeon, granted leave of absence for 30 days from October 5—October 9, 1903.

SIBREE, H. C., acting assistant surgeon, granted leave of absence for 6 days from October 6—October 6, 1903.

STANTON, J. G., acting assistant surgeon, granted leave of absence for 30 days from October 10—October 18, 1903.

BROWN, F. L., pharmacist, to proceed to St. Louis, Mo., and report to medical officer in command for temporary duty—October 10, 1903.

GOODMAN, F. S., pharmacist, to proceed to Laredo, Texas, and report to Surgeon G. M. Guiteras for special temporary duty as special disbursing agent—October 2, 1903.

RICHARDSON, S. W., pharmacist—Department letter of September 15, 1903, granting Pharmacist Richardson leave of absence for 10 days, revoked—October 13, 1903. To proceed to New York, N. Y., and Providence, R. I., for special temporary duty—October 14, 1903.

WOODS, C. H., pharmacist, to rejoin station at Chicago, Ill.—October 10, 1903.

MASON, M. R., pharmacist, relieved from duty at Nome, Alaska, and directed to proceed to San Francisco, Cal., and report to medical officer in command for duty—October 8, 1903.

Promotions.

G. A. Morris, pharmacist of the third class, promoted to be pharmacist of the second class, effective September 3—October 3, 1903.

Charles Maples Steger, recommissioned as assistant surgeon in the Public Health and Marine-Hospital Service to correct original commission, effective September 16, 1903—October 12, 1903.

American Medicine

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PUBLISHED WEEKLY AT 1321 WALNUT STREET PHILADELPHIA BY THE AMERICAN-MEDICINE PUBLISHING COMPANY

VOL. VI, No. 19. NOVEMBER 7, 1903. $5.00 YEARLY.

At the Opening of the Pneumonia Season.—The Commissioner of Health of Chicago says that between now and the close of next May there will be 2,100 deaths from pneumonia in Chicago, while in the same time only about 1,300 persons will die of tuberculosis of the lungs. During the last 13 years there has been an increase of deaths from pneumonia, from an average of 117 per 100,000 of population during the previous 13 years, to 179—*i. e.*, nearly 53%. The deaths from tuberculosis have only increased about 6% during the same period. It is impossible to say if similar ratios obtain throughout the nation and the world, but it is evident that the gain from the crusade against tuberculosis has been largely offset by the increased malignancy of pneumonia. The fact is suggestive, and even alarming. Has the search for its cause been made with the vigor demanded? The phenomenon is not without parallel in other diseases. Are we reaching a condition in the struggle to lessen the general deathrate when the reduction of the mortality from one disease will result in a corresponding increase in that from another? If so, the conclusion can only be that there is one cause common to both diseases. Are the ravages of the bacillus of tuberculosis and the diplococcus of pneumonia dependent upon this deeper causal factor? The old question of soil and seed again arises. Has that of the soil been too much neglected?

Reciprocity in New Jersey.—The president's address by Dr. E. L. B. Godfrey before the New Jersey State Medical Society, is largely devoted to the question of interstate endorsement. Like the famous chapter on snakes in Ireland, Dr. Godfrey's view, as a result of eight years of experience as secretary of the State Board might be epitomized as, There is no interstate endorsement in New Jersey. In italics he says: "*New Jersey does not accept the license of any State as a sufficient ground of endorsement.* All the proposals that have been made, and all the plans that have been tried, to lessen the hardship to the physician moving from any State into New Jersey, are examined, and all are found unworkable or ill-advised. The reasoning does not appear to be always convincing, and sometimes not according to the highest professional ideals. It is true that each summer there takes place a rush of outside practitioners to the summer resorts of the State, many of whom are not the most ethical, and that this influx, if not controlled, would "literally engulf the profession of New Jersey." But in spite of all difficulties one cannot help feeling that if the will to find a way out of the tangle of red tape were more evident, then the way would be found. We incline to think some such plan as that adopted by the Confederation of Examining and Licensing Medical Boards is feasible; it would at least show a larger and more humane professional spirit.

"The Ophthalmologist" is the title of a journal and the "McCormick Neurological College" is that of an institution, both, according to a long editorial article, devoted to the cause of "selfishness." Human ills, however, are to be abolished in this interest, and first among these ills is the hated medical profession. We forgot to say that the "College Prospectus" is bound with a profusion of heavy white silk cord. We fear the sense of humor is not well developed in the professors of the much curriculumed college, although as provokers of laughter these pamphlets are, unconsciously, nearly perfect. On the title-page of the journal an optician is defined as "one who manufactures or deals in optical goods;" an oculist as "one who pretends to cure eye diseases (?);" but the lordly ophthalmologist is he "who understands the eyes, their defects, and their relation to human ills." We fear to jibe, or even to smile, at these definitions, because in the bristol board, silk-corded prospectus of the college (with full page photographs of the three M.D. officers) we are assured that "back biting gossips will be whipped by the graduates on sight." In the cause of truth we would like to state that, considering the ophthalmologistic science illustrated in the journal, and especially in view of the grammar and orthography whereby it is expressed, the optician would be the safer adviser for the patient. Churches, medical colleges, medical practice acts, and State Boards of Medical Examiners are hated with a very dire passion. One does not understand how it is related to ophthalmology, but even "the present marrige code" is pronounced "a humbug." Of our profession these medical doctors say we "ridicule and threaten those who think and discover Nature's intentions through Her works, and embrace with joy the concocters of viruses and lymphs, the use of which has inoculated thousands with vile disorders that increased the practice of the clique that boasts medical diplomas

are licenses to sacrifice human life while the holders learn to be doctors." "Insufferable egotists," "the gang," "infamous puppy," "scoundrel," etc., are some of the harsh terms applied to us. About 100 subscribers are listed as contributors to the "War Fund" of $259 for the purpose of defending the ophthalmologists, "the victims of assaults," from the legal difficulties encouraged by the attorneys of "the gang." The "sweetly-selfish" Ella is quoted in extenso, but two lines of her poem must be reproduced:

"The trouble, I think, with us all,
Is the lack of a high conceit."

Chinese Medicine.—The impervious conservatism of our Chinese contemporaries is in no department more resistant than in that of the art of healing. From the days of Confucius down to the twentieth century, John Chinaman has believed that the most precious gift which he has received from his ancestors is his body, and that every injury or loss of substance which this suffers is an insult to filial piety, the most devout of all his cherished emotions. This sacred feeling is especially characteristic, and permeates all classes of society. Accordingly, surgical operations—excepting those of the most trivial kind—are never performed by the native. We are told that the Chinese chiropodist uses a larger number of instruments than does the surgeon of that nationality. A few minute bistouries and forceps, a goodly supply of acupuncture needles, a tongue-depressor, an *ouvre-bouche*, an insufflation-tube, and a somewhat formidable tooth-extractor, almost complete the *armamentarium chirurgicum*. The urethral catheter, the uterine speculum, and the midwifery forceps are still unknown to Chinese surgery! In the large cities on the coast where there are European practitioners, the hospital patients will submit to major surgical operations only after being assured that every portion of ablated tissue—tumors, diseased limbs, etc., will be restored to them on leaving the institution. With the same religious care the Chinese eunuch preserves (in spirit) the sexual organs of which he has been artificially deprived, that they may be buried with him at last; so that he may present himself with a whole body in the other world to the greetings of his adored ancestors.

Chinese Anatomy and Physiology.—Chinese medical literature is copious, and its bibliography has been drawn up with the most scrupulous care; but the whole contents consist of unreasoning commentaries on the works of a few old masters, whose texts, like those of other sacred volumes of Oriental literature, are far too sacred to suffer the smallest innovation. Those "masters" of Chinese medicine were contemporaries of Machaon and of Podalirius, who dressed the wounds of the besiegers of Troy. Direful would be the almost inevitable results of the exploration of any of the cavities of the human body by the Chinese practitioner! No Chinese representative of the healing art has ever dissected any portion of the human frame. Accordingly, their ideas of anatomy and physiology are matters of faith—confirmed by images which have been reproduced during untold centuries. Their osteology teaches that the skull is formed of one bone; so is the pelvis; the number of ribs varies with the individual, and at the junction of the arm with the forearm is placed a cubital patella. According to Chinese splanchnology, the small intestine communicates with the cavity of the heart; while the colon, after describing 16 circumvolutions, terminates by opening into the lung. The heart governs the vital processes—in cooperation with the cavity of the stomach it supplies all ideas and all pleasurable sensations. The liver is the habitat of the soul; and it is from this gland that all noble and generous sentiments emanate. The gallbladder is the receptacle of courage; its ascent in the body is the cause of a fit of anger. They have an idea of the continuous motion of the blood; but it seems to be the product of an imagination more riotously Oriental than even that which created the other items of their physiologic knowledge. They do not know the pulmonary circulation; they, naturally, know nothing of the valves in the veins; they do not even appear to have quite grasped the motor function of the heart itself; but they nevertheless profess to differentiate no less than 74 varieties of pulse—simultaneously recognizable on the person of a single individual! In its ultimate structure the body is composed of five elements: fire, water, earth, wood, and metal. Each of those elements is in harmonious *rapport* with the corresponding members of the series of five planets, five metals, five solid viscera, five colors, and five tastes. All diseases originate from disturbances of the primary and essential quintic harmonies of these correlations.

Chinese Surgery.—The operations universally recognized and practised by the native surgeon of the Celestial Empire are indeed few. For a superficial abscess they employ a sonde cannelée of the dimensions of a strong needle, with an incomplete ring at one end; this is pressed on the abscess till the skin projects through the ring, when the elevated portion is incised with a small bistoury. But acupuncture is undoubtedly the national surgical procedure of this vast empire. It is employed in the treatment of cholera and of constipation, of fracture, and of ophthalmia! Formerly there stood in the Imperial College of Medicine a bronze manikin furnished with a number of small orifices corresponding to the favorite points of puncture in the living body. At his surgical examination, the candidate was placed before this manikin, which had previously been covered with paper; and he was required to pass his needle through the paper into the holes prescribed for the treatment of any disease which the examiner chose to name. Accurate aim, of course, proved trustworthy knowledge. There is one operation of capital dimension, but hardly describable as truly "surgical," which is duly patronized. The Chinese Imperial Court has had personally attached to it for long centuries a semi-martyred army of *eunuchs*, numbering—at least, nominally—3,000 individuals. In addition to this, the Princes and Imperial Princesses are entitled to 30 each; the nephews and young children of his Imperial Majesty to 20; and the various cousins to ten. The representative descendants of the eight Manchu Princes who aided in the original foundation of the present

dynasty are also privileged to possess ten eunuchs each. The privileges of the position are so well assured, and the struggle for existence in this overpopulated empire is so great, that boys are sold by their parents, and young married men offer their own persons for the operation of emasculation. No anesthetic is used. The patient is bound on a kind of camp bed; his shoulders are firmly grasped by one assistant, while his legs are held apart by two others. The operator then grasps the penis and scrotum, at the root, in his left hand and compresses and twists them—thus expelling as much of the blood as possible. When ready, he finally asks the question—of the parents, in case of a young boy—"Do you consent?" If the answer is in the affirmative, he removes with a single sweep of the knife the penis and scrotum—with, of course, the contents of the latter—as close to the pubo-perineal surface as possible. The knife may be either straight or sickle-shaped; a small hatchet is sometimes employed. Revoltingly crude as the operation is, there are not more than 3% or 4% of fatal results. A tendency to cicatricial atresia of the urethral orifice sometimes proves very troublesome, especially in the younger subjects. But the most frequent troublesome sequel is incontinence of urine. This is tolerated for some time by the operator; if it persists, the latter beats his patient whenever the accident occurs. This treatment is said to be the only efficacious one; and is, accordingly, retained in high favor. A wooden or metallic bougie is used to prevent cicatricial contraction of the urethra proceeding too far. The ablated organs are preserved with religious care, and buried with the original owner; the special necessity for this custom must be recognized when it is known that the Chinese Pluto transforms into mules all eunuchs who are transmitted to his realms without those relics. The external wound, after cicatrization has been completed, presents an approximately triangular outline, with the apex below. The eunuch very frequently suffers from a combination of cicatricial stricture of the urethra with partial incontinence of urine. On this account he is often the victim of chronic vesical catarrh, and not infrequently of vesical calculus. Accordingly, with the partial incontinence of ammoniacal urine, the resulting odor is so well known that among French residents in Pekin, the saying is a popular one: "Il pue comme un eunuque; on le sent à cinq cents pas."

The Gold Cure.—Whether it was its peculiarly attractive physical appearance, its (formerly) unrivalled specific gravity, or its unique refractory resistance to chemic solvents—or the combination of all three—which gave to gold the preternatural reputation which it at one time owned as a panacea for the relief of the physical (as well as mental) ills of humanity, is impossible to decide. The published therapeutic investigations of our own time well show that the old faith has by no means died out. Between alcoholic dipsomania and suppurative adenopathy there yawns indeed a a wide gulf; yet the magical therapeusis of the precious metal is held to be able to bridge it over. When "the highly experienced and famous chemist, John Rudolph Glauber," prepared his solution of "Green Lyon, or wonderful Golden Salt," he announced to the world that:

> This Golden Liquor being drank, strengtheneth and confirmeth the whole humum radicale, Stomach, Brain, and all the inward parts of the body beyond all other medicines which I have hitherto known. Also it expelleth Melancholy, and all anxieties of Mind, taketh away Palpitation of the Heart, openeth obstructions of the internal vessels; it healeth the knots of the inward parts, as Liver, Lungs, &c., and cureth all inward exulcerations; it cureth Gravel and Stone, whether in the Penis or Bladder; it keepeth the Body soluble; expelleth Wind, with the pains of the Cholick; preserveth the Blood from corruption; cureth the Leprosie, Scabs, and Fears of all sorts; in process of time it taketh away the Gout; to the insulting Apoplexy and Epilepsie it affordeth present cure; it cleanseth the Blood infected by the Scurvy, Plague, and other Contagious Diseases; it preserveth and freeth from all internal Ulcers; defendeth the Lungs, Liver, and other parts; and removeth Exulcerations already arisen; and takes them away radically. It so tingeth all the inward parts of a Man with its Balsamic Virtues, that not being easily obnoxious to Diseases, they enjoy a sound and long life. Outwardly used, it healeth all fresh wounds, no less than old and open Ulcers without any Ointments or Plasters; for in curing Ulcers of this sort, there is nothing in Animals, Vegetables, or Minerals, which answereth to this in Virtue; as also inwardly it cureth Ruptures.

This comprehensive statement leaves little room to subsequent observers and experimentalists for the discovery of new items of virtue in aural therapeusis. But the "gold cure" for dipsomania, which has of recent years been kept so prominently before the public vision, would seem to indicate a still further expansion in this direction. And we have had a more satisfying scientific revival within the last few months. A distinguished French physician, M. G. Bué, has stated that the general antiseptic properties of the chlorid of gold are equal to those of the most potent iodin compounds; and that its topical application shows a special predilection for the habitat of the great enemy of mankind, the microbe of tuberculosis. In the treatment of local tuberculous disease, he uses a solution containing 1 gram each of chlorid of gold and chlorid of sodium in 50 grams of distilled water. Aspiration and evacuation of suppurating glands and tuberculous osseous tissue are followed by the injection of 1 cc. of the gold solution twice or thrice a week. The opening made by the needle is always sealed with cotton dipped in collodion. From 4 to 12 injections have, he says, caused the subsidence of the tuberculous gland in every case. No untoward after-effects have ever been noticed.

A Member of Our Staff of Physicians, Surgeons, and Specialists.—The charm of the "Certificate of Membership" seems not to have been exhausted by St. Luke's and the Christian Hospitals. Here is the copy of a circular sent us by a subscriber:

> Enclosed we hand you announcement of our hospital, together with one of our physician's application blanks for you to fill out and return to us, should you wish to be appointed a member of our staff.
>
> The advantages and benefits to be obtained by joining us are briefly stated as follows, viz.:
>
> 1. Our Certificate of Membership (see fac-simile) is artistically designed, and executed in the highest style of the lithographer's art, neatly framed and hung on the walls of your reception room, it imparts confidence to all visitors and patients, and is a much stronger drawing card than an ordinary diploma, as it indicates a higher attainment.
>
> 2. We furnish free with each of our certificates (or at $2 when ordered separately) a solid gold lapel button of special Red Cross design in enamel, and the words, "Dr. D.'s Sanatorium,"

in circular form around the red cross; also a neat pocket membership ticket. This alone if displayed prominently will bring you many dollars annually.

"The Cause, Symptoms, and Cure of Cancer, Tumor and Diseases of Women Without a Surgical Operation," Dr. J. S. D.'s new book, will also be given free to all joining our staff.

3. We will agree to pay you a cash commission of 50 percent of all fees received from patients you bring or send to us. This, of course, will be held strictly private and confidential. Your professional interest as well as our own demands this.

4. We have a large number of the best Richmond specialists on our staff, therefore you are assured all cases you send us will receive the most expert treatment, equal to the best to be obtained at any other medical center. You can bring in a case and spend a few days with us and take a free postgraduate course, and the patient (through us) will pay all expenses.

5. We have a well-appointed and liberally patronized "Lying-in Department" in connection, presided over by a woman graduate, who has made this her specialty for ten years, and we invite you to refer maternity cases, "unfortunate" or otherwise, who are seeking the quiet and strictly private seclusion of such a necessary institution.

6. We usually appoint but one physician in each locality, so if you desire this appointment it will be necessary to get your application early, for if not accepted in 30 days it will be offered to one of your neighbors.

Special!—The Safety Pessary. [Pat. pending.] Woman's greatest boon. The wonder of the Twentieth Century. To the Profession only $2. Order one, Doctor; my own invention. I know it's right. Yours fraternally,

DR. D.'S SANATORIUM.
J. S. D., M.D.

"The Mental Advocate," apparently, has not so far been able to convince "the postal underlings," for there is no legend "entered as second-class matter" at the head of this journal, But its editor beats all the others in three important things—the first, in the photograph business. The number before us contains 28 pages in all and the great physician who edits it has his blazing portrait with "magnetic eyes"—and whiskers—four times in the issue. His jeweled hand is not before his ear, however. (But he also has "a success circle," price $2, with *Mental Advocate* thrown in.) Second, in self-advertisement. Six full pages of the advertisement columns are devoted to the "Doctor," his treatments, and his books. Third, in the miraculousness and power of the doctor to cure disease. And yet this "Doctor" is a violent enemy of "medical doctors," of "the drug habit," and of all things medical—excepting, of course, his own "distant," "costless" healing. He is even making "splendid cures" in England. To be sure he is "down on" vaccination, and this even incites him to humor. He says in ridiculing "the bee sting cure:"

I believe that we can here get a safe mode of vaccination. Hypnotize the bees, then feed them on virus, and make them think that they are eating honey; then let them sting the patients at so much per capita, *armita* or *legita* and let the M.D.'s pass around the hat. Of course, the bees would have to be "regulars" and duly certified by the medical doctors. I have seen bees cure lethargy instantaneously and sometimes quicker.

Strange to say, the hater of drugs, medicine, and medical men, the devoted believer in "the power of mind over disease," prints the following reading notice:

Dear Dr. Edwards:

Inclosed find $1 for 200 of your Tabloids Saccharinas. I have already used one dollar's worth of them and think them fine, especially for weak stomach. Yours very truly,

FRANK ZINNEL.

BOOK REVIEWS

A System of Physiologic Therapeutics.—Edited by SOLOMON SOLIS COHEN, A.M., M.D., Vol. X. Pneumotherapy, including Aërotherapy and Inhalation Methods and Therapy. By Dr. PAUL LOUIS TISSIER. Philadelphia: P. Blakiston's Son & Co., 1903.

In this volume of the now wellknown "System of Physiologic Therapeutics" the important and much neglected, largely because ill-understood, subject of pneumotherapy is discussed in a manner to command attention and to invite extended use. Doubtless because the subject is either entirely overlooked or merely mentioned perfunctorily in the classroom, and because of the real or apparent difficulties attending its rational use, it is much neglected in daily practice—although most physicians willingly concede the great amount of good to be derived from it. The present volume, therefore, is welcome, not only as a valuable addition to medical literature, but also as a clear and comprehensive exposition of what is probably the most neglected aspect of "physiologic therapeutics." The volume is divided into 2 parts, treating of aërotherapy and of inhalation methods and therapy respectively. The first comprises a thorough discussion of air as a therapeutic agent; pneumatometry and spirometry; the use of air modified in composition and temperature; physiologic and pathologic effects of the compressed-air bath; absolute pressure methods; the pneumatic chamber; the effects and uses of rarefied air; differential pressure methods; the physiologic effects and therapeutic uses of differential pressure methods; general and respiratory gymnastics, and mechanical pressure methods. The second part comprises a discussion of the inhalation of gases, fumes, and vapors; medicaments suitable for use as vapors; atomization (pulverization, nebulization) of liquids; inhalation of mineral waters at their sources; and the inhalation and insufflation of powders (spirotherapy). A very valuable, and at the same time attractive, feature of the volume is the attention given to general principles; the elucidation of the basic facts upon which the entire rationale and practice of pneumotherapy depends. And inasmuch as the subject has scarcely yet advanced to adolescence, though it has long since shed its swaddling clothes, the author and editor have rightly given in detail the, in some aspects, discordant opinions of different workers in the field; but despite this fact, the ill-informed reader is "not left in doubt amid a multitude of conflicting assertions and antagonistic recommendations." Although the volume is devoted primarily to pneumotherapy, it seems scarcely possible in discussing inhalation methods and therapy to leave out all mention of drugs, especially as pointed out by the editor—"modification of the atmosphere by increasing or diminishing the proportion of one of its normal constituents—oxygen, nitrogen, carbon dioxid, or watery vapor—is logically followed by the introduction of other gases into the respiratory medium; the inspiration in nature of the balsamic and terebinthinate emanations of pine forests can scarcely be separated from the medicinal inhalations of these and cognate vapors; while the study of the atomization of mineral waters at their source leads directly to atomization in general." A limited discussion of certain of the related aspects of pharmacology, therefore, has been introduced with exceedingly valuable results. On the whole, the volume is eminently satisfactory, an opinion that we have had occasion to express of each volume as it has been issued, and it should, as it doubtless will, lead to an extended use of what is a valuable though much neglected aspect of "physiologic therapeutics."

Obstetrics: A Textbook for the Use of Students and Practitioners.—By J. WHITRIDGE WILLIAMS, New York and London: D. Appleton & Co., 1903.

This work is an admirable compendium of the latest and best knowledge pertaining to the obstetric art, a concise review of obstetric literature of all languages and times. When one finishes reading a chapter upon any given subject, he feels that the author has tried all things and held fast to that which is good, and that from his encylopedic knowledge of the subject

he has been able to sift the wheat from the chaff and present safe material for the use of the active practitioner of midwifery. It is impossible for the reviewer in limited space to dilate upon all of the admirable points of this truly scientific work. The nomenclature of presentation and position adopted, is based upon the relation of the presenting part to the maternal pelvis, and describes with accuracy the situation of the former at any period of labor. The author believes that external or abdominal palpation is the most reliable and valuable method of examination, and considers that its popularization forms one of the greatest advances in modern obstetrics. In managing the 3 stages of labor, the writer advises that if the placenta is not spontaneously expelled within half an hour after birth of the child, the typical Credé method be employed. If this fails at first, the obstetrician should wait patiently and repeat his attempts at expression at intervals until at least 2 hours have elapsed before resorting to manual removal of the placenta. Chloroform is the preferable anesthetic when one is desired in normal labor, and should be used only during the latter part of the second stage of labor. He advises strongly against the employment of spinal anesthesia. The most serious objection is the fact that Hahn reported 8 deaths in 1,708 cases in which its use has been recorded in literature. Cervical lacerations, if accompanied by hemorrhage, should be immediately repaired; otherwise it is advisable to leave the patient alone, rather than subject her to the manipulation necessary to its repair. When the induction of premature labor is indicated, Krause's method of introducing a sterile bougie or thick-walled rubber catheter between the membranes and uterine wall is recommended. In eclampsia, prompt delivery is indicated whenever it can be accomplished in a conservative manner; and Williams has bled with most excellent results a number of patients whose pulse was thin and weak. He considers venesection indicated in all cases in which delivery is not followed by a cessation of the convulsions, no matter what the condition of the pulse. The chapter on puerperal infection is such as we would expect from the pen of an author who has studied the subject so carefully. Hysterectomy is usually contraindicated in puerperal infection and the use of the antistreptococcic serum of Marmorek has no evidence in its favor. The work is enhanced in value by the employment of 8 colored plates and 630 illustrations in the text, and the representation of various operative procedures have been redrawn from photographs taken from life.

A Narrative of Medicine in America.—By JAMES GREGORY MUMFORD, M.D. Philadelphia. J. B. Lippincott Company.

This volume will increase the recent renewed interest in medical history. It is a delightful book, not pretending to the dignity of formal history, but all the more fitted for general perusal, not only by medical men, but also by laymen. The narrative stops practically with the Civil war. From 1607, when Thomas Wotton, Surgeon-General of the London Company, came to our country, Dr. Mumford traces the story, more of persons, of course, than of institutions of medicine in the United States for 250 years, with a fulness of knowledge and a pleasure in his work which will make of his readers friends, and of his old friends new ones, and for many years to come.

A Physician's Practical Gynecology.—By W. O. HENRY, M.D., Omaha, Neb. Lincoln, Neb. The *Review* Press, 1902.

This little volume of 225 pages has a three-fold object: 1. To present the essentials of gynecology in a brief and concise manner to medical students. 2. To give the general practitioner a safe and practical guide for the diagnosis and treatment of ordinary gynecologic cases. 3. To help the physician to quickly recognize those cases which demand the early attention of the specialist so that they may receive the benefit afforded by modern surgery. Without attempting to enter into all the subtle and scientific problems which confront the specialist in gynecology, or discussing all the mooted points or intricate operative details, the author has presented a valuable manual which fully meets expectations raised by preface.

Gynecology:—A Textbook for Students and a Guide for Practitioners.—By WILLIAM R. PRYOR, M.D. New York and London: D. Appleton & Co., 1903.

The author of this book has confined himself strictly to gynecologic topics and has not entered into a detailed discussion of bacteriology or minute anatomy. The book is divided into 2 parts. In the first the diseases are described and in the latter the operations are given. This admits of unbroken and systematic reading and enables the practical surgeon to find what he wishes without going over unnecessary matter. One of the chief characteristics of the book is the evidence of independent and individual thought, and the personality of the writer pervades the book to a marked degree. It is not a mere compilation of other men's ideas. The statements are clear, concise; space and time are not wasted with the discussion of the various undesirable or obselete methods, but those which the author has found best are thoroughly described. Little space has been devoted to Jones's modification of Smith's operation as improved by Brown, and that style of literature; but well-tried procedures which have proved useful in the rich experience of the author are emphasized. Prior claim and place are given to Pryor's methods. The splendid success the author has had in the treatment of puerperal sepsis by packing the uterus and pelvis with iodoform gauze, is worthy of comment. He deprecates the tendency of the profession to perform operations for retrodisplacements of the uterus without first employing less severe methods. In the treatment of retrodeviations he describes an operation, termed hysterocystorrhaphy, or attachment of the uterus to the bladder. This he uses in certain cases in which the uterus has sunk low in the pelvis and the broad ligaments and the vagina have lost their elasticity so that it is impossible to lift the body of the uterus up to the abdominal wall. He does not endorse the Alexander operation. In discussing the treatment of inoperable cancer he combats the tendency of certain teachers who are "pleased to advise the shortening of the life of the sufferer" by the use of overwhelming doses of opiates, or the performance of surgical operations which must inevitably result in death. In cases of inoperable cancer he urges the application of ligatures to the vessels which nourish the malignant growth and the administration of thyroid extracts and tonics, believing that by this treatment life is much prolonged and suffering diminished. In the chapter on hemostasis, the electrothermic method of Skene is described, but no reference has been made to the recent work of Downes improving Skene's methods. In regard to the angiotribe, the fact that secondary hemorrhage occurs with disagreeable frequency after its use prevents its ever being popular. In discussing the treatment of alarming hemorrhage due to uterine fibroids, in addition to other methods of treatment such as packing with iodoform gauze, he says the cervix may be sewed up (sic), and states that this procedure requires no narcosis and, if done, the sutures must be removed on the third day lest the blood pent up in the uterus, decompose. The book is of convenient size, is printed upon good paper, with clear type and is well bound. There are 163 illustrations in the text, most of which are original and have been made by eminent artists. We recommend the work most heartily both to the general practitioner and the specialist in gynecology.

The Diagnosis of Diseases of Women.—By PALMER FINDLEY, B.S., M.D. Chicago. Pp. 494. Lea Brothers & Co., Philadelphia and New York, 1903.

This volume holds a unique place in American gynecologic literature as the only work in English pertaining strictly to diagnosis of diseases of women. The author has summarized in a careful manner all of the new and well-established methods of arriving at an accurate diagnosis in gynecology, and presents a well-written as well as a splendidly illustrated volume, his work being embellished with 210 engravings and 45 plates in colors and monochrome. As diagnosis is of great interest to the general practitioner, as well as to the operating gynecologist, this book fills a wider sphere of usefulness than the ordinary textbook on this subject, and we can heartily recommend it to the profession at large. Special stress has been placed upon the microscopic diagnosis of various lesions because of its great

clinical importance, although general symptomatology is carefully and thoroughly studied. The chapter on diagnosis of carcinoma of the uterus is particularly noteworthy, and two statements are worthy of quotation: "No departure from the normal menstrual flow should be regarded as trivial in advanced years of life. We are not to be contented with the supposition that it is a phenomena of the change of life—too many lives have been sacrificed by such inferences." "If every menstrual irregularity occurring late in life, and every intermenstrual or postmenopausal hemorrhage were regarded with suspicion of carcinoma, and a thorough search made into the cause, few carcinomas of the uterus would long go unrecognized." If these warnings were more generally heeded by the profession many valuable lives might be saved.

Abdominal Examination and Manipulation in Pregnancy.—By ALEXANDER MACLENNAN, M.B., C.M. (Glasgow); L. M. (Rotunda, Dublin); with an introduction by Professor Murdoch Cameron. London: Rebman.

The object of this little book is to present to practitioners and students of medicine the value of abdominal examination and manipulation in pregnancy. Symptoms, apart from the signs elicited by palpation or auscultation, have been intentionally omitted as features in the forming of an opinion as to diagnosis, prognosis or treatment. The author has demonstrated the value of palpation in pregnancy, single or plural, in the diagnosis of presentation and positions, in estimating the development of the fetus, and in the determination of abnormalities. It is surprising how accurate diagnosis may be made by external examination, yet we see no reason why this presumptive diagnosis may not be confirmed by careful internal or combined examination. We do not recognize the force of the author's arguments in objecting so strenuously to vaginal exploration during pregnancy. It is difficult enough to determine positively, position, presentation and abnormality even by the combined method so that we cannot advise the discontinuance of the aseptic vaginal examination entirely. However, for the physician who desires a guide for the study of abdominal diagnosis this book is to be recommended; but it is only by extended practice and experience that he will be able to determine conditions as satisfactorily as the author indicates. It is an interesting criterion of the amount of investigation and study that has been made along this line to note that an entire volume of over 200 pages has been written upon this distinct phase of diagnosis. The book is notable in the amount of work done in reference and history, the subject having been thoroughly reviewed and that which is valuable incorporated and assimilated in its preparation. Several plates have been added which make clearer many important points in diagnosis which might otherwise escape due attention.

BOOKS RECEIVED.

[Prompt acknowledgment of books received will be made in this column, and from time to time critical reviews will be made of those of interest to our readers.]

Nose and Throat Work for the General Practitioner.—By GEORGE L. RICHARDS, M.D., Fellow American Laryngological, Rhinological and Otological Society; Fellow American Otological Society; Associate Editor Annals of Otology, Laryngology and Rhinology; Otologist and Laryngologist Fall River Union Hospital, Fall River, Mass. Price, $2.00. International Journal of Surgery Co., New York.

Adeno-Myome des Uterus.—By THOMAS S. CULLEN, M.D., Associate Professor of Gynecology, Johns Hopkins Hospital and Associate in Gynecology in the Johns Hopkins Hospital, Baltimore, Md.

Surgery, its Theory and Practice.—By WILLIAM JOHNSON WALSHAM, F.R.C.S., ENG., M.B. and C.M. ABERD., Member of the Court of Examiners, Royal College of Surgeons of England; Late Surgeon-in-charge of the Orthopedic Department, St. Bartholomew's Hospital; Examiner in Anatomy to the Conjoint Board of the Royal College of Physicians and Royal College of Surgeons, and University of Aberdeen; Examiner in Surgery to the Society of Apothecaries, etc. Eighth edition. With 622 illustrations, including 20 skiagram plates; by WALTER GEORGE SPENCER, M.S., M.B. (LOND.), F.R.C.S., ENG., Surgeon to Westminster Hospital. P. Blakiston's Son & Co., Philadelphia, 1903. Price, $4 50 net.

Functional Diagnosis of Kidney Disease, with Especial Reference to Renal Surgery.—Clinical experimental investigations by DR. LEOPOLD CASPER and DR. PAUL FRIEDRICH RICHTER, Berlin. Translated by DR. ROBERT C. BRYAN, Adjunct Professor Genitourinary Diseases, University Medical College, Richmond, Va.; and DR. HENRY L. SANFORD, Resident Surgeon Lakeside Hospital, Cleveland. P. Blakiston's Son & Co., Philadelphia, 1903. Price, $1.50 net.

The Decennial Publications: The Structure of the Glands of Brunner.—By ROBERT RUSSELL BENSLEY, Assistant Professor of Anatomy in the Chicago University. Printed from Volume X. The University of Chicago Press, 1903. Price, $1.00 net.

Transactions of the Medical Association of the State of Alabama. The Brown Printing Company, 1903.

Manual of Practical Anatomy.—By D. J. CUNNINGHAM, M.D. (EDIN. ET DUBL.), D.Sc., LL.D., D.C.L. (OXON.), F.R.S., Professor of Anatomy in University of Edinburgh. Vol. I, Upper Limb; Lower Limb; Abdomen. Vol. II, Thorax; Head and Neck. Third edition. Illustrated with 205 engravings, many in colors. J. B. Lippincott Company, Philadelphia, 1903.

The Medical Epitome Series: Physics and Inorganic Chemistry: A Manual for Students and Practitioners.—By ALEXIUS MCGLANNAN, M.D., Associate Professor of Physiologic Chemistry, Instructor in Clinical Laboratory, College of Physicians and Surgeons, Baltimore, Md. Series edited by V. C. PEDERSEN, A.M., M.D., Instructor in Surgery and Anesthetist and Instructor in Anesthesia, New York Polyclinic Medical School and Hospital, etc. Illustrated with 20 engravings. Lea Bros. & Co., Philadelphia and New York.

The Practice of Medicine: A Textbook for Practitioners and Students with Special Reference to Diagnosis and Treatment.—By JAMES TYSON, M.D., Professor of Medicine in the University of Pennsylvania and Physician to the University Hospital; Physician to the Pennsylvania Hospital; Fellow of the College of Physicians, Philadelphia, etc. Third edition. Thoroughly revised and in parts rewritten, with 134 illustrations including colored plates. P. Blakiston's Son & Co., Philadelphia.

The Medical Annals of Maryland, 1799-1899: Prepared for the Centennial of Medical and Chirurgical Faculty.—By EUGENE FAUNTLEROY CORDELL, M.D., Baltimore, 1903.

The Four Epochs of Woman's Life: Maidenhood, Marriage, Maternity, Menopause.—By ANNA M. GALBRAITH, M.D., Author of Hygiene and Physical Culture for Women; Fellow of the New York Academy of Medicine, etc. With an Introductory Note by JOHN H. MUSSER, M.D., Professor Clinical Medicine, University of Pennsylvania. Second edition revised and greatly enlarged; 12 mo volume of 247 pages. Philadelphia, New York, London: W. B. Saunders & Co., 1903. Cloth, $1.50 net.

Manual of Medicine.—By THOMAS KIRKPATRICK MONRO, M. A., M.D., Fellow of, and Examiner to, the Faculty of Physicians and Surgeons, Glasgow; Physician to Glasgow Royal Infirmary and Professor of Medicine in St. Mungo's College, etc. W. B. Saunders & Co., Philadelphia. Price, $5.00 net.

Modern Surgery: General and Operative.—By JOHN CHALMERS DACOSTA, M.D., Professor of the Principles of Surgery and of Clinical Surgery in the Jefferson Medical College, Philadelphia. Handsome octavo volume of 1099 pages, with over 700 illustrations, some in colors. Philadelphia, New York, London: W. B. Saunders & Co., 1903. Cloth, $5.00 net; sheep or half morocco, $6.00 net.

A Manual of the Practice of Medicine.—By A. A. STEVENS, A.M., M.D., Professor of Pathology in the Woman's Medical College of Pennsylvania; Lecturer on Physical Diagnosis in the University of Pennsylvania; Physician to the Episcopal Hospital and to St. Agnes' Hospital; Fellow of the College of Physicians of Philadelphia, etc. Sixth edition. Thoroughly revised, enlarged, and reset. Handsome post-octavo of 556 pages, illustrated. Philadelphia, New York, London: W. B. Saunders & Co., 1903. Flexible leather, $2.25 net.

Transactions of the New Hampshire Medical Society at the One Hundred and Twelfth Anniversary held at Concord, May 21 and 22, 1903. Ira C. Evans Co., Concord, N. H.

Annual Report of the Supervising Surgeon-General of the Marine-Hospital Service of the United States for the fiscal years 1900-1901. Government Printing Office, Washington.

The Medical Directory of New York, New Jersey, and Connecticut. Published by the New York State Medical Association. Vol. V, 1903.

Practical Gynecology: A Comprehensive Textbook for Students and Practitioners.—By E. E. MONTGOMERY, M.D., LL.D., Professor of Gynecology, Jefferson Medical College; Gynecologist to Jefferson Medical College and St. Joseph's Hospitals, etc. Second revised edition. With 539 illustrations, the greater number of which have been drawn and engraved specially for this work for the most part from original sources. Price, $5.00 net. P. Blakiston's Son & Co., Philadelphia, 1903.

Practice of Obstetrics: Designed for the use of Students and Practitioners of Medicine.—By J. CLIFTON EDGAR, M.D., Professor of Obstetrics and Clinical Midwifery in the Cornell University Medical College; Attending Obstetrician to the New York Maternity Hospital. With 1,221 illustrations, many of which are printed in colors. Cloth, $6.00; sheep or half morocco, $7.00 net. P. Blakiston's Son & Co., Philadelphia, 1903.

International Clinics: A Quarterly of Illustrated Clinical Lectures and Especially Prepared Articles on Medicine, Neurology, Surgery, Therapeutics, Obstetrics, Pediatrics, Pathology, Dermatology, Diseases of the Eye, Ear, Nose and Throat, and other Topics of Interest to Students and Practitioners by Leading Members of the Medical Profession throughout the World.—Edited by HENRY W. CATTELL, A.M., M.D., Philadelphia, U. S. A., with the Collaboration of JOHN B. MURPHY, M.D, Chicago; ALEXANDER D. BLACKADER, M.D., Montreal; H. C. WOOD, M.D., Philadelphia; T. M. ROTCH, M.D., Boston; E. LANDOLT, M.D., Paris; THOMAS G. MORTON, M.D., Philadelphia; JAMES J. WALSH, M.D., New York; J. W. BALLANTYNE, M.D., Edinburgh, and JOHN HAROLD, M.D., London, with Regular Correspondents in Montreal, London, Paris, Leipsic, and Vienna. J. B. Lippincott Company, Philadelphia and London. Cloth, $2.00. Volume III, 13 series.

Diseases of the Eye: For Students and Practitioners of Medicine.—By HOWARD F. HANSELL, A.M., M.D, Clinical Professor of Ophthalmology, Jefferson Medical College; Professor of Diseases of the Eye, Philadelphia Polyclinic, etc.; and WILLIAM M. SWEET, M.D., Demonstrator of Ophthalmology, Jefferson Medical College; Assistant Ophthalmic Surgeon, Jefferson Medical College Hospital; Assistant Ophthalmologist, Philadelphia Hospital, etc. With chapters by CHRISTIAN R. HOLMES, M.D.; CASEY A. WOOD, M.D., D.C.L.; WENDELL REBER, M.D. With 256 illustrations, including colored plates. P. Blakiston's Son & Co., Philadelphia, 1903. Price, $4.00 net.

Lessons on the Eye: For the Use of Undergraduate Students.—By FRANK L. HENDERSON, M.D., Ophthalmic Surgeon to St. Mary's Infirmary and the Christian Orphan's Home; Consulting Oculist to the St. Louis City Hospital, The Wabash Railway and the Terminal Railway Association, etc. Third edition. P. Blakiston's Son & Co., 1903.

AMERICAN NEWS AND NOTES.

GENERAL.

Smallpox, as officially reported in the United States from June 27 to October 23 amounts to 9,869 cases, with 326 deaths, as against 10,747 cases and 584 deaths for the corresponding period of last year.

Homicides in the United States.—In his charge to a grand jury of Alabama recently, a judge spoke strongly of the increase in the number of homicides, not only in the South, but throughout the country. According to the judge there is an average of 10,465 homicides in the United States every year, or twice as many deaths from that cause as from appendicitis or smallpox. Every year homicidal mania claims more victims than scarlet fever.

Car Ventilation.—During the session of the American Public Health Association in Washington recently there was a general discussion of the subject of car ventilation, the consensus of opinion being that the air in sleeping cars becomes vitiated, and that they are fruitful sources of disease. The delegates were outspoken in their condemnation of the alleged lack of attention to the matter of cleaning blankets and furnishings in sleeping cars. Dr. J. H. McCormick, of the State Board of Health of Kentucky, declared that an official investigation into the subject made by him disclosed the fact that the blankets were cleaned only once every 6 months.

Report of the Surgeon-General of the Navy.—The annual report of Surgeon-General P. M. Rixey, U. S. Navy, contains the following recommendations, in addition to the estimates made, on the law fixing the pay of members of the hospital corps so they may receive the benefits of executive action as accorded to other enlisted men: The construction of 2 hospital ships, to cost $3,200,000; the provision of sanitariums for tuberculosis patients, at Norfolk and Pensacola; an increase of 25 in the grade of pharmacist and the application to that grade of all laws enacted for the benefit of other warrant grades, the appointment of contract dentists, the enactment of law for women nurses, and the construction of barracks to take the place of receiving ships.

The American Public Health Association, which had been in session for several days in Washington, D. C., adjourned October 30, having elected the following officers for the ensuing year: President, Dr. Carlos J. Findlay, of Havana, Cuba, one of the leading authorities on yellow fever; vice-president, Dr. J. R. Monjaras, of Mexico City; second vice-president, Dr. William C. Woodward, health officer of the District of Columbia; secretary, Charles O. Probst, of Columbus, Ohio; treasurer, Dr. Frank W. Wright, of New Haven, Conn. An executive committee composed of Dr. A. H. Doty, health officer of the port of New York; Professor F. C. Robinson, of Bowdoin College, and John R. Leal, of Paterson, N. J., was selected. It was decided to hold the next convention in Havana in April next year.

Unsanitary Conditions in Large Cities.—In his address before the American Public Health Association on October 28, Dr. Walter Wyman, Surgeon-General of the United States Marine-Hospital Service, is quoted in part as follows: "I believe that the unsanitary condition of our cities presents a condition parallel to that of their political corruption. Municipal betterment would proceed faster if its promoters realized that an achievement may fail when too much at one time is attempted, but may succeed by efforts in detail. By seizing upon one highly important element of municipal reform and for the time being concentrating all energies upon it, good citizens would achieve a success not only invaluable in itself, but one which would serve as a point of vantage for other efforts."

The Enno Sander Prize.—The Association of Military Surgeons offers a first prize, which is a gold medal of the value of $100, and a second prize which is a life membership in the Association, of the value of $50, for the best and second best essays upon the subject, "The Relation of the Medical Department to the Health of Armies." For full information concerning the competition, application should be made to Dr. James E. Pilcher, secretary of the Association, Carlisle, Pa. The conditions are in part as follows:

1. Competition is open to all persons eligible to active or associate membership in the Association of Military Surgeons of the United States.

2. The prize will be awarded upon the recommendation of a Board of Award selected by the Executive Committee. The board will determine upon the essay to which the prize shall be awarded, and will also recommend such of the other papers submitted, as it may see fit for honorable mention, the author of the first of which shall receive a life membership in the Association.

3. In fixing the precedence of the essays submitted, the board will take into consideration—primarily—originality, comprehensivenes, and the practicability and utility of the opinions advanced, and —secondarily—literary character.

4. Essays will consist of not less than 10,000, nor more than 12,000 words, exclusive of tables.

5. Each competitor will send 3 typewritten copies of his essay in a sealed envelope to the secretary of the Association, so as to reach that officer *at least 1 month before the next ensuing annual meeting*, in the present case on or before September 10, 1904.

EASTERN STATES.

Boston's Mortality.—For the week ended October 31, the total number of deaths reported to the Board of Health of Boston was 159, against 223 the corresponding week last year, showing a decrease of 64 deaths, and making the deathrate for the week 13.74 per 1,000.

A Tuberculosis Aid and Educational Association was recently organized in Cambridge, Mass. The organization's object is "to cure at home, if possible, persons suffering with tuberculosis; to relieve with food as far as possible all needy tuberculous persons; to educate the entire community in the prevention and cure of this disease, and to promote the establishment of hospitals for hopeless cases."

NEW YORK.

New York Orthopedic Dispensary and Hospital.—The trustees of the New York Orthopedic Dispensary and Hospital announce that Dr. Russell A. Hibbs will give a course of clinical lectures on Orthopedic Surgery at the Institution on Tuesday and Thursday afternoons, at 4 o'clock, from November 10 to December 15 (both inclusive). The course will be free to the medical profession and students.

New Lebanon Hospital Ward Opened.—A convalescent ward of 100 beds has been opened to patients in the Lebanon Hospital, Westchester avenue and 150th street, in The Bronx, New York. Though the beds have been made ready to receive patients the formal opening will not be held until November 6. Admission to the convalescent wards will be from the other wards of the hospital and through the United Hebrew Charities, which will investigate and make recommendations upon all charity cases.

PHILADELPHIA, PENNSYLVANIA, ETC.

Resignation.—Dr. E. W. Holmes has resigned from the chair of surgery and clinical surgery in the medical department of Temple College.

Medicolegal Society of Philadelphia.—At the regular quarterly meeting of the Medicolegal Society, held October 27, Dr. C. W. Burr read a paper on "The Relation of Crime to Insanity." Fifty-five members were present.

Prison Produces Tuberculosis.—The report of the grand jury made the startling statement that the institution was a veritable breeding place for tuberculosis. The plumbing system of the prison is condemned, and appropriations are recommended for a complete disinfection, it having been discovered by an expert bacteriologist from tests that it is probable that every cell in the institution is infected with germs of tuberculosis. The jury notes in this connection that over 60% of the deaths in the prison in the last 30 years have been from tuberculosis.

Alvarenga Prize.—The College of Physicians of Philadelphia announces that the next award of the Alvarenga Prize, being the income for one year of the bequest of the late Señor Alvarenga, and amounting to about $180, will be made on July 14, 1904, provided that an essay deemed by the committee of award to be worthy of the prize shall have been offered. Essays intended for competition may be upon any subject in medicine, but cannot have been published, and must be received by the Secretary of the College on or before May 1, 1904. For further information apply to Thomas R. Neilson, M.D., Secretary.

Baths to Stop Infection.—The Board of Health has adopted rules providing for a sanitary bath for inmates of houses infected with smallpox, which Director Martin recently issued. The resolution was as follows:

WHEREAS, Smallpox has existed in this city during the past 3 years, and

WHEREAS, The board has adopted measures for the prevention of the spread of the disease, therefore be it

Resolved, That the inmates of all houses where smallpox develops be removed to the Municipal Hospital for antiseptic bath and disinfection of their clothing. While this is being done the house will be thoroughly fumigated, and

Resolved, That this will be done in cases of diphtheria and scarlet fever, when in the judgment of the chief medical inspector it is necessary.

Death to the Roaches.—An "official roach killer," it is reported, has been engaged by the United States Government to make war on the roaches inhabiting the battle ships at League Island, Philadelphia. It is claimed that roaches become so exceedingly fond of war vessels that they never ask for shore leave, constantly multiply, and are a source of torment to the jackies. So the United States Government, in its solicitude for the comfort of the boys in the navy, has engaged this important personage to fumigate each war vessel, at $50 per ship, in the hope and belief that each and every roach will become a thing of the past. Since this information has become public, hope is expressed that a number of restaurants and hotels patronized by very well-to-do people will engage the aforesaid "official roach killer" at any cost.

Crusade against Cigarets.—From Chester, Pa., comes the news that the Ladies' Aid Society of Essington has begun an endless chain plan to bring to the attention of the United States authorities an appeal to stop the sale of cigarets to minors. Each member of the organization has mailed 4 postal cards to other women in Pennsylvania, bearing the following message: Dear Madam.—This is the beginning of a petition that is being signed by the women of this section to forbid the sale of cigarets to minors. Will you please send your name and address, with this card, to the United States Naval Secretary, Philadelphia, Pa., and write cards similar to this and send them to 4 of your women friends. No money is desired. Please be prompt or the chain will be broken.

A New Contagious Disease among Goats.—According to newspaper accounts, a new disease called takosis has appeared among goats in Pennsylvania. It was first reported from a large flock of angoras on a farm near Langhorne, Pa. Experts were appointed by the government at Washington to make a scientific study of the malady. They went to the farm in question and found that the disease had been brought North in goats from Texas. A number of the animals had died and it was supposed that laurel poisoning was the cause. It was later suspected that animal parasites were the cause. The bacteriologic experiments show that the disease is contagious among goats, but has not been sufficiently prevalent to infect other animals, fowls or human beings. A new specimen of bacteria was found on development in bouillon, to which the name of *Micrococcus caprinus* was given.

Result of Campaign against Mosquitos in New Jersey.—After completing the first year's campaign against the Jersey mosquito, the State entomologist has summarized the result of the first year's work as follows: "The Hackensack and Passaic valleys have been fully explored and the bad breeding areas along the banks of the marshes determined. The marsh areas about Jersey City, Newark, and Elizabeth have all been mapped for breeding places, and the Board of Health of Newark has already laid out 40,000 feet of ditches to drain the worst of the breeding places near that city. Elizabeth has reclaimed the marsh area at the mouth of the Elizabeth river at an average cost of $8 per acre. Steps will be taken to drain the marshes along the coast next summer. At Cape May conditions are unique, and it is possible to permanently and completely rid the shore line, from Sewell's Point to Cape May Point, for a sum not to exceed $2,000.

SOUTHERN STATES.

Public Health in Baltimore.—The report of the Health Department for the week which ended October 31, showed a total of 184 deaths, as compared with 166 for the corresponding week last year, 178 in 1901 and 168 in 1900. The annual death rate per 1000 was: Whole number, 17.66; white, 13.12; colored, 30.43.

Yellow Fever in Texas.—From Laredo, under date of November 1, comes the following news: Yellow fever conditions continue to improve in this city. The official bulletin shows 7 new cases and 1 death. One more case was reported today at Fort McIntosh. Nuevo Laredo reports 3 cases, but no deaths yet. Word from Monterey states there were 2 deaths and 10 new cases there October 28.

WESTERN STATES.

To Endow Athletics.—Permanent endowment of athletics and abolishing charges of admission to all football and other intercollegiate athletic games in the West is proposed by the board of trustees of the University of Chicago. To this end, a conference of the universities of Chicago, Michigan, and Wisconsin will soon be held.

Movement to Suppress the Sale of Toy Pistols in Ohio.—The State Board of Health has adopted a resolution by which the secretary is directed to take steps to prevent the sale of "toy pistols and other explosive appurtenances." The resolution recites that 600 persons were killed, 100 made blind, and 1,000 others injured on the last fourth of July.

Many Smallpox Cases near Chicago.—Dr. Baker, inspector of the State Board of Health, has reported that there have been found 250 cases of smallpox in the township of Du Page, Will county, and the township of Lemont, Cook county, Ill. He reported that the supervisors of both townships will establish a strict quarantine. Chicago has not yet quarantined. He says prompt action of the supervisors will avert action on the part of Chicago.

The Journal of Infectious Diseases.—Under this title will appear the first number of a new journal on January 1, 1904, edited by Dr. Ludvig Hektoen and Edwin O. Jordan of Chicago. In the announcement it is stated that the journal will be devoted to the publication of original investigation dealing with the general phenomena, causation and prevention of infectious diseases, both known and unknown origin. The journal is established in connection with the memorial institute for infectious diseases by the munificence of Mr. and Mrs. Harold F. McCormick and will be conducted under conditions that insure its permanence, as well as the adequate presentation of the material admitted for publication.

Teaching of Hygiene to School Children.—In the Department Circular, the first injunction to the teacher of Chicago is that children should be taught not to spit; it is rarely necessary. To spit on a slate, floor or sidewalk is an abomination. Until this injunction is heeded and enforced, antispitting ordinances will do little good. The spitting habit is acquired early in life. It can be best and most surely suppressed at the same period. Stop the beginning. All teachers, from the Kindergarten up, should wage war against spitting. The child is an imitative little animal and to too many his ideal is the hoodlum and street arab who can squirt through his teeth.

OBITUARIES.

Maurice F. Pilgrim's death notice has previously appeared in these columns. At a recent meeting of the Faculty of the New York School of Physical Therapeutics, the following resolutions were unanimously adopted:

WHEREAS death has removed from us our esteemed associate and confrere, Dr. Maurice Fiescher Pilgrim, whose faithful service as a teacher in the School, marked by keenness of thought, earnestness of conviction, honesty of purpose, loyalty and kindness of personality endeared him to all his fellow workers. Be it

Resolved that we, members of the Faculty of the New York School of Physical Therapeutics, extend to his bereaved family and friends sympathies and condolence, and, in token of this esteem, the Secretary be instructed to forward a copy of these resolutions to his family, and to forward them for publication in *American Medicine, The Journal of Advanced Therapeutics, New York Medical News, Journal of the American Medical Association, New York Medical Journal,* and *Boston Medical and Surgical Journal.*

Archibald Atkinson, at his home in Baltimore, Md., October 29, aged 72. He was educated at the University of Virginia, and graduated from the University of Pennsylvania in 1854. He practised in Baltimore until 1862, when he was appointed surgeon in the Confederate army where he served with distinction until the close of the war, after which time he located at Smithfield until 1873, when he returned to Baltimore, where for a number of years he held the chair of Materia Medica and Therapeutics in the College of Physicians and Surgeons.

Julian J. Chisholm, at his home in Petersburg, Va., November 1, aged 78; a graduate from the Medical College of the State of South Carolina in 1850. During the war he was surgeon in the Confederate army, and later came to Baltimore where he became dean of the University of Maryland Medical School and founder of the Presbyterian Eye, Ear, and Throat Hospital. He was author of the Manual of Military Surgeons, which was adopted as the official textbook of the Confederate army.

George Lawson, at his home in London, England, October 12, aged 73. He was consulting surgeon to the Royal London Ophthalmologic Hospital, Mooresfield, Middlesex Hospital, and surgeon oculist to her late Majesty Queen Victoria, and one of the most widely known ophthalmologists in Europe.

Sidney D. Willis, at St. Elizabeth's Hospital, Appleton, Wis., October 14, aged 35; a graduate of the College of Physicians and Surgeons of New York in 1890, member of the American Medical Association, and of the medical staff of the hospital in which he died.

W. D. Hoyt, at his country home near Farill, Ga., October 16, aged 75; a graduate of Jefferson Medical College, member of the American Medical Association, and one of the best known practitioners in Georgia.

Simon Pollack, recently at his home in St. Louis, aged 89. He was born in Bohemia and came to St. Louis in 1845, being a graduate of the University of Vienna in 1835.

W. B. Munnikhuysen, at his home near Belair, Hartford county, Md., October 27, aged 59; a graduate of the University of Pennsylvania and a member of the German army during the Franco-Prussian war.

John C. Nevins, at his home in Summit Hill, Pa., October 28, aged 64; a graduate of Jefferson Medical College, in 1873. He was a native of Ireland and had practised in Summit Hill since 1873.

Benjamin A. Andreas, at his home in Bethlehem, Pa., October 26, aged 44; a graduate of Jefferson Medical College, and a wellknown practitioner in the vicinity of Bethlehem.

J. W. Carleton, near Sisseton, S. D., October 14; a graduate of the College of Physicians and Surgeons, Keokuk, Ia., in 1869, and a member of the American Medical Association.

David A. T. Bjorkman, of tuberculosis at the Glockner Sanitarium, Colorado Springs, October 14; a graduate of the College of Physicians and Surgeons, Chicago.

John Ellis Wright, from tuberculosis, at the home of his father in Grand View, Ark., October 12; graduate of the Marion-Sims College of Medicine, St. Louis, in 1899.

Marsh H. Smith, suddenly, on the train at Dwight, Ill., October 16; a graduate of Bennett College of Eclectic Medicine and Surgery, Chicago.

John George Neal, at his home in Santa Rosa, Cal., October 11, aged 38; a graduate of the Kentucky School of Medicine (Louisville), in 1890.

George C. Baker, suddenly, at Woburn, Ill., aged 42; a graduate of the University of Tennessee.

SOCIETY REPORTS

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

Twenty-ninth Annual Meeting, Held at Memphis, Tenn., October 7, 8, and 9, 1903.

[Specially reported for *American Medicine.*]

[*Concluded from page 694.*]

Surgical Section.

Indications and Technic of Prostatectomy. — G. FRANK LYDSTON (Chicago) pointed out that the senile prostate was an atrophied prostate. Catheter life lasted for about 5 years, although Reginald Harrison had put it at 4 years. Operation should be performed immediately upon the discovery of prostatic enlargement, due deference being paid to inflammatory and congestive disturbances of the organ, which could be relieved in many instances without surgical treatment. In referring to the pathology of hypertrophied prostate, the author expressed the belief that it was glandular at the outset, the tumor being purely adenomatous. He exhibited several specimens of prostates which he had removed from time to time, and said that early operations on the prostate in otherwise healthy subjects were no more dangerous than interval operations for appendicitis. The perineal operation should be performed whenever practicable, but the author was aware that there were cases which could not be dealt with successfully by this route; therefore, it might become necessary to resort to the suprapubic or the combined perineal and suprapubic operation.

Some Everyday Surgery. — ALEXANDER R. CRAIG (Columbia, Pa.) described a few cases of gunshot wounds that he had seen in general practice.

Surgery of Pulmonary Gangrene.—L. L. MCARTHUR (Chicago) after reporting 3 cases representing 3 varieties of gangrene, presented the following conclusions: That (1) since by medical treatment 80% die, and in those operated about 29%, efforts should be surgical; (2) while it was anatomically possible to separate the pleura from the chest wall, it was tedious, difficult, and often futile (due to puncture), and, therefore, not much valuable time should be lost in such efforts; (3) circular suture combined with gauze pressure packing for 48 hours was the best means of inducing adhesions; (4) the x-ray might give valuable aid in localization; (5) great care should be used in the selection of cases for operation, but when localized and single, the most desperate cases should be given a chance, as they frequently recovered with drainage.

The Present Status of Stomach Surgery.—A. J. OCHSNER (Chicago) said that in the diagnosis of surgical diseases of the stomach great difficulty was occasionally found in eliminating cases in which there were gastric disturbances due to general neurasthenia, because the latter condition was frequently the result of gastric disease which could be relieved by surgical means. Among the conditions which simulated stomach disease, gallstones undoubtedly stood first in point of frequency, and not infrequently the adhesions accompanying the presence of gallstones resulted in a distortion of the pylorus, which virtually caused an obstruction. One condition which the surgeon encountered occasionally was locomotor ataxia with marked pain in the region of the stomach. This condition was easily detected during a careful examination, but it has occasionally been overlooked. Of all the operations employed in stomach surgery, gastroenterostomy was the most commonly indicated, because it supplied drainage of the organ, and as the want of this drainage was the cause of most of the surgical diseases of the stomach, its accomplishment must necessarily be of the greatest importance. Pyloroplasty was still under observation. Mikulicz, Finney, and a few other surgeons had spoken well of the operation in selected cases of cicatricial constriction of the pylorus. The author's own experience had not been satisfactory with this operation. The method introduced by Finney was undoubtedly the best. The results of pylorectomy would undoubtedly be more and more satisfactory, because these patients were likely to come to the surgeon before the carcinoma had advanced to the hopeless condition usually encountered at the present time. The results of Mikulicz, Kocher, Czerny, and a few others were even at the present time sufficiently satisfactory to warrant the operation. Gastrectomy was indicated in only a very small number of unusual cases. Gastrostomy was indicated in all cases of obstruction of the esophagus due to carcinoma in which starvation was imminent. The patient received a great amount of comfort from this operation. As to gastroplication, this operation will hardly again receive any prominence, because the same end could be obtained so much more certainly, safely and easily by making a gastroenterostomy. His own observations and a study of the literature of the subject had forced upon him the opinion that in cases in which severe pathologic conditions of the stomach existed, which could not be relieved medically in a reasonable period of time, and which could neither be traced satisfactorily to a neurosis not secondary to gastric disease, nor to other conditions, it would seem proper to attempt relief by the use of surgical treatment early in the course of the disease.

Treatment of Tuberculous Joints.—DAVID C. PEYTON (Jeffersonville, Ind.) said the surgical treatment of tuberculous joints presented for consideration the following operative procedures, according to the state of advancement of the joint involvement: Arthrotomy, arthrectomy, excision or resection, and amputation. By the early and free opening of the affected joint, thus insuring free drainage, and thoroughly irrigating it with a hot normal saline solution, the writer had obtained very satisfactory results. The irrigation should be repeated daily for a week or 10 days, or even longer, according to the degree of involvement. Even when the process had proceeded to suppuration or beginning necrosis, one might expect most marked benefit from this plan of treatment, and which was especially to be commended in all patients under 18 years of age, for by the more radical operations the surgeons might destroy the epiphyses, with consequent arrest of development or growth. However, in the advanced state of the disease, whether in the adult or the child, the more radical operations were not only advisable, but were imperatively demanded to save usefulness of limb, and sometimes life. When necrosis with fistulas had formed, their removal by arthrectomy or excision was insisted upon. It was especially in the smaller joints that the most satisfactory results were obtained by arthrotomy and arthrectomy.

Treatment of Compound Fractures, Immediate and Remote.—FREDERIC A. BESLEY (Chicago) discussed the causes of these fractures and the pathologic conditions met. He divided the treatment into (1) the primary treatment of the wound; (2) the application of an immobilizing dressing; (3) subsequent dressings of wound; (4) methods of procedure in the event of suppuration; (5) treatment of nonunion of the fragments.

The X-ray in Fractures. — DUNCAN EVE (Nashville, Tenn.) said that at present the x-rays were of more assistance in the investigation of the pathology of fractures than in the treatment, and the more precise the knowledge of the pathology, the more satisfactory the treatment. The exact diagnosis of fractures of certain bones without an x-ray examination was always open to doubt. In order to secure the best results from the Röntgen rays, not only must the apparatus be good, but the man who uses it must have experience. Skiagrams produced by a beginner lacked clearness, and might lead to erroneous conclusions. He concluded by quoting from a wellknown x-ray authority, who had said that "when the limits of error are kept clearly in mind, the actual value of the discovery of Röntgen to surgical science is immense. When there is doubt of the diagnosis of a fracture, no physician has done his full duty by his patient if he can command skiagraphic examination and has not used it."

CONFERENCE OF STATE AND PROVINCIAL BOARDS OF HEALTH OF NORTH AMERICA.

Eighteenth Annual Meeting, Held at Baltimore, Md., October 23 and 24, 1903.

[Specially reported for *American Medicine.*]

[*Concluded from page 695.*]

The Duty of Sanitarians Regarding Venereal Diseases. —HENRY D. HOLTON (Brattleboro, Vt.) emphasized the duty which should be recognized by sanitarians as resting upon them, of doing something to restrict the venereal diseases which threatened society as no other communicable diseases did. He said the foregoing statement would prove that venereal diseases stood next to tuberculosis and alcoholism, if they did not supersede them. From 15% to 20% of adult males were infected with syphilis, and about 80% of them had gonorrhea, tainting those yet unborn, maiming those born with the virus already in their blood, deteriorating the race, and devitalizing the individual. Instruction should be given in high schools and colleges, having reference to the prevention of these diseases. Dr. Prieto, in a paper read at the International Medical Congress at Madrid, suggested the following regulations to be enacted into laws. 1. The law to declare the infection of any person with any form of venereal disease to be a crime. 2. That such crime against the person be punished by indemnification and imprisonment for a period of 2 years. 3. Where the offended could not indemnify the injured person by bearing the expenses of treatment and so forth, that the term of imprisonment or transportation be increased. 4. That the brothel-keepers be made to indemnify any person infected on their premises or by any of their licensed women, and in case of insolvency of the brothel-keeper, imprisonment or fine shall be enforced. HOLTON thought the rules of Prieto stringent enough to control the evil. However, to enforce them would require an enlightened and educated public sentiment of great strength.

PROBST offered the following preamble and resolution, which were adopted by the conference:

WHEREAS, the great prevalence of venereal diseases, which is indirectly the cause of many deaths, is a matter of much concern to the public health; and,

WHEREAS, the communication of these diseases to innocent persons must be largely due to ignorance, be it

Resolved, that a committee of three be appointed by the president to prepare a leaflet that would be acceptable to physicians to give to their patients, setting forth the precautions to be taken by one suffering from a venereal disease to prevent its communication to others, and to make such other suggestions as it may deem proper. Such

instructions, when adopted by this conference, to be recommended to State and Provincial Boards of Health for dissemination among the medical profession, and said committee shall report at the next meeting. (Committee unannounced.)

Another Year's Test of the Mosquito Doctrine of the Transmission of Yellow Fever in Havana.—JOHN GUITERAS (Havana, Cuba) said there had not been a case of yellow fever in Havana for the past 2 years, except those that had been imported from other countries, chiefly Mexico. He then detailed the methods employed in combating this disease in Havana, which are familiar to our readers.

Report of Committee on Promotion of Uniformity of Reports upon Vital Statistics was presented by Dr. Cressy L. Wilbur (Lansing, Mich.). In the division of labor between the committee representing this conference and the committee of the American Public Health Association, American Medical Association, and others interested in the improvement of vital statistics, the special task had been selected of examining and reporting in regard to the forms of tables and general manner of presentation of statistical data employed in the annual, biennial, weekly, monthly, or other reports of States and cities. In this purpose the United States Census Bureau had cooperated and had collected samples of the forms at present in use in nearly all of the registration offices of this country for the purpose of analysis and study by this committee. It was a difficult task to consider all of the forms in a comparative way, but it seemed desirable to do so before formulating a report as to the absolutely essential tables that were to be recommended for use in the various reports. The committee, therefore, reported progress and requested that additional time be granted for making a final report, which could probably be prepared before the next session of the conference. In addition to the work outlined above, the committee had cooperated, on behalf of the conference, with the committees of the American Public Health Association and of the American Medical Association, the United States Census Bureau, and the Public Health and Marine-Hospital Service, in the preliminary work for the cooperative study and improvement of the international classification of causes of death, a report upon which would be presented at the session of the American Public Health Association next week, and also for the extension of adequate registration laws. The report was accepted.

The following proposed national rules to govern the transportation of the dead were adopted by the Conference:

RULE 1.—The transportation of bodies dead of smallpox or bubonic plague from one State, territory, district or province to another is absolutely prohibited.

RULE 2.—The transportation of bodies dead of Asiatic cholera, yellow fever, typhus fever, diphtheria (membranous croup), scarlet fever (scarlatina, scarlet rash), erysipelas, glanders, anthrax or leprosy, shall not be accepted for transportation unless prepared for shipment by being thoroughly disinfected by (*a*) arterial and cavity injection with an approved disinfecting fluid; (*b*) disinfection and stopping of all orifices with absorbent cotton, and (*c*) washing the body with the disinfectant, all of which must be done by an embalmer holding a certificate as such, issued by the State or provincial Board of Health or other State or provincial authority provided for by law. After being disinfected as above, such body shall be enveloped in a layer of dry cotton, not less than one inch thick, completely wrapped in a sheet securely fastened, and encased in an air-tight zinc, tin, copper, or lead-lined coffin or iron casket, all joints and seams hermetically sealed, and all enclosed in a strong tight wooden box. Or the body being prepared for shipment by disinfecting and wrapping as above, may be placed in a strong coffin or casket and said coffin or casket encased in an air-tight zinc, copper, or tin-lined box, all joints and seams hermetically soldered. For interstate transportation under this rule only embalmers holding a license issued or approved by the State or provincial Board of Health or other State or provincial authority provided for by law, after examination, shall be recognized as competent to prepare such bodies for shipment.

RULE 3.—The bodies of those dead of typhoid fever, puerperal fever, tuberculosis, or measles, may be received for transportation when prepared for shipment by arterial and cavity injection with an approved disinfecting fluid, washing the exterior of the body with the same, and enveloping the entire body with a layer of cotton not less than one inch thick, and all wrapped in a sheet securely fastened, and encased in an air-tight metallic coffin or casket, or air-tight metallic box, provided that this shall apply only to bodies which can reach their destination within 30 hours from the time of death. In all other cases such bodies shall be prepared by a licensed embalmer holding a certificate as provided for in Rule 2. When prepared by a licensed embalmer, as defined and directed in Rule 2, the air-tight sealing and bandaging in cotton may be dispensed with.

RULE 4.—The bodies of those dead from any cause not stated in Rules 2 and 3 may be received for transportation when encased in a sound coffin or casket and enclosed in a strong outside wooden box, provided they can reach their destination within 30 hours from the time of death. If the body cannot reach its destination within 30 hours from the time of death, it must be prepared for shipment by arterial and cavity injection with an approved disinfecting fluid, washing the exterior of the body with the same, and enveloping the entire body with a layer of dry cotton not less than one inch thick, and all wrapped in a sheet securely fastened, and encased in an air-tight metallic coffin or casket, or an air-tight metallic box. But when the body has been prepared for shipment by being thoroughly disinfected by a licensed embalmer, as defined and directed in Rule 2, the air-tight sealing and bandaging with cotton may be dispensed with.

RULE 5.—In the shipment of bodies dead from any disease named in Rule 2, such body must not be accompanied by persons or articles which have been exposed to the infection of the disease, unless certified by the health officer as having been properly disinfected. Before selling tickets, agents should carefully examine the transit permit and note the name of the passenger in charge, and of any others proposing to accompany the body, and see that all necessary precautions have been taken to prevent the spread of the disease. The transit permit in such cases shall specifically state who is authorized by the health authorities to accompany the remains. In all cases where bodies are forwarded under Rule 2, notice must be sent by telegraph by the shipping embalmer to the health officer, or when there is no health officer, to other competent authority at destination, advising the date and train on which the body may be expected.

RULE 6.—Every dead body must be accompanied by a person in charge, who must be provided with a passage ticket and also present a full first-class ticket marked "Corpse" for the transportation of the body, and a transit permit showing physician's or coroner's certificate, name of deceased, date and hour of death, age, place of death, cause of death, and all other items of the standard certificate of death recommended by the American Public Health Association and adopted by the U. S. Census Bureau, as far as obtainable, including health officer's or registrar's permit for removal, undertaker's certificate, whether communicable or noncommunicable, the point to which the body is to be shipped, and when death is caused by any of the diseases specified in Rule 2 the names of those authorized by the health authorities to accompany the body. The transit permit must be made in duplicate, and the signature of physician or coroner, health officer and undertaker must be on both the original and duplicate copies. The undertaker's certificate and paster of the original shall be detached from the transit permit and securely fastened on the end of the coffin box. All coffin boxes must be provided with at least four handles. The physician's certificate and transit permit shall be handed to the passenger in charge of the corpse. The whole duplicate copy shall be sent to the official in charge of the baggage department of the initial line, and by him to the secretary of the State or provincial Board of Health of the State or province from which such shipment is made.

RULE 7.—When bodies are shipped by express, a transit permit, as described in Rule 6, must be made out in duplicate. The undertaker's certificate and paster of the original shall be detached from the transit permit and securely fastened on the coffin box. The physician's certificate and transit permit shall be attached to and accompany the express way-bill covering the remains and be delivered with the body at the point of destination to the person to whom it is consigned. The whole duplicate copy shall be sent by the forwarding express agent to the secretary of the State or provincial Board of Health of the State or province from which said shipment was made.

RULE 8.—Every disinterred body, dead from any disease or cause, shall be treated as infectious or dangerous to the public health, and shall not be accepted for transportation unless said removal has been approved by the State or Provincial health authorities having jurisdiction where such body is disinterred, and the consent of the health authorities of the locality to which the corpse is consigned has been first obtained; and all such disinterred remains, or the coffin or casket containing the same, must be wrapped in a woolen blanket thoroughly saturated with a 1-1000 solution of corrosive sublimate, and enclosed in a hermetically sealed, soldered zinc, tin, or copper-lined box. But bodies deposited in receiving vaults shall not be treated and considered the same as buried bodies, when originally prepared by a licensed embalmer, as defined in Rule 2, and as directed in Rule 2 or 3 (according to the nature of the disease causing death), provided shipment takes place within 30 days from the time of death. The shipment of bodies prepared in the manner herein directed by licensed embalmers from receiving vaults may be made within 30 days from time of death without having to obtain permission from the health authorities of the locality to which the body is consigned. After 30 days the casket or coffin box containing said body must be enclosed in a hermetically soldered box.

RULE 9.—All rules and parts of rules conflicting with these rules are hereby repealed.

AMERICAN PUBLIC HEALTH ASSOCIATION.

Proceedings of the Thirty-first Annual Meeting, Held at Washington, D. C., October 26, 27, 28, 29, and 30, 1903.

[Specially reported for *American Medicine.*]

Officers.—President, Carlos J. Finley, Havana, Cuba; first vice-president, J. R. Monjaras, Mexico, Mexico; second vice-president, W. W. Woodward, Washington, D. C.; secretary, Charles O. Probst, Columbus, Ohio; treasurer, Frank W. Wright, New Haven, Conn. Havana, Cuba, was selected as the place for holding the next annual meeting.

The opening address was delivered by General GEORGE M. STERNBERG, who declared that the great prosperity of the Southern States during recent years depended largely upon the fact that they had been protected from invasion by yellow fever. He called attention to the epidemic of 1878, which caused a loss of $15,000,000 to New Orleans alone, and more than $100,000,000 to the entire section invaded. Although cholera and yellow fever, and bubonic plague were no longer feared by sanitarians, we had not yet conquered our endemic filth disease, typhoid fever, and tuberculosis still claimed nearly 150,000 victims annually within the limits of the United States. Until these and other widely prevalent infectious diseases were practically stamped out, our self-imposed task would not be complete, and even then it would be necessary to enforce constantly the lessons gained by past experience to prevent a return to unsanitary conditions and the penalties in the way of sickness and death, which were inevitably associated with such conditions.

Report of the Committee on Car Sanitation was read by the chairman, GRANVILLE P. CONN (Concord, N. H.). While the committee was not prepared to suggest reforms which would at once settle the much vexed question, yet it was believed progress was being made, and the managers of railroads were coming more nearly in accord with public opinion, and that the problem was gradually being solved. In car sanitation there were many obstacles to be overcome which were not necessarily given much thought when considering the question of the hygiene of a dwelling. The house on wheels not only had the atmospheric influences which at all times sur-

rounded the dwelling, but at different rates of speed this pressure was immensely greater than that upon the ordinary domicile. One should always consider the character of the occupants, who, for the time being, were tenants and had but little or no thought of the sanitation or well being of those who might be the next passengers to occupy the same seats, and who, perhaps, had little or no appreciation of what an expert in sanitation would consider a healthy condition of personal cleanliness or of a habitation. All such matters must receive attention when the problem of car sanitation was considered, and the standard of excellence which the public might desire should always be kept in mind, and the conditions made as nearly the standard as possible. The more permanent the means and methods adopted by health authorities, the more satisfactory they would prove to the commercial world and the general manager. A vacillating policy on the part of health officers could not produce good results. The sensational and sentimental should be entirely excluded from quarantine and sanitation. The bare facts necessary for the protection of the lives and health of the people should prevail. The imaginary troubles of the fanatical observer, as well as of those who would try to solve the problem from a commercial point of view because they had something to sell, should be relegated to oblivion.

Transportation of Persons Sick with Transmissible Diseases.—J. N. HURTY (Indianapolis, Ind.) stated that leprosy was not so easily transmitted as tuberculosis, and compared with the latter malady in its destructiveness to human life it amounted to nothing at all; yet the mere mention of the word leprosy caused a shudder, and a riot would result if an attempt was made to introduce a leper in into a railway car. Influenza, also a transmissible and very destructive malady, killed a thousand where leprosy killed one, still people did not fear it sufficiently to take even ordinary precautions against it. The public welfare could in no degree or manner be advanced through risking the increase of transmissible diseases. All intelligent observers could clearly see the possible harm which might attend the transportation in railway trains of cases of smallpox, yellow fever, bubonic plague, diphtheria, scarlet fever, typhus fever, and leprosy, and in consequence public opinion would not tolerate such a thing. An equal understanding in regard to pulmonary tuberculosis, influenza, and typhoid fever would develop a public opinion demanding of patients having these diseases, that rational regulations intended to prevent transmission must be rigidly enforced. Special compartments for persons sick with communicable diseases were impracticable.

Car Sanitation in the Republic of Mexico.—JUAN BREÑA (Zacatecas) said it was a wellknown fact that the infectious germs of diseases were floating in the air, and were by it deposited in the veneers, mouldings, and ornaments of furniture, and thence again taken up by the air and inhaled with it, and for that reason writers on hygiene and sanitary authorities had again and again recommended simplicity of ornamentation, hardness of materials, and polished surfaces for the interior of cars. He referred to the construction of railway cars, the methods of cleaning them, the drinking water, waterclosets, and ventilation. The suggestions and observations made by scientific writers had been neglected and very little or no attention paid to them up to date, and thus the grave defects were still existing. These obstacles, however, should not dishearten sanitarians, but they should incite them to preach and work with the tenacity of the water drop which falls upon a hard stone.

Report of the Committee on Animal Diseases and Food.—D. E. SALMON (Washington, D. C.), chairman, said the experiments and comparative studies of Theobald Smith had attracted special attention to the difference in virulence shown by tubercle bacilli from human and bovine sources when inoculated upon cattle. Undoubtedly, the German commission was confronting the 2 horns of a dilemma, either one of which was fatal to the views of Koch, as stated with such positiveness at London. If the suggestion advanced by Kossel was accepted, one would conclude that Koch was wrong in his claim that human tuberculosis could not be transmitted to cattle, and thus with one blow the entire experimental support was destroyed which he had for his argument before the British Congress of Tuberculosis, and if, on the other hand, the conclusion was accepted, which followed from the principle laid down by Koch for a discrimination between human and bovine bacilli, and which appeared to be favored by Kossel, one must admit that bovine tuberculosis was an extremely important factor in the etiology of human tuberculosis. While the committee agreed that it was advisable to scrutinize clinical evidence as carefully as posible before it was accepted as influencing the decision of such an important question, consistency demanded that one should accept clinical evidence bearing upon the transmission of bovine tuberculosis to man on the same terms that evidence was accepted as to the transmission of the disease from man to man.

[To be continued.]

New York State Civil Service Commission.—Examination for superintendent and resident physician in the New York State Hospital for the treatment of incipient pulmonary tuberculosis will be held November 28, 1903, in various cities throughout the State. For particulars, address Chief Examiner, State Civil Service Commission, Albany, N. Y.

CLINICAL NOTES AND CORRESPONDENCE

[Communications are invited for this Department. The Editor is not responsible for the views advanced by any contributor.]

THE SOCIETY FOR EXPERIMENTAL BIOLOGY AND MEDICINE.

Proceedings Reported by the Secretary.

WILLIAM J. GIES, M.S., PH.D.,

of New York.

The third regular meeting of the Society for Experimental Biology and Medicine was held in the lecture room of the Department of Zoology, in Schermerhorn Hall at Columbia University, on Wednesday evening, October 21. Dr. S. J. Meltzer presided.

The following reports and demonstrations of original investigations were made:[1]

"*An experimental study of cell-specification in embryonic development*": EDMUND B. WILSON.

Professor Wilson presented the results of a study of the development of isolated embryonic cells, in the mollusks *Patella* and *Dentalium*, which demonstrates that from the first cleavage onward, an isolated blastomere undergoes essentially the same differentiation as if it had remained in connection with its fellows. These eggs accordingly show a true mosaic development and differ widely in this respect from those of echinoderms. It was also shown that the specific character of the cleavage cells is predetermined, at least in part, by specification of the regions of the unsegmented egg from which the blastomeres arise, as is proved by the development of fragments obtained by cutting the egg in two before development has begun.

"*The occasional presence in the blood of untreated adult animals of large amounts of substances agglutinating many bacteria with demonstrations*": WILLIAM H. PARK.

The affinities of bacteria for specific agglutinins have, since the researches of Gruber, been made use of to establish relationship between different cultures. The test properly performed is delicate and reliable, but when carried out with insufficient precautions is often misleading. It has been known for some time that the blood of animals before immunization possessed, in moderate amount, substances which agglutinated many bacteria. An agglutination of bacteria must, therefore, take place in a high dilution of serum before it can be considered a specific reaction.

From results obtained in his own researches, Dr. Park considers that even this requirement is insufficient. He found that before any inoculations had been made the blood serum of certain horses agglutinated, even in such great dilutions as 1 in 1,000, both the bacilli having the characteristics of the true dysentery bacilli of Shiga, and those having the characteristics of the mannit fermenting class of Kruse, Flexner and Duval. This was true to a somewhat less extent of the serum of full-grown goats.

It has happened in some instances that after repeated injections with cultures of one of the varieties of the dysentery bacilli, the animal's blood agglutinated the variety of bacilli not used in immunization in as great or even greater dilutions than it did the variety injected.

It was found that a serum drawn from a horse which had been immunized by repeated injections of the dysentery bacillus received from Shiga, agglutinated this bacillus in dilutions of 1 in 500. The same serum, however, agglutinated the mannit fermenting bacillus in dilutions of 1 in 1,000. The serum from another horse which had received injections of the mannit fermenting bacillus, agglutinated this bacillus in dilutions of 1 in 1,000, but also agglutinated the Shiga bacillus in dilutions of 1 in 500. Judged by these reactions, these 2 varieties of bacilli would appear to be much alike in their affinities. Indeed, Shiga and Flexner seem to have come to this mistaken conclusion. Duval and Bassett certainly fell into this error

[1] The abstracts here given have been prepared by the authors themselves. The secretary has made only a few abbreviations and minor changes.

when they announced, in the fall of 1902, that the mannit fermenting type from the Baltimore diarrhea cases and the Shiga type had identical agglutination characteristics.

The blood of young animals was found by Dr. Park to be comparatively free from bacterial agglutinins. A goat 6 weeks old was found to possess no appreciable bacteria agglutinating substance in its blood. After 4 injections of a culture of Shiga dysentery bacilli, its blood in dilutions of 1 in 500 agglutinated Shiga bacilli, but only in dilutions of 1 in 10 the mannit fermenting variety. A rabbit whose blood was negative before immunization, after 6 injections of this bacillus, agglutinated the mannit fermenting bacillus in dilutions down to 1 in 5,000. The Shiga bacillus was agglutinated only in dilutions of 1 in 20. The slight development of substances which agglutinated the mannit fermenting type during the process of immunizing to the Shiga bacillus cannot be considered as showing any affinity between the Shiga type and the fermenting type, since about the same increase was found in animals injected with nutrient bouillon and other substances.

"*Gastric secretion induced by a reflex from the intestine*": HOLMES C. JACKSON.

The main points in his results were summarized by Dr. Jackson as follows: 1. The introduction of alcohol into the intestine sets up a reflex which causes the secretion of gastric juice. 2. Section of the nerves which supply the stomach (vagi and sympathetic), or the administration of atropin, prevents this reflex, whereas nicotin has no such effect. 3. Of the substances other than alcohol examined in this connection it was found that oil of peppermint also induces a reflex secretion, but that other irritants, such as mustard and ether, do not show this action. 4. Section of the nerves, or the administration of atropin or nicotin, followed by the introduction of alcohol directly into the stomach, gave results similar to those obtained when the alcohol was injected into the intestine.

"*The organism of smallpox, with demonstrations*": GARY N. CALKINS.

Dr. Calkins, after briefly describing some of the phases in the complicated life history of the smallpox organism—*Cytoryctes variolæ Guarnieri*—demonstrated 12 stages of the organism stained by an adaptation of the Borrel method, whereby the organism stains red upon the green background of cell body and nucleus. A similar parasite, as yet undescribed, in the macronucleus of *Paramœcium candatum* was also shown.

"*On respiratory stimulants, with demonstration*": GEORGE B. WALLACE.

A demonstration was made of a method for estimating the volume of expired air. A rabbit was used and the volume of air expired under normal conditions, and after the animal had been given a respiratory stimulant, was measured. The apparatus used was a modification of the one devised by Dreser. In the experiments reported by Dr. Wallace, the greatest increase in respiration occurred after administration of atropin, the amount of expired air being increased 75%. Strychnin produced an increase of 35%, caffein 9%, cocain 7%, aspidospermin and quebrachin (2 alkaloids obtained from *Quebracho blanco*) 9% and 17%, respectively.

"*The intracellular reduction of gold chlorid, with demonstration*": A. N. RICHARDS.

Dr. Richards' experiments were on the effects of intravascular injections of the double chlorid of gold and sodium, and were carried out under the direction of Professor Schmiedeberg. Microscopic examination of the tissues of rabbits killed by lethal doses of this salt shows the deposition of metallic gold in and immediately about the nuclei of the cells of the kidney, liver, spleen, mucosa of the gastrointestinal tract, and cardiac muscle. By chemic analysis it was found that by far the greatest amounts of gold are deposited in the kidney and liver, only traces having been recovered from the other organs.

On account of the ease of reduction of this salt and the possibility of the accurate estimation of the metallic gold, its use is recommended as an indicator of the *quantitative* relationship of the reducing processes in the various organs.

"*Effect of ligation upon the vital staining of nerves, with demonstration*": S. J. MELTZER.

The president demonstrated pieces of dried sciatic nerves of rabbits which *intra vitam* received intravenous infusions of methylene-blue. Single ligatures of the nerve, no matter where applied, are without any influence upon the color of the nerve on either side of the ligature. When the nerve is ligated at 2 places the section between the 2 ligatures remains free of color, while the central and peripheral ends of the nerve turn blue in the usual manner. The effect is the same even if the ligatures are applied near either end of the nerve. This fact shows that, in the vital staining, the methylene-blue reaches the nerve only from its central and peripheral ends.

"*Effects of blood-letting on metabolism*": P. B. HAWK and WILLIAM J. GIES.

The secretary reported the results of some experiments recently conducted by him in collaboration with Dr. Hawk. The experiments were carried out on dogs in a state of nitrogenous equilibrium. The withdrawals of blood were made while the animals were under the influence of ether-chloroform. The metabolic effects of anesthesia and of operation were carefully controlled. We found that hemorrhages of about 3% of the body weight caused, among other effects, (1) diminished secretion and decreased specific gravity, of the urine at first, the reverse in 24 to 48 hours afterward; (2) increased elimination of nitrogen and sulfur, and decreased excretion of phosphorus, in the urine. The amount and consistency of the feces were unaffected. Repeated hemorrhages from this same animal resulted in (*a*) cumulative quantitative metabolic effects in harmony with those indicated above, and were followed by (*b*) steady decline in body weight, and (*c*) gradual increase in average daily volume of urine, even when the animals ate the same amount and kind of food as at the beginning.

After successive hemorrhages at intervals of a few days the content of nitrogen, sulfur, and phosphorus in the blood, as well as specific gravity and number of red corpuscles, gradually diminished, whereas the leukocytes steadily increased in number.

Our data confirm the general metabolic results obtained in the earlier experiments by Bauer and others, and disagree with the opposite conclusions, as to the effect on proteid catabolism, announced 2 years ago by Ascoli and Draghi.

CONGENITAL DEFECT OF PECTORALS.

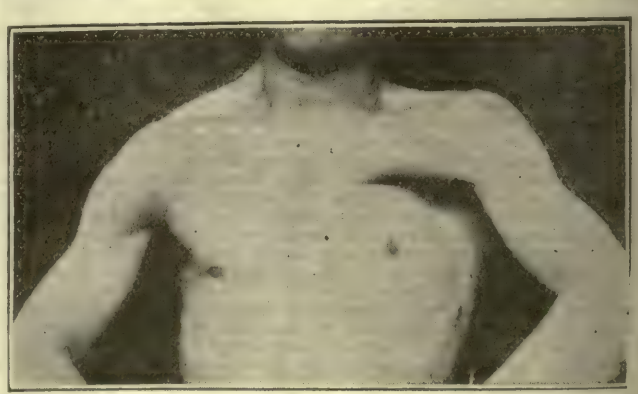
BY

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The illustration is that of a Hebrew, male, aged 17. His family history is negative with regard to deformities, nervous ailments, alcoholism, etc. Patient has never had an accident, and is unaware of the existence of any abnormality. He is able to do general work without difficulty.

He is well developed muscularly; there are no paralyses or



disturbances of sensation; reflexes are normal; there are no other degenerative stigmata.

Right shoulder girdle is normal.

Left shoulder is elevated; the anterior wall of the axilla is lacking, due to absence of the sternocostal portion of the pectoralis major and of the whole of the pectoralis minor. Other muscles are normal. Nipple is present, but no breast tissue can be palpated.

ORIGINAL ARTICLES

THE TREATMENT OF PUERPERAL SEPSIS.[1]

BY

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of Philadelphia.

No subject should be of greater interest to the general practitioner than the one to which I now invite the attention of this society. When I entered upon practice, nearly 30 years ago, the large obstetric hospital had a frightful mortality, and greater safety was secured for the lying-in woman who was confined at her home. Today, the pendulum has swept to the opposite extreme. Under aseptic precautions as practised in large hospitals, puerperal sepsis is unknown and the general practitioner provides the cases of this disease for study.

The exigencies of a general practice which brings the physician into contact with all sorts of contagious disorders, render it difficult for him to guard his patient against the dangers of infection, and, unfortunately, he is not always impressed with the necessity for exercising such precautions. It must be apparent to the merest medical tyro that the most effective treatment of puerperal sepsis is the prophylactic, which is secured by the adaptation of surgical cleanliness to obstetric procedure, but as I have several times discussed this phase of the treatment during the last few years I will overlook it in this paper, and endeavor to present a review of the methods which are considered as adapted to the well-established attack. Unfortunately, the accoucheur recognizing the odium attached to the occurrence of the disease in his practice, is loath to acknowledge a case as sepsis and attributes the elevation of temperature, to la grippe, malaria, typhoid fever, the secretion of milk, or any other condition rather than infection. The mere fact that the patient is passing through the puerperium does not necessarily preclude the occurrence of one of the conditions named, but the physician who carefully studies his patient need not be long in doubt, and humiliating as it may be to make the acknowledgement, sepsis should be suspected until it can be excluded.

It is very important, also, to differentiate between a germicidal invasion and the results of putrid intoxication. In the latter, the symptoms are produced by absorption of the products from putrefaction, occur about 5 to 8 days after confinement, and are consequences of the absorption of products which have formed during the decomposition of portions of placenta, membranes or retained blood-clots. The temperature is high, often preceded by a chill, or by repeated rigors. The lochia is likely to be offensive; an examination reveals a decomposing mass within the vagina or uterus, and the severe symptoms rapidly subside after its removal and the irrigation of the uterus.

True sepsis is more insidious, may precede or follow the delivery. Following delivery, it may take place at any time within the first 2 weeks following labor. The elevation of temperature increases a little more each day. An examination will disclose the uterine cavity smooth and free from any retained masses. The lochia may be free from odor, indeed, in the majority of cases the discharge is scant or even absent.

When we come to the consideration of the treatment, we find the greatest diversity of opinion as to the efficacy of different measures, and a great variety of procedures. One of the first measures usually practised is of unquestionable value when the patient is sapremic; that is, is suffering from putrid intoxication. The removal of the decomposing products from the uterus, removes the cause for infection, and the patient rapidly recovers, but when the uterus is free from such products and septic infection is evident, cureting is of no avail. The disease has gone beyond the superficial structures removed by such a procedure.

The rapid subsidence of diphtheria when treated by antitoxin very naturally led to the employment of the antistreptococcic serum to secure early immunity in sepsis. This treatment had many enthutiastic advocates, and I must confess, after slight experience, to have been one of its votaries; but a larger experience associated with that of others, has led me to doubt the accuracy of my early conclusions.

A recent writer advocates the serum treatment, and claims 60% of recoveries, but such a percentage is not so favorable as under expectant treatment. It may be questioned whether the failure under serum treatment may not have been due to the fact that the infection resulted from another microorganism than that for which the particular serum was applicable. By others it is asserted that the serum loses its virtue at an early age, but, notwithstanding these assertions, it remains that the profession no longer has confidence in the efficacy of the treatment.

Early resort to hysterectomy has been advocated, but the operator is confronted with the difficulty of differentiating the cases in which the operation should be advised. In patients in whom the infection involves the large venous trunks, hysterectomy would be of no avail, and certainly should not be done when the uterus is not the seat of the lesion.

The rational treatment of sepsis must be dependent upon an accurate knowledge of the course and progress of the disease. The invasion of the microorganisms is so rapid that the infection has passed beyond the uterus before the surgeon would feel justified in resorting to a radical operation. To be of any efficacy, hysterectomy must be done at once, but there are not many men who would have the temerity to assert hysterectomy should be done in every case of suspected sepsis. The disease occasionally enters the system through blood and lymph vessels without involving the uterus or its cavity, as from vaginal and perineal lesions. The systemic infection may be associated with lesions of the uterine cavity and walls, which may result in localized points of infection, the formation of abscesses, the necrosis of portions of the uterine wall, or the ovary and tube of one or both sides may be involved, the venous trunks, the pelvic peritoneum, or the infection may cause inflammation in the serous membranes, even in that of the heart and vessels. The latter cases are especially virulent, and when the endocardium is involved, it is rare for the patient to recover.

Another plan of treatment recently introduced is the employment of germicidal agents by intravenous injections. The work of Baccelli in combating pernicious malaria by intravenous injection of quinin naturally suggested the employment of other agents in this way. Recently, following the lead of Barrows, much has been done in the treatment of sepsis by intravenous injection of solutions of formalin. One who is acquainted with the action of this drug upon the serous surfaces can scarcely credit its harmless influence when employed in the strength (1–500) which has been suggested. In my judgment, it should not be given in stronger solution than 1–5,000, and then preferably with a normal salt solution as a menstruum. I have given both sublimate and formalin by intravenous injection, but am in doubt whether they are any more efficacious than a 1% saline solution. One of the formalin patients had a convulsion when 250 cc. had been given, but subsequently recovered from a severe attack of sepsis. A patient with a severe attack having a temperature reaching 106°, had an embolism of the nose the day following an intravenous injection of sublimate, and succumbed the second day, though this termination could be as justly expected had any other treatment been practised.

To any one conversant with the course and characteristics of puerperal sepsis it must be evident that

[1] Read before the Pennsylvania State Medical Society at York, September 24, 1903.

there is no single plan of treatment which may be applied to every case, but the especial manifestations in each patient must be noted and the treatment adapted to the condition present. Certain general measures are applicable to all. The patient should be kept clean, the vulva frequently bathed with antiseptics, and a pad wet with 20% alcohol in water kept continuously applied. Vaginal douches of saline solution, of (1–2,000) sublimate, or (1–1,500) formalin, or even intrauterine when the cervix is open, will be of service in limiting the further formation of decomposition products. The patient should be confined to bed and the condition of the bowels and the intestinal canal should be carefully watched. An occasional purgative should be given to sweep the canal, but not with a view to active purgation. The patient must be supported and not depleted. It must be remembered that we have to combat a disease for which we can fix no absolute time when it is likely to complete its course and the better we can sustain the patient the more effectually will her forces be able to dispel the invading infection. I would not be understood by this to advise resort to the early employment of stimulants nor to active feeding in the first stage of the disease. I would, however, especially eschew the administration of the coaltar preparations for the purpose of modifying the temperature because of their debilitating effects. High temperature should be reduced by frequent cold sponging, the ice rub, or the cold pack. A high temperature, a dry skin and tongue, with absent lochia, are generally an indication of severe infection, and it is important this should be early ameliorated. The urine of such patients will be found concentrated. The action of the kidneys can be promoted, and the elimination of the infectious poison furthered by frequent enemas of normal salt solution. A quart of the solution may be administered slowly every hour, pinching the tube when the patient experiences distress, and again permitting it to flow. The patient can be placed upon an inclined plane during its administration, by the elevation of the foot of the bed. These enemas cleanse the alimentary canal, a large portion of the fluid is absorbed, the secretion of the kidneys is increased and the processes of elimination are set to work. The patient should be carefully observed and any local manifestation of the infection properly managed. Any local inflammation in the abdomen or pelvis should be treated by the application of cold in the form of an ice-bag with the purpose of limiting its extent. Peritoneal or cellular inflammation, or exudation, should be considered as an indication for vaginal section and drainage. Cases of sepsis with high temperature and more or less depression, in which local manifestations are poorly defined, I believe should be explored by vaginal section. Very frequently the pelvic cavity will be found to contain a quantity of dirty serum with flakes of lymph. I feel confident that this procedure, with intraperitoneal irrigation with salt solution and subsequent gauze drainage, greatly aided in the rescue of a very sick patient. The incision can be accomplished with but little discomfort or danger to the patient. It affords an opportunity to determine the necessity of resorting to more serious measures.

The recognition of a pus collection in the uterus which cannot be evacuated should demand the removal of the organ. In such cases hysterectomy should be done, and as early as the condition of the patient will permit. The formation of a pus tube or an abscess of the ovary should be followed by the extirpation of the offending organ, but the despoliation should be thus limited. When the poison manifests itself in the form of severe phlebitis, the plan of treatment must depend upon its progress and the changes the infected vein is undergoing. The parts should be put at rest, pressure made upon the vein above the mass of infection, and the limb enveloped in a mixture of ichthyol and antiphlogistin and bandaged. If an accessible vein shows evidence of softening the best procedure would be to expose it and excise the affected portion.

Patients who show profound septic infection, with or without local manifestation, are best treated by intravenous injection of a 1% saline solution. The saline is made up of sodium bicarbonate and sodium chlorid in the proportion of 2½ parts of the former to 7½ of the latter. One to 2 quarts of this should be thrown into the vein, exercising the most careful aseptic precautions and preventing the introduction of air. In cases in which the condition is such as to render it evident that a fatal termination is imminent unless the disease is at once arrested, normal salt solution containing 1–5,000 formalin can be given. Not over 750 cc. should be employed at one time.

The most successful results will be attained by the judicious husbanding of nature's forces, the early recognition of local manifestations, and the adoption of appropriate measures for their relief, thus relieving the load to be carried.

HYALINE BODIES IN TUMORS AND KINDRED OTHER CONDITIONS.*

BY

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The belief among a certain number of scientists at the present day of the infectivity of carcinomas and sarcomas, has led to quite an abundance of literature and study upon the subject. This belief has become stronger with some, as certain foreign bodies (supposedly coccidia and saccharomycetes) have been isolated by different observers.

In some experiments (Rabinowitsch's) granulation-tissue nodules were produced by inoculation of a few different varieties of torula. In other experiments (Sanfelice's) the same lesions have been produced by "yeasts" isolated from fruits. Gaylord in this country, has also observed an organism, probably a yeast, in certain tumors, which is said to have produced adenomas when inoculated into the lower animals. Loeb, in various experiments upon rats and mice, has proved beyond a doubt, that in one species, sarcomas can be produced by inoculation of masses of these growths. As yet he has not isolated any specific organism.

Roswell Park is a firm believer in the infectious nature of carcinoma, and cites a case of a man who had a pigmented mole upon his back which became irritated and ulcerated, and which eventually became malignant. This was followed by metastases occurring in the mediastinum, lungs, and heart. From the rapid course of this case, he seems justified in claiming that there is an infectious agent as a causative factor of the condition. Foulerton, Ruffer, Schüller, Busse, Ronelli, Plimmer, and others have seen, and in some cases, isolated "bodies" or yeasts from tumors and in other conditions.

The observations of Russell on what he calls "fuchsin bodies" in tumors, are very well known. The so-called "molluscum corpuscles" or "fuschin bodies," have been asserted by some to be coccidia, by others, yeasts or torulæ, and by still others as degenerated cells or nuclei. A hyaline, a mucous, and sometimes a colloid degeneration are spoken of as occurring in these bodies. The failure to cultivate them, irrespective of the methods tried, seems to speak against the microbic nature of the parasite (?).

The writer has also demonstrated certain bodies in malignant and benign tumors and kindred other conditions. These bodies are found in the "juice" of tumors, as well as deeply situated in the stroma, or among, and sometimes within, the cells of the tumor.

* From the laboratories of the Jefferson Medical College Hospital.

These bodies in the unstained condition are spheric, hyaline, nongranular, and refractile; some appeared to be encapsulated, but most of them were nonencapsulated. They are light yellow and yellowish-green, and unaffected when treated with ether, osmic acid, or Sudan iii. They closely resembled fat globules (for which the above named tests were made), but lacked the heavy outline of these globules. Sometimes one or more could be seen to be intracellular. They stained faintly in the fresh condition with eosin, and gentian violet. No budding was demonstrable. They did not change in shape when first observed, and the same slide examined several days later, showed the same picture just described, with no increase in the number of bodies.

At first glance the bodies appeared to be saccharomyces, but the absence of budding seemed very peculiar. The bodies did not contain granules or spores—peculiarities which *Saccharomyces cerevisiæ*, and few chromogenic yeasts possess. The size of the bodies varied from 5μ to 20μ in diameter; where numerous, they were small and averaged 5μ to 7μ, where few were seen, 10μ to 20μ was the usual size. In malignant growths these bodies have been observed with wonderful regularity, resembling the ones found in the fresh condition, and in a few instances, apparent buds were observed.

The method of examining sections was as follows: Small masses of the tumor were fixed in Heidenhain's solution of mercury bichlorid, dehydrated, and embedded in paraffin. Some were fixed in absolute alcohol and embedded in paraffin. Sections were then cut, and stained with 2% aqueous solution of gentian violet, followed by Gram's solution and decolorized with alcohol or anilin oil. Some of the sections were stained by the ordinary method, with anilin gentian violet, followed by the usual technic. Others were stained by the Gram-Weigert method. Still other sections were stained with Unna's polychrome methylene-blue, followed by alcohol, while some were treated with styron. Carbol fuchsin, saffranin, and carbol toluidin-blue were also used. The stain was left upon the section from 15 minutes to 24 hours. When carbol fuchsin or saffranin was used, alcohol was applied until the excess of stain was removed. The specimen was then cleared with oil of origanum cretici or oil of cloves, and mounted in xylol balsam. Sanfelice's stain was used, but with unsatisfactory results. The sections were next examined with a $\frac{1}{12}$-inch oil immersion, although with a $\frac{2}{3}$-inch objective (Bausch and Lomb) the bodies could be seen. In superficial epitheliomas, in which ulceration had taken place, ordinary bacteria of suppuration were also present.

In the 57 malignant tumors examined, the bodies have been observed in all but one; some containing many, others only a few. They were more frequently seen in carcinomas than in sarcomas. These tumors include 23 cases of squamous-cell epitheliomas, 10 scirrhous carcinomas of the breast, 5 columnar-cell carcinomas of the intestine. One columnar-cell carcinoma of the stomach, 1 papillary carcinoma of the antrum, 3 scirrhous carcinomas of the liver, 1 encephaloid carcinoma of the breast, 1 carcinoma of the bladder (primary), and 6 columnar-cell carcinomas of the uterus. Three specimens of enlarged glands were also examined; two from cases of scirrhus of the breast, and the other from a case of columnar-cell carcinoma of the intestine. With the exception of 5 cases, the squamous-cell epitheliomas were taken from the margin of the upper or lower lip. The enlarged gland from the case of carcinoma of the colon, was made up entirely of cancer tissue.

The sarcomas examined were a small round-cell sarcoma of the jaw, an angiosarcoma of the kidney, and an angiosarcoma of the breast. The bodies were found in the first two, but not in the last one.

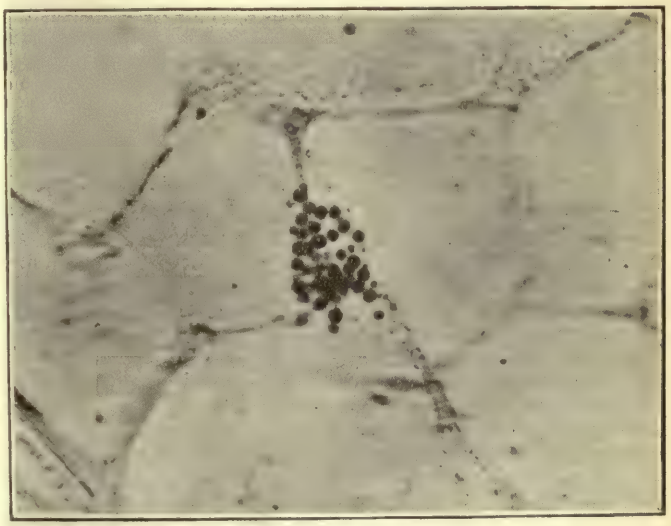
Some sections contained only a few bodies. In each case they were deepseated; some appeared distinctly encapsulated, some were extracellular, and others intracellular. Where small and numerous, they were generally extracellular. Occasionally, one of these large bodies could be seen occupying the whole cell. Apparent budding was present in but 2 cases, in the angiosarcoma of the kidney and in the fibroid condition of the breast. The bodies in the former were found principally in the large venous channels. Sometimes as many as 12 to 20 bodies were found in a group, and at other times only one or two could be found in a whole specimen. In the kidney they were suggestively encapsulated, and this appearance was especially noticeable where they occurred ungrouped.

In the small round-cell sarcoma of the jaw, the organisms were exceedingly few, only three or four being demonstrable in a number of sections studied.

They were also demonstrable in a case of intracanalicular fibroadenoma of the breast, scattered throughout the fibrous connective tissue and being nonencapsulated.

In a case in which a breast was removed for a probable malignant growth (but which upon histologic examination revealed a markedly fibroid condition with atrophy of the gland structure) the bodies were also found. Apparent budding was observed in this case.

A large number of bodies deeply seated in the connective tissue, extracellular and nonencapsulated, were demonstrable in a case of hypertrophy of the gums reported by Roe. They were also present in a case of



pharyngomycosis and in 4 hyperplastic tonsils, as well as in a mass of adenoids removed from the pharynx. In 2 cases of leprosy quite a number of the spheric bodies were observed in the skin.

The majority of the specimens were received either in Mueller's fluid, formalin or alcohol, so that inoculations could not be made; however, when obtained in the fresh condition inoculations were always made upon various culture media.

The media used were plain peptone agar, glycerin agar (6%), glucose agar (1%), acid agar, blood-smeared agar, milk, blood serum, plain and glycerin-smeared potato; in plain glycerin (6%) and glucose (1%) bouillon, upon bread paste, "nährstoff" (von Heyden) with and without (6%) glycerin, and fluid from ascites. The fresh material itself was placed in sterile test-tubes and incubated.

The inoculations were made either from the "juice" of the tumor or from macerated tissue, or the tissue dropped directly into the culture medium. They were then placed in the incubator and also under anaerobic conditions. In cases in which the tissue was macerated and allowed to soak in bouillon, the bodies were demonstrable, but did not tend to increase in number. Inoculations were made in the peritoneal cavity of rabbits, of

masses of tissue and macerated material from carcinomas, but in none of these did any reaction occur up to 18 months. The majority of the bodies found in the malignant growths here recorded, correspond morphologically to Russell's fuchsin bodies. The bodies took the acid dyes as well as the basic, and hence I believe, with some others, that these bodies represent degeneration of cells.

The appended table shows the number of specimens studied (74 in all), including tumors and various other conditions.

Specimens.	No. of cases.	Bodies found.	Bodies not found.
Columnar-cell carcinoma of the uterus	6	6	
Epithelioma of lip	18	18	
Epithelioma of knee	1	1	
Epithelioma of labia majora	1	1	
Epithelioma of foreskin	1	1	
Epithelioma of esophagus	1	1	
Epithelioma of eyeball	1	1	
Scirrhus of breast	10	10	
Scirrhus of liver	3	3	
Papillary carcinoma of antrum	1	1	
Columnar-cell carcinoma intestine	5	1	
Columnar-cell carcinoma stomach	1	1	
Encephaloid of breast	1	1	
Carcinoma of bladder	1	1	
Papilloma of bladder	1	1	
Enlarged glands foll. carcinoma	3	3	
Angiosarcoma of kidney	1	1	
Angiosarcoma of breast	1		1
Small round-cell sarcoma of jaw	1	1	
Hypertrophy of the gums	1	1	
Hyperplastic tonsillitis	4	4	
Postnasal adenoids	3	3	
Pharyngomycosis	1	1	
Intracanalicular fibroadenoma breast	1	1	
Fibroid condition of the breast	1	1	
Chronic meningitis	1	1	
Leprous skin	2	2	
Molluscum contagiosum	1	1	
Hemorrhagic pancreatitis	1	1	

Nichols,[1] in 21 cases of alveolar cancers of various organs, was unable to find cancer bodies in 5 cases. In 14 epidermoid cancers, cancer bodies were seen in but 1 case; in 5 sarcomas, cancer bodies were never present. In an article upon cell inclusions and yeasts in malignant conditions, especially molluscum contagiosum, Nichols quotes the following literature:

Patterson[2] (1841) studied the secretion from cases of molluscum contagiosum, and was the first to mention the strange socalled molluscum corpuscles or bodies. He described these as a peculiar sort of nucleus.

Von Barensprung[3] (1848) spoke of these bodies as epidermic cells which had imbibed albuminous matter, and remarked that he had observed similar conditions in his investigation of sebaceous glands.

Virchow[4] (1865) claimed that the newgrowth contained epithelial cells and nuclear bodies, arising from the hair follicles, and he described and likened them to swollen starch bodies. He spoke of them as fat-like globules surrounded by doubled contoured rims which resisted the action of water and acids, but became more translucent when subjected to the action of alcohol. He had observed the same bodies in epidermoid cancer and in the "follicles of the nail-bed," and said they resembled the psorosperms found by Klebs in intestinal epithelium.

Bizzozero and Manfredi[5] (1871) also observed these bodies, but do not state positively their nature and development; they assert that it is quite proper to affirm that they owe their origin to the protoplasm of the cells of the newgrowth. They noticed that the bodies were insoluble in hot ether, and in acetic acid.

Retzius[6] (1871) believed that the bodies were *sui generis* never associated with cancer or epidermoid growths, and did not arise from large epidermic cells, and that their size only (0.035 mm.–0.040 mm.) prevented him from considering them the spores of parasites.

Boeck[7] (1875) found 2 forms of bodies: First, the socalled molluscum bodies which were round or oval, sharply bounded, transparent, nonnuclear, with a very doubtful double contour about them; second, strangely formed epidermic cells which were often without nuclei and which possessed sharply bounded outlines. From this second type Boeck asserted that the first arose and claimed that he had seen the bodies within the walls of the peculiar epidermic cells. Lukomsky[8] (1875) stated his belief that the bodies arose from cells which had invaded the epidermis. O. Simon[9] (1876) made the statement that the great size of the bodies spoke against the theory of parasites put forward by Klebs.

Kaposi[10] (1877) also discouraged the theory that the molluscum bodies were parasites, because they never showed any signs of organic reproduction by proliferation or by budding. He also disputed their origin from the cell nuclei, for he asserted that one could often see the nucleus squeezed up against the wall of the cell. He did believe, however, that the peculiar bodies arose from the transformation of cell protoplasm and said that this could be demonstrated by following up the changes under the microscope.

Vidal[11] (1878) inferred from the jelly-like translucency of the bodies that they were the product of a colloid degeneration.

Renaut[12] (1880) claims that the bodies are a result of a hyaline change in the perinuclear zone of the rete cells.

Torok and Tommasoli[13] (1890) demonstrated that the strongest acids and alkalies have little or no effect upon the socalled parasitic bodies. They believe that these bodies are a result of colloid degeneration. Stanziale[14] (1890) states that these bodies react to caustic potash and to other chemicals not as parasites but as a substance akin to horny matter. Kuznitzky[15] (1895) describes the molluscum corpuscles as homogeneously glossy, without the least granulation or sign of any nucleus. Benda[16] (1895) states that he believes the bodies are epidermal cells with abnormal contents, which are always surrounded by a clear zone which is a vacuole in all probability. Unna[17] (1896) believes that the bodies are only the results of colloid or hyaline degeneration of the prickle cells; this differs from hyaline degeneration in carcinoma because it occurs in the interior of cells only. Audry[18] (1899) states that the substance of the bodies is not homogeneous, but is composed of little blocks which, however, cannot be termed granular.

Busse[19] in 1894 described cell inclusions which he had observed in the subperiosteal tissue of an albuminous periostitis of the tibia. The histology of the tissue showed young connective tissue, numerous giant cells between, and in which were numerous small circular refractile bodies with a double contour.

Inoculations made into different animals showed that these bodies multiplied; but Busse did not at that time claim that the bodies alone produced the lesions (gangrene, peritonitis, abscess) as ordinary pyogenic organisms were also present in the abscess. He cultivated the organisms upon ordinary media and because they produced carbonic acid he thought the organisms were probably yeasts. In another paper he gives the postmortem findings in the case cited. In the pus from the bone lesions, in the pleura, in the lung, in the kidney abscess and in areas of the spleen, yeast cells were isolated. Inoculating pure cultures of these organisms into animals, nodules of suppuration at the point of inoculation were produced which subsided in a few months' time. White mice which were inoculated with the organisms died in a month's time with nodules at the site of inoculation, in the kidney, brain, lung and peritoneum. From all these lesions blastomycetes were obtained in pure culture. In the lesions the blastomycetes were generally surrounded by a gelatinous capsule which arose either from the yeast or from the tissues.

Following Busse's article, Sanfelice[20] published a paper in which he stated an inclination to believe that the wellknown cancer-cell inclusions were blastomycetes. He then obtained blastomycetes from fruits and

inoculated animals. Guineapigs died in from 20 to 30 days with enlarged lymph-nodes, secondary nodules in the liver, kidney and spleen; from these lesions he obtained pure cultures of the organisms. In tissues studied he most commonly found them in the lymph sinuses. *Saccharomyces neoformans* was the name adopted by Sanfelice for this organism.

Sanfelice, in 1895, published an article setting forth that he had found in a primary cancer of the liver of an ox, small refractile bodies which histologically resembled his *Saccharomyces neoformans*. He obtained upon potato and in media containing sugar, pure cultures of these bodies, which, when inoculated into guineapigs, caused death in 2 months, and produced nodules at the site of inoculation with enlarged lymph-glands. He found that the animals generally died within 30 days after inoculation into the testes, liver and abdomen. The organisms in the tissues showed a circular outline with double contoured membrane. Occasionally budding was observed and also hyphæ. In smears made from fresh tissue many leukocytes containing blastomycetes were observed.

He also obtained pure cultures of blastomycetes from human malignant tumors, from tumors of cattle and swine. This organism was not pathogenic for animals. After prolonged experiments he at last claimed that he had produced true cancer in a dog with blastomycetes. A bitch was used for the experiment and inoculations were made into the breast. Swelling resulted, but rapidly subsided. The animal died in about 10 months and the inguinal lymph-glands showed enlargement. The growth was an adenoma, but there were no metastases. There were a few blastomycetes found upon the periphery of the tumor, but none in the old part. Those found in the periphery were mostly free, but they did not correspond with the ordinary blastomycetes. This peculiarity Sanfelice claims to be due to the long time the organisms remained in the tissue, thus resembling the ordinary cancer inclusions, and in which stage it is incapable of culture upon ordinary media.

Plimmer[21] claims to have isolated from human cancer an organism which grew anaerobically, and which corresponded morphologically with the cancer cell inclusions. Inoculations into some animals gave negative results, but in some the bodies could be demonstrated. Guineapigs which were inoculated intraperitoneally showed diffuse lesions in the omentum and internal organs. Upon histologic examination these nodules were seen to be composed of endothelial tissues which Plimmer calls tumors. He did not give to his organism any specific name.

Roncali[22] observed cell inclusion in an adenocarcinoma of the ovary but was unable to isolate or cultivate these bodies.

Binaghi[23] demonstrated what he termed blastomycetes in 75% of epidermoid cancers. He claims that if given the entire tumor he would have had 100% positive results. His reason for calling the bodies blastomycetes was that they corresponded in form, color and chemic reaction.

Mafucci and Sirles[24] found blastomycetes in peculiar nodules in the lungs of a guineapig. They were situated in epithelial cells of the nodules.

Again,[25] these 2 last-named observers cultivated blastomycetes from 6 out of 39 cases of cancers or sarcomas from men and animals. They decided that the living blastomycetes were in inflammatory cells while dead ones were in the protoplasm of epithelial cells, and that the blastomycetes represented an infection through an ulceration, because they never cultivated them from fresh aseptic living tumors.

Corsello and Frisco[26] claim to have obtained blastomycetes from human tumors, which when inoculated into animals produced neoplastic nodules with enlarged lymph-nodes. Leopold[27] cultivated blastomycetes from 4 out of 20 cases, which when inoculated into a white rat produced a very vascular giant-cell sarcoma with multiple metastases in the peritoneum. In both the primary and secondary nodules blastomycetes were found. Curtis[28] found blastomycetes in a nodule in the groin and back of a man, which were easily cultivated upon media to which sugar had been added. Inoculations into animals were generally negative as regards guineapigs and rabbits. In white rats a nodule of new formation usually occurred which would heal; or a general infection would result with metastases in the lungs and kidneys. Sometimes a nodule formed in dogs, which disappeared after a short time.

Gilchrist[29] isolated blastomycetes in a case of dermatitis; Rickett[30] observed blastomycetes in 12 cases of dermatitis.

Buschke[31] isolated yeasts from ulcers of the skin and produced inflammation by inoculating them into the human subject. He also tried to obtain the organisms from cancers and sarcomas, but was unsuccessful. In endometritis, Colpe[32] (in 1 case) claimed that it was due to blastomycetes; and Ernst[33] found yeasts in the urine of a diabetic patient.

Rabinowitsch,[34] in a very extensive series of experiments with 50 yeasts, found that only 7 were pathogenic for the lower animals, and in none of the inoculation experiments was there true tumor formation. Foulerton[35] was quite successful in producing nodules of granulation tissue in rabbits and guineapigs by inoculating with various blastomycetes. Richardson[36] examined 40 tumors bacteriologically, and from none of them did he succeed in isolating blastomycetes. Bonome[37] found yeasts in 6 out of 26 cancers, and also claims that the organisms occurred more often in tumors which were ulcerated and exposed. Sternberg,[38] in studying cancers found cell-inclusions which he claims are vacuoles, in which there are leukocytes or areas of mucous degeneration with contraction, giving rise to the appearance of areas of calcification or included red corpuscles.

In the cells of carcinomas, according to Ribbert,[39] observers have found in various stages of development coccidia (?) which were considered animated. The results of other observers, however, showed that these foreign bodies were degenerated cell and nuclear products, also epithelium and red blood-cells enclosed by leukocytes and lymphocytes. By homogeneous changes and by destruction large and small round bodies are produced which are enclosed in vacuoles occurring alone or grouped.

Hyaline bodies have also been observed in rhinoscleroma, syphilis, tuberculosis, cancer, malignant lymphoma, in the mucosa of the stomach and intestine; nasal polyps and lymph follicles.[40]

CONCLUSIONS.

It is seen from the specimens studied that these bodies were observed with great regularity.

They were in most cases quite deeply situated in the tissues, while a great many more were seen intracellularly.

Some of them gave quite a typical reaction of amyloid material, while the greater number failed to give this reaction. Treating them with dilute hydrochloric acid failed to produce effervescence.

It seems to me that they correspond most closely to the fuchsin bodies described by Russell, and that they really represent some degenerative change occurring in the cell or cell nucleus. That they play some part in the etiology of the conditions in which they are found seems doubtful, notwithstanding the fact that they are found deeply situated and intracellular. They do not possess the peculiar intracellular characteristics which Plimmer's bodies do, being distinctly hyaline. They may, however, represent a hyaline or amyloid degeneration of blastomycetes.

The fact that cultures were not obtainable in any case upon various media and the failure to demonstrate true

budding seems almost positive proof that they are not blastomycetes.

I desire to express my thanks to Dr. W. J. Roe for the photomicrograph used in this article.

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EMPYEMA.

BY

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Of the cases of chest troubles presented to us for surgical treatment those of empyema (purulent pleurisy) are most frequent. Preceding this empyema there is generally a serous effusion which becomes purulent—why it becomes septic is not always easy to explain. In children it is often septic from the beginning. Purulent pleurisy follows many diseases, most frequently scarlet fever, measles, whoopingcough, typhoid fever, pleurisy, pneumonia with emphysema, tuberculosis, rheumatism, pneumonia, septicemia, or extension of the disease from surrounding tissues or organs, rupture of accumulations of pus through the diaphragm into the pleural cavity, or from an abscess of the lung which ruptures into the pleural cavity. Abscess of the liver and echinococcus cysts sometimes give rise to empyema. Empyema produced by the ray fungus (actinomycosis) is not uncommon. In September, 1878, James Israel described a case of disease of the lung in which the characteristic ray fungus was afterward found. The little yellow granules and characteristic ray fungus can be found in the fluid which escapes from the empyemic abscess. This trouble is most often fatal by the extension of the disease into the surrounding tissues and organs, the patient dying from septicemia. Potassium iodid given internally in very large doses has a curative effect. Therefore, in connection with surgical treatment, potassium iodid should be given in large doses, 4 gms. to 12 gms. (1 dr. to 3 dr.) 3 times a day. As the disease subsides the medicine is discontinued for a few days and then repeated. This treatment is kept up for some months. Dr. Ochsner states that his results under this treatment have been very satisfactory.

The pus-producing organisms which give rise to empyema may be in the blood, or may be introduced into the pleura from without, through wounds of the pleura by foreign bodies, by aspiration, or from a broken rib and punctured lung. Should the exudate be sterile, it suggests tuberculosis as the cause of the effusion. Pneumococcus empyema is more favorable to treatment than streptococcus empyema. The fluid may be clear or greenish-yellow above and pus below, and may have no odor, but if it is infected from a ruptured lung or gangrenous lung, the odor is horrible. The pleura may be thickened and infiltrated to the extent of a quarter inch or more, and there may be an erosion of the ribs or ulceration of the lung surface. The diagnosis is often that of a preceding pneumonia with pleuritic pains, or pulmonary tuberculosis. During the accumulation of the fluid there may be a short hacking cough with difficult respiration. The symptoms may come on insidiously and no cough be noted. In a short while the signs of septic infection are seen. An increase of leukocytes is always found. Should the empyema be due to tuberculous infection, there is generally noted an evening increase of temperature. Should it be due to infection by a pneumococcus, or other pus organisms, the temperature generally remains high without intermissions. There is generally a bulging on the side of the chest which is involved, a dulness on percussion which varies as the patient changes his position. There may be a bulging of the intercostal muscles and a bogginess of the skin. The liver may be depressed and the heart pushed out of position. Should the two layers of the pleura become adherent, we will not have a change of the fluid when the patient moves—encysted empyema. At first few organisms are found in the fluid, but as the disease progresses, it rapidly becomes opaque and fibrinous, flakes float around in the fluid, and it becomes thick and tenacious; so much so that on aspirating, the needle may become clogged and no fluid return from the cavity. When pus is present in the pleura and left alone, death most often follows; at times it ruptures into the lung and is evacuated by that means. Should it become absorbed the chest will retract and the lungs expand irregularly. The pus becomes inspissated in the pleura and deposits of lime salt take place in the inspissated pus. Should relief not be given, the pus may ulcerate through the intercostal muscles and skin, or break into the lungs, abdomen, or extend down in the loin. By erosion of the lung the pus may be absorbed through the spongy tissue of the lung without a rupture into the bronchi.

When pus is present in the pleural cavity from whatever cause, the indication for operation is imperative. Operation means the thorough drainage of the cavity at its most dependent point. Should there be any pockets found which drain into the cavity they should all be broken up and made one large cavity. Should the fissures of the lung be adherent these should be opened and the pus cleaned out.

Rapid accumulation of fluid in the pleura of children may cause displacement of the heart and sudden death from compression of the lungs and the heart. Empyema is most frequent in the first 3 or 4 years of life. At times we find the same organisms in a serous effusion as we find in a septic effusion. As a rule, the entire pleura in children is inflamed and encysted empyema is rare. At first the physical signs of empyema are the same as in serous effusion. Osler says that in children the breath sounds may be loud and tubular over a purulent effusion of considerable size. The only certain way of making our diagnosis is to aspirate and examine the fluid. If the fluid is near the heart or the aorta, we get at times a

[1] Read before the Tri-state Medical Society at Cumberland, Md., July 16, 1903.

pulsation through the fluid. This pulsation is misleading, as it simulates aneurysm, but the pulsation is more diffuse than in that of aneurysm. To make a positive diagnosis we should use a very fine aspirating needle.

In children empyema most often follows pleurisy and pneumonia. Some children with empyema do recover after several aspirations. The incision between the ribs letting out the pus from the pleura and draining may be sufficient to cure the patient. But it is best to be more radical. Operations on children are best done under local anesthesia, or with a very little anesthetic and should be done quickly. In operations, we cleanse the surface and make an incision over and parallel with the ribs exposing the periosteum of the rib. With a suitable instrument the periosteum is pushed off from the rib and with sharp forceps the bone is cut and retracted to the proper distance and it is cut again. Then by making an incision through the reflected periosteum, we can open into the pleural cavity without the necessity of injuring the intercostal vessels. Should it be necessary to make the incision larger the intercostal vessels can be easily caught and ligated. Our object is to have an incision large enough to drain the cavity thoroughly, and to allow us to inspect the cavity freely with our fingers, and to remove the fluid or clots of fibrin which may be found in the cavity. In new cases of empyema we rarely find any adhesions between the lung and the pleura, but in old cases these adhesions are very dense and firm, and as they sometimes give rise to troublesome hemorrhages when cut, it is therefore best to clamp them with forceps and tie them off before cutting. If we desire to drain with a tube it must not be long enough to interfere with the lung, but it should be placed in the lowest portion of the cavity, and give a suitable outlet for the fluid. In no instance must the cavity be irrigated. Should there be a very large accumulation of fluid in the pleural cavity it is best to aspirate off some of the fluid first and to operate with the patient in a sitting position. Should there be an opening from the lung into the pleura the patient must be operated on in a sitting position, for otherwise the fluid might escape into the lung and drown the patient in the pus. The resection of 1 or 2 ribs is generally sufficient for the cure of an acute empyema.

Empyema in children comes on very rapidly, and in the course of a few days may involve both pleuras and the child succumb quickly. These patients should be operated upon rapidly and little or no anesthetic given. When an anesthetic is given a few whiffs of chloroform is probably better than ether, as ether sometimes gives rise to coughing. After the cavity has been drained and repair is taking place, the patient should be given regular exercises in breathing and encouraged to be in the open air. In cases in which empyema is not due to tuberculosis, the pleura is left in a condition of inflammation, which very readily takes on infection from tuberculosis; therefore, it is best to treat such patients by climatic changes, outdoor exercises, and wholesome living. In cases of double empyema one side should be opened at a time, leaving an interval of a few days before the other side is opened.

Dr. A. J. Ochsner recommends resecting one or more ribs, opening the pleura, and then passing a pair of forceps across the cavity, the end being brought out between the ribs on the anterior surface of the chest walls suitable to the conditions present, then two rubber drainage tubes are pulled back. These tubes are left in position, passing entirely through the chest cavity. In this way he prevents the formation of pockets of pus in the cavity. As the case progresses to recovery the tubes are replaced by smaller ones and ultimately taken out.

Dr. Carl Beck reported his operation in 1894, in which, after resecting one rib, he sutured the pleura to the skin. Dr. Beck sometimes found it necessary to introduce drainage tubes after several days to avoid hemorrhage.

In the *Annals of Surgery* for June, 1903, there is an extract of Dr. L. Brinkman's paper, read at the Philadelphia Academy of Surgery, on "Drainage of the Chest in Empyema without the Use of Tubes."

The operation spoken of by Dr. Brinkman is to make an incision parallel to the midaxillary space and to resect 2 inches of each rib from the fifth to the seventh. The pleura is then opened and the cavity is exposed, and if any pockets are found in the pleura these are broken open, and if the division between the lobes of the lung are adherent, these are opened also. The pleura is then brought to the edge of the skin and sewed. He has found that this gives a very much better result than when he uses the method of drainage by tubes. I would not advise this operation in acute cases, for it lengthens the operation, and is, therefore, attended with more shock.

Should the case be an old one and with adhesions formed between the parietal pleura and visceral pleura and the lung be unable to expand and fill the cavity, we may have to resort to a more radical operation.

Estländer advised the periosteal divisions of all the ribs from the second to the seventh or eighth in front and behind, and in that way the chest is allowed to collapse upon the suppurating cavity.

A more radical means than Estländer's is Schede's. His incision commences at the edge of the pectoral muscle in front through the skin and muscle to the ribs, with the curve at the bottom and with a posterior incision up the posterior border of the scapular, cutting through all the muscles to the angle of the ribs. Everything is reflected from the ribs, the periosteum is denuded from the ribs and the ribs resected the full extent of the incision. The intercostal arteries are now tied behind and in front and the intercostal muscles and the parietal pleura are taken away. The visceral pleura is scraped and the bleeding surface of the lung and cavity packed with gauze and the skin and muscle brought over and sewed in position, leaving the drain at the bottom. When the surface is covered with granulations the gauze is removed and the flap adheres to the lung and closes the cavity. It takes some months for this operation to produce a closure of an old cavity.

In all operations on the chest we want free drainage and a thorough inspection of the cavity. Therefore, the opening must be sufficiently large to carry out these ideas. We must be guided in the use of anesthetics, whether they shall be local or general, by the condition of the patient at the time of operation. It is best to use local anesthetics when possible, and have the patient in a semireclining position. The extent of the operation depends upon the condition we meet. Irrigation should never be done. After fully opening the cavity and inserting drainage-tubes, a large dressing is applied, and this is changed whenever necessary. The patient is encouraged to sit up and take plenty of nourishment and to move around as soon as possible.

A great number of persons die each year from empyema, for lack of operation. The most important thing for the patient is prompt and early diagnosis, and as empyema is a surgical disease, it must be treated surgically.

The following cases have been taken from a number which have been under my care at the College of Physicians and Surgeons during the past winter:

Case I.—Male, aged 28, fell astride of a board and ruptured his urethra. Perineal section was done. Two weeks after the operation the man was sent to the hospital with septicemia. Examination showed a gangrenous scrotum and abscess on the right thigh, and effusion into the right pleura. The lung was compressed up to the third intercostal space, the liver depressed, the intercostal spaces bulging and heart pushed over to the left side. The seventh and eighth ribs in the midaxillary line were exposed. The periosteum having been removed from the ribs, they were resected for 3 inches, the costal pleura was then incised. The pleura was found much thickened and infiltrated; the cavity was wiped out and drainage tubes inserted. On examination a streptococcus infection was found in the fluid. The man made a good recovery in the course of 6 weeks. On advice he spent some months in Arizona and New Mexico.

CASE II.—A boy, aged 15, was caught between the side of a wall and a shaft of a wagon by a horse jumping forward. He was in the hospital 20 minutes after being injured. The shaft broke the posterior angles of the right third and fourth ribs, and ruptured the intercostal muscles, the pleura and lung, the lung was caught and held between the ribs. There was a rapid emphysema of the body extending up into the neck, the boy became rapidly cyanotic. An incision was made through the skin, the lung was grasped and the ribs were pulled apart by retractors. The opening seen in the lung was quite large, and as the boy was in a bad condition, the lung was compressed with gauze against the mediastinum. This checked the hemorrhage and the escape of air from the ruptured lung. In 48 hours the gauze was removed and the lung began to expand. Pleurisy was present and sepsis occurred in 10 days. The seventh and eighth ribs in the midaxillary line were resected and tubings were carried from the lower opening out through the upper opening. The boy made a good recovery in 2 months, the lung fully expanding and filling the pleural cavity.

CASE III.—A brakeman, aged 25, had an attack of pneumonia with pleurisy. At the end of 4 weeks he was received in the hospital with his left pleural cavity filled with fluid. On aspirating we found almost a pure culture of pneumococcus. The seventh and eighth ribs were resected for 2 inches posteriorly, drainage-tubes were introduced. The man recovered and returned home in 6 weeks.

CASE IV.—A child, aged 4, who had pleurisy and pneumonia, was received in the hospital 6 weeks after the beginning of the present illness. The right pleura was filled with fluid, and on aspirating it was found due to pneumococcus infection. The seventh rib was resected in the midaxillary line, drainage-tubes introduced, and the child made a good recovery in the course of 6 weeks.

OBSTIPATION: ITS CAUSES, EFFECTS, AND TREATMENT.[1]

BY

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Obstipation is the term used by proctologists to denote mechanical obstruction of the bowel, and is preferred to the generic term of which obstipation is one variety. Accepting this definition, the causative factors of obstipation may be classified as follows:

1. Extravisceral	1. Retrouterine displacement. 2. The gravid uterus. 3. A uterine or ovarian tumor in pelvis or abdomen. 4. Hypertrophied or tumorous prostate gland.
2. Perivisceral	1. Sphincteric; (*a*) rectal reflex; (*b*) reflex from irritation of urethra, bladder, or prostate. 2. Cicatricials. 3. Tumor or neoplasm enveloping bowel and encroaching upon the same in such manner as to constrict its lumen.
3. Visceral	1. Volvulus. 2. A neoplasm within the walls of the gut. This variety, when located in the rectum, is usually associated with the fourth variety of the fourth class, namely, valvular.
4. Intravisceral	1. Intussusception. 2. Foreign bodies. 3. Fecal impaction. 4. Valvular, congenital or acquired.

Having thus classified our subject in a comprehensive manner, we are the better enabled to appreciate its prevalence, as well as its importance. Indeed, the effects of obstipation are numerous and varied and in gravity as varied as are the causative factors.

There is one effect, however, which seems paramount in importance, namely, autotoxemia. Scarcely one of us goes through a season without suffering with some form of gastrointestinal autotoxemia. Some of these attacks, it is true, are light and are called by those misnomers acute or chronic indigestion, biliousness, nervousness, neurasthenia, etc., while other more serious cases carry off the victim in a longer or shorter period.

Practically all of our socalled bilious attacks are caused by gastrointestinal autotoxemia, which could have been warded off by caution as to diet, coupled with a properly functionating alimentary tract, and I believe that the greatest number of these cases of intestinal autotoxemia are due to some form of obstipation. A vast train of symptoms may be the result either directly or indirectly of obstipation, among which may be mentioned pyrexia, rigors, sweats, dysentery, nervousness, neurasthenia, general malaise, mental apathy, sallow complexion, pain in abdomen or pelvis; in fact reflex pain or other symptoms referred to almost any region, in the abdomen, and especially to the pelvic organs and the pelvic outlets—mucous discharges, ulceration, intermittent or chronic diarrhea or dysentery. Now taking each series in the order given, I shall mention briefly the treatment indicated.

Extravisceral.—In displacement of the uterus it is well and generally understood that as a temporary means, the much used and abused pessaries may in some cases suffice. Some method of fixation offers the only permanent relief. Those cases produced by the gravid uterus should be only temporary, and simple means of relief will suffice. Should the case be due to uterine, an ovarian or some other tumor in the pelvis or abdomen, the method of relief naturally presents itself—extirpation. In previous articles I have referred to prostatic hypertrophy or a tumorous gland as being a causative factor of obstipation. If it be a tumor, of course the radical operation of prostatectomy offers the best result. These cases of prostatic hypertrophy can, however, be relieved by less serious means.

Some years ago I devised the operation of prostatic proctorrhaphy, and at a meeting of the Tri-State Medical Association of Mississippi, Arkansas and Tennessee, reported 9 successful operations for the relief of prostatic irritation and enlargement.

Perivisceral.—The first variety, which is sphincteric, usually is due to rectal reflex; for example, from a rectal ulcer or from a reflex irritation, either vesical or prostatic, resulting in tonic contraction and hypertrophy of the sphincters and levator muscles. Dilation will relieve the greatest number of cases due to tonic muscular contraction. The second variety, cicatricial—comprises those cases of obstipation which follow cases of peritonitis or abdominal operations, and adhesions between the viscera which bind and constrict their lumen. In this variety, as also in those due to sphincteric rigidity and hypertrophy, the first indication is dilation, which when in reach should always be preferred to section or resection. In those cases due to tumor or neoplasm enveloping the bowel and encroaching upon its lumen, but one means is offered for relief, resection.

Visceral.—Volvulus may be relieved early by replacement of the bowel by atmospheric dilation or distention. If, however, this should prove insufficient, abdominal section is indicated. When the obstruction is due to some neoplasm within the wall of the gut, it is usually associated with the fourth variety of the fourth class, valvular. Most of these cases are either syphilitic or malignant. Internal treatment by means of large doses of the iodids is first indicated, and later, section or resection. Colostomy may also be required to give immediate relief. For congenital constriction, when sufficiently pronounced to require treatment, it would seem that resection offers the only permanent relief. Displacement, which in these days of lacing and hideous dress customs, is the cause of a class of cases far more prevalent than is usually considered.

Intravisceral.—Intussusception may be diagnosed if within reach of the sigmoidoscope, and the closed sigmoidoscope of Laws and Pennington is preferably used, and the bowel inflated within the bounds of safety, while noting the degree of distention by means of illumination. If this does not suffice in returning the viscus from within itself, section should not be delayed, as procrastination here as in appendicitis cases means almost certain death. Foreign bodies should be dislodged or freed of fecal concretions and removed through a large proctoscope, if in reach; or located, perhaps, and removed through a sigmoidoscope; otherwise by the abdominal route. Impaction may be removed by means of water passed through the long double tube which I have

[1] Read before the American Proctologic Society, New Orleans, La., May 6, 1903.

devised. With this instrument a warm glycerin, soap, or other solution may be used for any length of time. The solution is run through the small tube and returned through the larger one. Fecal impaction, frequently associated with valvular hypertrophy, coarctation or fibrosis, is best treated with water through the instrument, as in dislodging foreign bodies. Later the cause should be sought and removed.

It was in the year 1830 that Mr. John Houston, of Dublin, first discovered and made known to the profession these valvular structures. Nélaton, however, coincidently described as the third sphincter the same structures, and during the half century following, their existence and functions, as well as their pathogenesis, were discussed pro and con by the ablest men in the profession. The scientific work of Martin, in 1896, and that of several other men in America, among whom I should mention Pennington and Evans, of Chicago, has settled for all time to come, the anatomic entity of these structures, and has proved their normal presence within the normal movable rectum of every human unless they have been removed by incision or atrophy. They have not, so far as my information goes, been demonstrated in the lower animals.

Though very warm discussions have been indulged in by different members of the profession in America the overwhelming confirmation and the corroborative evidence of anatomists have settled the discussion almost entirely of both their existence and importance as capable of becoming pathologic and pathogenetic. These structures are usually three in number (always, so far as my investigations go), attached on opposite sides of the bowel wall; not fixed as to relative position, but always dividing the rectum into either 2 or 3 compartments, forming a spiral tract. This spiral course of its cavity and the structures themselves are retardative, to a greater or less degree dependent upon their relative location, and the extent and condition of their structure. It is readily seen that while in their normal state and location, these valves or plicæ have and do perform a beneficent function; in the abnormal location or state they are capable of producing, and in fact do produce much unpleasantness, suffering and danger. Further, their position and function predispose to chronic inflammation.

Martin says: "The position of the obstructive valve and the character of its disease may be determined from the patient's symptoms," and adds also that "one skilled in proctoscopy may on inspection of the rectum, detail to the patient the history of the case without a word having passed on the subject." This, I believe, is quite true in most cases. However, I never arrive at conclusions in that way, and I know Dr. Martin does not. The condition of these valves, as portrayed through a proctoscope, shows quite conclusively what inflammatory processes have been gone through, and what may be expected in the natural order of things. Martin classifies these obstructions as follow:

1. Valvular obstruction below the rectosigmoidal junction.
2. Valvular obstruction at the rectosigmoidal junction.
3. Anatomic coarctation or congenital juxtaposition of the rectal valves; congenital hyperplasia of the rectal valve.
4. Hypertrophy of the rectal valve.
5. Fibrosis of the rectal valve.

I believe these valvular obstructions are prolific of more trouble than are all other of the causative factors in the production of obstipation, and that they may produce all of those effects which have been referred to as results of obstipation. However, one of the chief facts which I wish to express forcibly is that other factors may and do cause obstipation, or obstructive constipation, and a careful discrimination should be made before an operation is performed upon a supposed obstructing rectal valve.

NOSTALGIA AND MELANCHOLIA IN THE TROPICS.

BY

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Nostalgia and melancholia occurring among Americans in our tropical possessions will probably increase in quantity and interest, unless sojourners learn how best to live there, and when it is the proper time for them to leave the country for rest and rehabilitation in health. Among the early Spanish adventurers and settlers we find the same conditions existed, and the same results followed.

The conditions especially conducive to the foregoing diseases are isolation and its attendant monotony, the depressing conditions of climate, and frequent attacks of diseases peculiar to the tropics.

Most of the persons going thither to work are influenced largely by love of adventure and travel; the journey out and the experiences of the first few months being sufficient novelty to enliven the spirits. But when the novelty ceases, it is like the calm that occurs after passing out of the trade winds in a sailing ship, which is characterized as the "doldrums." But the incipient buoyancy of spirits and American push at once become a great menace to one's future health and the possibility of remaining in the tropics.

The early morning is more or less cool, and a person may begin work or travel as if to continue all day as at home. If he ventures forth without taking the precaution of wearing a pith hat or carrying an umbrella, the torrid heat of even 10 o'clock may produce a headache which is usually a burning sensation in the occipital region. This seems to be caused by the direct and radiated sheen of the sun on the optic nerve, when one is out of doors; but it frequently happens to one in the house, either from insolation, or the reflected rays of the sun from the sides of the house or windows.

I have noticed that the condition is liable to exacerbate with great atmospheric changes, as at the beginning and close of the rains, when there is alternate cloudy and exceedingly bright sunshine; and during occasional attacks of malaria, dengue, dysentery and other diseases. A diurnal subnormal, with a later slightly hypernormal temperature is especially conducive to melancholy in some persons.

The sensation seems to "crawl" over the meninges of the brain and cord "like an army of small ants," and if this condition is not checked the seeds of melancholia are already germinating. Nervous irritability with depression soon follow, or the mind becomes "muddled."

The nervous irritability may be manifest by incompatibility of temper. If a man is married and his wife is with him family jars are more frequent. If associated, with others in work mutual agreement will be more difficult, and not infrequently it happens that positive dislike and hatred develop toward warmest friends.

During the first few months home-friends correspond often, but later letters come less frequently, and a feeling naturally follows that one's friends have deserted him. This may cause the deepest nostalgia, and if it is accompanied by melancholia only an immediate return home will avert the direst results.

In the beginning, this feeling of nostalgia or depression may be diverted by recourse to books and periodicals and social games, but as the head grows more muddled and the irritability increases the mind cannot be concentrated, nor can one remember what is read. In fact, every effort increases the disease, and the person gives up all efforts for diverting himself and becomes entirely introspective. At this stage entire change of scenes affords the only hope of cure.

With individuals this change may be readily accomplished. If one lives on the plains a trip to the mountains, with its attendant climbing and horseback riding,

will often produce speedy relief. If one is fond of hunting, "a beat" in the jungles and the excitement of seeing and killing large game is very beneficial. And finally if these with other kinds of recreation do not avail insanity may ensue. Not infrequently either because the melancholia increases or the opportunity is better, during the first few days out at sea persons commit suicide.

With large bodies of men, as troops, a speedy or frequent change of place is not feasible. But individual cases should receive especial attention. Sanatoriums for troops should be placed at as high altitudes as possible, to which the several detachments may readily resort, where, with plenty of space, they may take abundant exercise without causing prickly heat and its frequent infection with boils.

The routine drill and discipline of camp may grow so monotonous as to produce nostalgia or melancholia. In order to counteract this, outdoor sports during the dry season, and indoor sports during the wet season should be enforced. In this event the tendency to throw off the *ennui* by frequent sprees would be lessened. Civilians should exercise even more than at home. A sedentary life with the apparently abnormal appetite in the tropics will soon stop up the emunctories, and the way is opened for a "liver" and an addled brain. The use of drugs in these cases seldom produces more than temporary results. Especially should a person be kept from administering his own medicines. I have known a sufferer to take 60 grs. of the triple bromids and several doses of a proprietary medicine in one night. I therefore conclude:

1. That Americans, owing to their strenuous mode of living and the depressing conditions of the tropical climate, are especially liable to nostalgia and melancholia.

2. That persons suffering from nostalgia should be watched, and when it is complicated by melancholia they should be advised to return home at once.

3. That sanatoriums at high altitudes, if not already provided, should be exploited at once for the recruiting of the health of soldiers and civilians. Only the government can do this.

4. That an especial effort should be made to educate all persons residing there as to the best methods of living for the preservation of health.

CASE OF POSTTYPHOIDAL INFECTION OF A RIB.

BY

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Many cases of posttyphoidal infection of the ribs have been reported. Keen[1] published a list of 40 diseased ribs following typhoid. Horsley[2] has tabulated a list of 48 cases, and adds, that "Many reports are in such a fragmentary state that they cannot be used for tabulation."

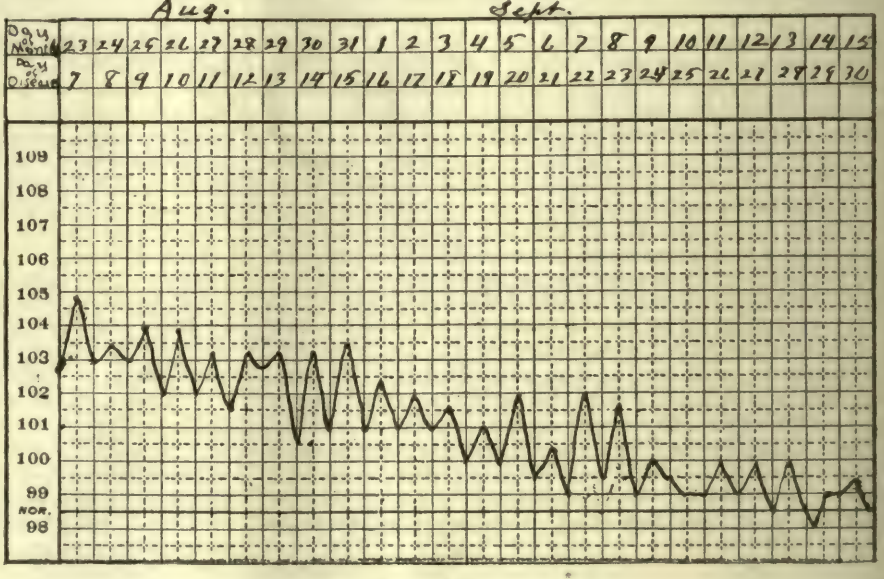
The following case, occurring in the service of Dr. Dudley P. Allen at Lakeside Hospital, is presented with the hope that it may be of value in future tabulations. Dr. Henry S. Upson has kindly allowed me to use the medical history of the case.

N. F., a Hebrew, male, aged 37, married, was admitted August 23, 1902, complaining of headache, backache, and fever. His family history is good. His personal history shows he had pertussis and measles in childhood, and gonorrhea 13 years ago. Five years ago he was operated upon for fistula in ano. He had malarial fever 4 years ago.

His present illness began one week before admission. Previous to this time he was well. The initial symptoms were chills, sweats, headache, and general weakness, followed in 2 or 3 days by loss of appetite and inability to be about his usual work. On examination the patient was seen to be well-nourished. Mucous membrane was of good color. The tongue was dry and heavily coated. Pulse was regular, of fair volume, not dicrotic. Heart and lungs were negative. Abdomen soft, not tender. Spleen was not palpable. Several well-marked rose-spots were seen on the abdomen. Temperature was 104.6° F., pulse 90, respirations 25. The urine was amber colored, acid, specific gravity 1,022, no sugar, a trace of albumin, a few hyaline casts and leukocytes. No diazo reaction.

Examination of the blood was made at various times as follows:

August 25: White blood count, 8,250. Widal negative.



Typhoid Chart.

August 28: White blood count, 9,400. Widal negative.

August 31: Test of patient's serum with the paracolon bacillus gave a negative result. Widal positive (1 to 10 and 1 to 50 dilution).

For a week from the time of admission the patient's temperature showed a daily variation between 102° to 104° F. During the second and third weeks there was a gradual decline of the temperature until the fourth week, when it became normal and continued so during the period of convalescence. The patient passed through an apparently uncomplicated course of typhoid fever and having gained rapidly in weight and strength was discharged October 11, 1902.

The subsequent history is as follows:

The patient said he experienced a slight pain in the region of the left lower ribs a few days after he left the hospital (October 11, 1902), and he noticed a slight swelling over the sternal end of the seventh rib.

About November 1, 1902, the swelling opened spontaneously and he came to the dispensary for treatment. The opening was enlarged and a small amount of pus evacuated. The patient continued to come to the dispensary for dressings. The wound, however, did not entirely heal, continuing to discharge considerably and causing severe pain at times.

On January 16, 1903, he was admitted to the surgical ward of the hospital. On examination a sinus, extending down to bone, was found on the sternal end of the seventh rib. Its opening was surrounded by a red, swollen area 3 cm. in diameter.

On January 20, under ether anesthesia, an incision 8 cm. in length was made over the sinus along the line of the seventh rib. About ½ dram of pus was obtained. The tract of the sinus was excised and the necrotic tissue about the rib, including some of the structure of the rib, was thoroughly cureted. The wound was packed with iodoform gauze.

In addition to this the patient also had an ischiorectal abscess, which was also incised and drained. Cultures from this abscess showed *Bacillus coli communis*.

[1] Surgical Complications and Sequels of Typhoid Fever.
[2] Annals of Surgery, February, 1903.

The wound over the rib was repacked daily and continued to granulate. On February 3, 1903, 2 weeks after operation, the patient was referred to the dispensary for further dressings, as there was still a slight discharge from the wound.

BACTERIOLOGIC REPORT.

A coverslip made from the smear showed a considerable amount of debris containing many pus cells, among which were a few small bacilli. A stain for tubercle bacilli was negative. Cultures were made upon the following media:

Glycerin-agar.—Whitish semitransparent growth upon the surface and a faint growth along the line of stab.

Glucose-agar.—A growth similar to that on glycerin-agar. No gas formation.

Potato.—The surface has a moist appearance but there is no visible growth.

Milk.—Slightly acid. No coagulation.

Gelatin and Blood-serum.—No liquefaction.

Bouillon.—A uniform cloudiness. Indol reaction negative. The bouillon culture was used in the agglutination test (2).

Coverslips from these cultures show a very actively motile bacillus varying in form, according to the medium on which it was developed, staining with the anilin dyes but not with Gram's stain.

Agglutination Tests.—In all the tests a time limit of 1 hour was used and the test was not called positive unless there was good clumping and cessation of all motility. Serum was obtained from the patient February 16, 1903, and gave the following reactions:

1. With a known typhoid bacillus:

1-10	Positive	10 minutes.
1-50	"	45 "
1-100	Negative—some motility after 12 hours.	

2. With the bacillus above mentioned (bouillon culture 18 hours):

1-10	Positive	5 minutes.
1-50	"	10 "
1-100	"	15 "
1-200	"	20 "
1-300	"	30 "
1-500	Small clumps, but slight motility.	
1-750	" " " " "	

3. Serum from a typhoid patient agglutinated the same bacillus (2) as follows:

1-50	Positive	15 minutes.
1-100	"	20 "
1-200	"	25 "
1-300	"	45 "
1-500	Small clumps, but still motile after 2 hours.	

It will be seen by the foregoing that the organism is *Bacillus typhi abdominalis* or Eberth's bacillus.

PATHOLOGIC REPORT.

The curetings were hardened in Orth's fluid and prepared by the celloidin method for microscopic study. The section shows a few bone trabeculas, the matrix of which takes a deep pink stain and contains numerous bone cells. One trabecula shows a light pink homogeneously staining matrix, within which are a few cartilage cells. The structure about the trabeculas is made up of a framework of connective tissue which, in some places, particularly between the marrow cells, is of a delicate type. The larger portion, however, appears as large bands of fibroblasts infiltrating and taking the place of the marrow tissue. Here and there are areas of marrow tissue showing cells of many varieties, including lymphocytes, plasma cells, mononuclear and polymorphonuclear eosinophiles, together with an occasional giant cell. Both the connective tissue bands and the marrow show a scattered, small, round-celled infiltration.

A few congested capillaries are seen in the marrow structure, also several large hemorrhagic areas which are probably due to traumatism. The remainder of the section is made up of granulation tissue, rich in newly formed and congested capillaries and showing large numbers of plasma cells, small round cells, a few eosinophiles, polymorphonuclear leukocytes, and red blood cells.

The process is evidently a chronic osteitis with the formation of chronic granulation tissue.

Stain for the bacillus in tissue: A section of the curetings was stained by the following method:

1. Stirling's gentian violet for 10 minutes.
2. Acetic acid, 1-1,000 for a few minutes.
3. Dehydrate in 95% alcohol.
4. Oil of cloves to clear.
5. Xylol.
6. Xylol balsam.

Microscopic examination of the section revealed a small, light-blue staining area near a small arteriole in one of the connective tissue bands. Within this area there were numerous deep-blue staining bacilli.

The foregoing data show conclusively that the case is one of a posttyphoidal infection of the rib producing a chronic osteitis with the formation of an abscess from which the typhoid bacillus was recovered in pure culture.

At the present writing, June 1, 1903, the patient still comes to the dispensary for dressings.

There are 2 small granulating areas over the junction of the seventh costal cartilage and sternum. There is still some discharge, and a small amount of induration in this region.

I am indebted to Dr. W. T. Howard, Jr., and Dr. L. W. Ladd, for reviews of this work.

SPECIAL ARTICLES

A STUDY OF SCHOOL HYGIENE, DEVELOPMENT OF CHILDREN, AND PREVENTIVE MEDICINE.

BY

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"In its various relations to the welfare of the human race," from the "view point of one who contends that the most potent factors inimical to mankind" result from certain conditions—conditions such as bad heredity, bad environment, and ignorance, conditions which prevent the normal development of the children born and reared under such detrimental circumstances—it behoves physicians, educators, parents, and legislators to demand that all children be given every protection and every opportunity to develop sound minds in sound bodies, to become ideal citizens.

An ideal citizen is one who is normal spiritually, mentally, morally, physically, and socially, *i. e.*, one who embodies a certain fixed standard of excellence—a standard which is generally accepted as right. In order to approximate such a standard of excellence it will be necessary that every child shall receive the education, environment, and physical training necessary for his maximum development.

Because of the unfavorable heredity and home environments of the many, the most probable means of eliminating the evils to which they were born, are the public schools of our country. For this reason our schools should be allowed more money to carry on their work. It is poor economy to put 30 or 40, or even 60 pupils, under the care of a single teacher.

Government should never lose sight of the fact that the degradation of a single unit of the whole, weakens and lessens its powers as a whole; that the best policy of any government would be to remove every barrier that tends to cause physical, mental, moral, or spiritual degeneracy in the individual. Moreover, the underlying principles of all governments should be to secure progress toward a higher civilization rather than to fill its coffers by ill-gotten gains—gains which are the price of injury to the individual, to posterity, and to the nation—at the expense of the protection which the individuals have a right to expect from the government.

One of the fundamental principles of government is to "secure to all persons the privileges of personal security and the right of protection, from the government." Indeed, the government of any people represents the sum of the civilization of that people.

Science has proved clearly that much of the disease and misery of the human family is avoidable; and when you think of the terrible cost in suffering, in flesh and blood, losses in the business world, in money value to the government of lives thus sacrificed, it would clearly seem to be the duty of the government to protect such lives from these perils—avoidable diseases and their unhappy sequences to the individual and to posterity. Furthermore, governments in countenancing these evils are violating their duties to their peoples; for, by their narrow spirit of commercialism, they seriously interrupt business and commerce, thereby, not only injuring the nation's prosperity, but also, they rob their own treasuries of fabulous wealth; moreover, by their indifference, or criminal carelessness, they help to destroy the health, happiness, and higher civilization of their peoples.

The preventable ills are legion; and they impose upon humanity countless evils which, under the right education and development of the child, for most part, should be averted and thus greatly add to the value of human life and its activities.

Let us stop for a moment to estimate something of the enormous loss each year to this government through disease. There are 70,000,000 people in these United States, of these, 10,000,000 will die of tuberculosis. According to Osler, there are always 1,200,000 people afflicted with this dread disease. It is estimated that each wasted life is worth at least $1,000 to the government. Thus the value of the lives lost each year by this disease alone would be upward of $10,000,000,000, and this does not reckon with the other physical disabilities—due to this factor, tuberculosis—of the offspring of such parents. The majority of deaths from tuberculosis occurs between the ages of 15 and 60—the most valuable time in any individual life. Then consider the many other diseases which, collectively, claim a much larger number of victims each year, and you will form some conception of the enormous losses to this government through disease. It is estimated that England, in 10 years, more than recovered the $600,000,000 which she expended to promote the public health.

Disease is a terrible curse visited upon the human family for living out of harmony with the laws of health. The dread specters which follow in its wake are the partial or permanent disability and the sufferings of the individual, together with the tendency to degeneracy and crime in succeeding generations.

In a large measure it is the province of physicians to be the public guardians for the eradication of preventable diseases and their attendant evils, to influence public opinions, public sentiments, and public actions in all questions pertaining to the health and education of the people. It, therefore, becomes their imperative duty to make the public familiar with the cause of disease, degeneracy, and crime, and with the important measures for their eradication and prevention. To this end, child study, paidology, the science of human development—from the germ plasm to the adult life—and preventive medicine, together form a mighty trinity, which should be inseparable in their application to the education and development of children.

Every human adult is a composite result of heredity, prenatal influence, and environment; and the evolution of an individual from the ovum is but an epitome of the race.

Some physiologists claim that it is impossible for an individual to acquire new brain cells after the third month of fetal life. It is possible, however, so to develop these cells that they will reach to their maximum, because mind develops in exact ratio to man's structural development. To develop an individual, we would first strengthen the motor nerve paths which develop first. This result is brought about by physical as well as mental activity, for the stimulation of the one cell-group leads to the stimulation of more or less remote cell-groups, and is caused by contraction of the nerve dendrites; thus stimulation results in physical or mental activity, or in both, by which means physical and intellectual development are acquired.

The development of nerve cells, like other cells, is brought about gradually by education and training. The use of any organ or cell improves its circulation; hence its metabolism is improved and growth occurs, if the process is not pushed to the point of exhaustion.

It must not be forgotten that education is a primitive physiologic process, and is accompanied by a definite development in the size of the brain cells and by an increase in the length, complexity, and number of their dendritic fibers. So, too, the proper increase of the brain in intellectual activity strengthens its powers and preserves its functions. In broadly educated adults, the brain cells, in all their parts, are very much developed; and the intellectual powers of such individuals may be greatly taxed without producing serious effects to their health.

The criminal, the degenerates, and the incorrigible are born with deficient cell development, and the problem in preventive medicine and education is how to develop their brain cells to such an extent as shall give them self-control and the normal impulses.

There is a very close connection between mental and physical development. Hence, it is the urgent duty of all those in authority to provide the necessary conditions of good hygiene and good nutrition that every child may be allowed to develop to his maximum. Oliver Wendell Holmes has said that "in order to treat a child successfully we ought to have begun 200 years before it was born."

When we consider that the progress and the vigor of nations depend largely upon the education and the environments of childhood and youth, we realize that no other subject is of such vital importance to mankind as the education and the hygiene of the developing child. Thus the science of human development becomes preeminently the role for preventive medicine; and the care and education of the children is the field wherein it shall find its broadest scope for permanent and far-reaching usefulness to mankind. Preventive medicine must guard the lives and education of children, so that future generations may not suffer from our neglect of imperative duty.

Preventive medicine is a term used to denote the practical application of the fundamental principles of the medical sciences. Its interrelations with the problems of the business world, of criminology, of sociology—especially the education and the physical development of the child—are extremely intimate and important.

For the year ending June 30, 1900, there were 15,341,220 school children enrolled in the common schools alone of our country. In addition to this, there were large numbers in the higher institutions of learning and in the private schools of the country—an enormous host, the citizens and law-makers of tomorrow, who are receiving the education which shall determine their usefulness or harmfulness to society and to themselves.

The educational ideal should be the training for citizenship. Such a training should have for its fundamental principle, sanity, unselfishness, efficiency, common honesty, simplicity, rather than extravagance, economy, responsibility, moral, social, and political integrity, with the final aim of giving them sound common sense, and of putting them in good relations with society.

Education should be characterized by breadth in elementary principles. Every child should have a knowledge of the fundamental principles governing the essential and unavoidable conditions of every human life. They should be carefully and wisely instructed concerning their responsibilities as individuals and as future parents; they should be instructed in public and private hygiene, in domestic science, including physics, elementary chemistry, botany, the preparation of food, dietetics, and home nursing, all of which are of the utmost practical importance to every individual life. These studies, together with reading, writing, arithmetic, grammar, and geography, are sufficient to enable the average human being to get on very comfortably; hence, any instruction in other branches is a superfluity that had better be dispensed with, should lack of time crowd the other branches out of the public school curriculum.

Do not misunderstand me in this; I believe that if a little education is good, profound education is even better when it can be utilized for the pleasure or profit of the individual and society. But as all can not have the capacity or the opportunity to acquire a fine education, as each and every one has certain common necessities incident to life itself, all should receive school instruction along those lines which pertain to the unavoidable and necessary conditions of life. This is one of the *absolute, civil rights* that every child has a right to receive. As the majority of children do not go beyond the grammar school, these branches should be put in the primary and grammar departments.

Such education is essential to race continuance. Individuals and race preservations are necessary to society, otherwise society could not exist. From this standpoint, at first thought, the higher education, the mental, and the spiritual needs of the individual would seem not to be imperative. But such is not the case; the soul of man had come to recognize that the principles of *good* characterize the progress of intelligence, evolution, and civilization.

Thus the education and the change of environment which

the public schools should give the children, contain many possibilities for their all-around development. Great moral lessons are inculcated through the power of suggestion. Teachers, school buildings, preventive medicine, and the general intellectual training, all should assist in an unconscious education. This unconscious education gives direction to a child's mental bias, and will lead to the ultimate adoption of some ideal.

The development of character is largely influenced by disease, heredity, and the ideals of life held in childhood and early youth. For this reason, the education and the physical development of children upon a scientific basis should become of paramount importance to the nation.

Teachers should realize the importance of the work entrusted to them. They should make the education of children a science as well as a profession. They should be sympathetic, resourceful, independent, original in thought, observation, creation, and reformation. They themselves should embody that standard of excellence which should represent the school ideal. Their very personalities should give out a salutary influence which shall be absorbed by their pupils and which, unconsciously, shall fix upon their young minds the determination to excel in the same esthetic, intellectual, and moral qualities. Such an influence would be of incalculable value to the pupils.

School boards should not be political machines, they should be chosen for their broad educational qualifications. Indeed, every school board should be a special educational committee selected for their fitness for the office. The ignorance of the average school board concerning the needs of children and hygiene is appalling. Every year their ignorance causes incalculable sufferings to children, with more or less permanent injuries to their physical and moral health. So, too, they waste millions of dollars which would go far toward the establishment of better school conditions.

At present, unfortunately, there is no redress to parents or children for the preventable injuries which the latter receive during school life from the unhygienic conditions to which they, by law, are compelled to submit, or for the deaths due to the same general causes—the municipal or departmental neglect.

When certain definite results are demanded by the public from the school management, anything inherently at war with better school conditions will finally be discarded. The battle for the higher results in our school system is the noblest battle for liberty which we can wage. The measure of our national progress is the time it takes for our people to recognize and utilize scientific truths in the affairs of life and to realize that upon the general development of our children the happiness and prosperity of the future depend.

The developmental stages of human beings have, for convenience, been divided into, (1) embryonic; (2) fetal; (3) infantile; (4) childhood; (5) adolescence. The responsibility of the embryonic stages of development necessarily must rest with the parents. Although, even here, the science of preventive medicine may exert a beneficial influence upon the life of the new being by keeping the mother in physical, mental, and moral health, and by enlisting her intelligent cooperation in behalf of those conditions which exert a wholesome prenatal influence upon the developing plastic brain cells of the embryonic child. Physicians should teach the young wives who come under their care the importance of a right knowledge of these matters.

The second stage of development, fetal, is probably the one of least responsibility. Here, too, preventive medicine may find a useful role in maintaining the normal health of the mother, in keeping her from overwork, and from those habits which are known to have a deleterious influence upon the unborn child.

The third, or infantile stage of development, is an important one, as errors in the personal hygiene of the infant are likely to cause permanent injury to the health. Physicians should instruct the mothers in the moral and physical hygiene of the developing child. The period of dentition is one of stress and, therefore, correct habits should be formed. There should be an abundance of pure air, sunlight, and sleep. The child should be kept clean, warm, and dry. The lesson of obedience and self-control should be taught from birth. The diet should be the mother's milk, if possible, or that which most nearly approximates its needs. Its food should be carefully regulated as to the quantity given, and length of intervals between feedings. Any departure from the normal health should receive immediate and careful attention and all preventable conditions which affect the child unfavorably should be removed.

During childhood great strides are made in physical and intellectual growth. From the second to the sixth year of age the child does not develop rapidly. There is a struggle for existence due to the development of the alimentary and other systems. It is a period which should be characterized by simplicity in education and living. The personal and home hygiene should be ideal. Strenuous and exacting work is counterindicated. Gymnastics should be of the most elementary character, approximating most closely to spontaneous play.

Just here we will do well to stop and consider carefully the usefulness of the kindergarten system of education. At the outset, I would say that, when the home environments and heredity are vicious, the kindergarten fills a most useful place in our school system; but, when the home factors are all good, the average kindergarten training is rather harmful than beneficial. Indeed, for the children of the poor, a well-conducted day nursery, where the health of the children is under the supervision of a trained nurse, and the amusement under the direction of a competent kindergarten teacher—one who thoroughly understands the principles of physical culture and kindergartening—is much to be preferred to any regular kindergarten. The reason for this is obvious. Children of such tender years as the kindergarten age are not physically adapted to much of the work taught. This is especially true in regard to the organs of sight and hearing. The paper-cutting and fitting, the making of paper models, or clay models is not so objectionable, but the pricked cards which the children sew with colored threads, often scarlet in color, which is especially trying to the eyes, the paper pasting, etc., all strain the eyes and tend to cause myopia. Then there may follow a whole train of abnormalities from eyestrain, for which the careful parents cannot account. For instance, they do not know that the hysteria, headaches, lassitude, granular lids, and malnutrition may be the direct result of eyestrain.

The attentive following of the leader in the games, or plays and songs is very fatiguing to the little brains; more than that, many of the games consist of a circular, winding sort of march, which is contrary to the principles of physiology and very fatiguing to the brain powers of children. Another objectionable feature is that the children are too young to protect themselves from needless exposure to disease. They will drink from the same cup, play with hand clasped in hand, and during the marching, breathe in great draughts of air that is germ and dust-laden. The wonder is that more of them do not succumb to disease. No child should be admitted to a kindergarten without a physician's certificate of health.

The question will naturally be raised as to whether the kindergarten age cannot be utilized for school purposes with benefit to the child? Certainly, under proper medical supervision, and under proper educational methods, this can be done. The emphasis of the work, however, should be physical development under natural methods. Much of the ethical and moral teachings of the present kindergarten system are most admirable. The fault is that it requires such close attention, that the children become over fatigued.

There is every reason to commend the out-of-door kindergarten work in pleasant weather. Nature study in outline could be taught. Children would thus be trained to observe closely and to think for themselves—a most valuable education. Besides, stories in natural history and in other subjects could be related to them. Afterward, they should be required to repeat the story in their own words—a valuable exercise for the cultivation of memory. In this way voice defects could be noted and proper voice culture instituted. Language can be taught by using it correctly. Singing is more often injurious than of value, inasmuch as the voice is so delicately organized. For example, if a child is allowed to sing in a pitch unsuited to his voice, it overstrains the muscles of the larynx and, by suddenly increasing the tension, it changes all the relations of the

parts, and is likely to cause sudden failure or cracking of the voice, which is a permanent injury.

In the place of the work which tends to induce eyestrain, the principles of home-making and domestic science could be taught. The children should lay the table, make the bed, sweep the floor, wash the dishes, etc. Simple lessons in various sciences can be made a constant source of delight. It is surprising how readily their little minds will group scientific facts. Then, too, they could have simple lessons in personal and public hygiene. In this way very young children can acquire much general and useful information without overtaxing the special senses of sight and hearing; and, by a frequent change in their mental activities, they are much less easily fatigued. The kindergarten should be a place to educate young children to freedom through self-activity.

The period of second dentition, from the sixth to the twelfth year, is another important epoch in the life of the child. It now suffers from the errors in the personal hygiene of its infancy and earlier childhood. The child may become irritable, overly sensitive, apprehensive, very susceptible to external impressions, and have a capricious appetite. During this period its physical welfare should be most carefully and intelligently guarded. Strenuous and exacting work is still counterindicated. Gymnasium work should be elementary in character and the pupil should only be allowed to exercise in moderation. Children should not be made to read before they can articulate most of the sounds. A thoroughly competent elocutionist should supervise the reading of children.

From the ninth to the sixteenth year is the period of most rapid growth in height and weight. Sexual development begins. From now until the pubertal change is fully established there will be manifestations of physical, emotional, and intellectual turmoil, characterized by the various neuroses as: Hysteria, chorea, epilepsy, somnambulism, neurasthenia, neuralgia, romancing, cardiopathies, gastric, hepatic, renal, vesical, genital, metabolic, pulmonary trouble, convulsions, nervous laughs, nervous coughs, anemias, deformities, etc. The neuroses may be of a purely psychic type, as: Hallucinations, ecstasy, delusions, night terrors, idiocy, imbecility, the various types of insanity, stupor, love, jealousy, anger, hate, theft, rape, arson, homicide, suicide, alcoholism, and the various forms of mental disturbance other than insanity. There may be periodic headache, capricious appetite and muscular twitchings.

From the ninth to the fourteenth year the work should not be such as will overtax the mental or physical powers of the child. This is preeminently the period for moral training. It is the time when broad educatioual influences are most needed. The children should be kept busy and happy. If the acquisition of acknowledge is not made too disagreeable the natural inquisitiveness of children will make them love knowledge for the pleasure it gives them and they will grow to love their school work. Bribery, material rewards, and prizes should be abolished from all schools; and examinations at stated intervals should be superseded by better methods for ascertaining the children's progress. These are a prolific source of evil, especially to the moral natures of the children. A nobler ideal should be fostered. The higher motive, working for the love of knowledge should be instilled into their minds.

Inhibition, to sit still and hold muscular movements in check, is one of the first lessons of school life. Unnatural order should be dispensed with; and the children allowed all the physical activity and whispering compatible with the best results.

"The School City" system—a system which teaches children the principles of government and leaves the school discipline largely with themselves—is most commendable. It puts them in relation with the natural conditions of society which surround them; it teaches them their social and corporate relations; in their capacities as independent beings; it trains in themselves the sources of action in their thoughts, desires, personal habits, and feelings—all of which affect their health and also the welfare of the community. Moreover, it teaches them self-regulation and control—fundamental principles in education. During the changing of the voice, singing should not be allowed, but voice-culture, under a competent teacher, should be instituted in its place.

As the period of most rapid growth is followed by one of comparative exhaustion, the work in high schools should be arranged with great care and not be too heavy. The home life of pupils should be normal, and social life, with its late hours and excitements, prohibited.

The questions are often raised, "Shall the education of the two sexes be the same?" "Shall we have coeducation?" To both questions the answer is emphatically "Yes!"

The object of schools should be education—broad education—to develop the untrained forces of youth, to render such aid that the pupils shall become useful citizens, to help evolution along—not to retard it. Schools, especially the higher institutions of learning, should stand for evolution, for the study of nature in all its manifestations, including man. The scope of both the teachers and the pupils should be so broad that the only limitations to study should be the financial or the purely individual and human limitations. Children should be educated according to their future occupation. Any specialization in education should be according to natural inclination or future necessities, in the type rather than in the sexes.

The question of sex limitation in the school is a forced and unjust one. The question of sex should not be emphasized. One of the greatest causes of our social evils is the over-sexing of boys and girls—men and women. Indeed, throughout all nature, the sexes intermingle from birth to death. It is the normal condition. Human society alone violates the natural order and arbitrarily fixes the limit for the female sex to observe. The result has always been disastrous to the welfare of the whole human race; inasmuch as it creates and transmits an abnormal sexual impulse in both sexes, especially in males, and the abnormally developed sexual impulse, backed by an undeveloped or selfish will, spreads disease and crime wherever man is found. The most serious question physicians have to meet is not the over-education, but the over-sexing, of the race. Normally, youth generates energy, "animal spirits," in excess of physical needs, and this energy, if misdirected, is the prolific source of evil, especially with the inherited abnormally developed sex impulses, which in early youth are uncontrolled by the will and judgment of more mature years.

Education, in a properly-conducted school and under normal conditions, utilizes these energies for the good of the individual. It creates an interest, an all-absorbing desire for knowledge of some sort, and, more than that, it directs the mind away from dwelling upon sexual impulses, an advantage to the developing child or youth, which more than compensates for the disadvantages of the present system of education.

It is an easy matter, according to their physical ability, to regulate the amount of work for any given pupil; and in the ideal school the danger of permanent disability from overstudy can be rendered practically nil. It is better for girls, and for society, to have their surplus energies expended in acquiring an education—let it be as broad as life itself if they so choose—because of transmitting better tendencies to their offspring, than for them to live the life of careless ease and semiidleness, which fosters sexual unrest, sexual excitement and unchastity, with its train of attendant evils; nor is the strain upon the health of the individual so great as in the latter instances. This danger is not visionary. There are more than 300,000 girls and women in the United States who are openly leading a life of prostitution, and probably as many more who, secretly, are leading an unchaste life. These women represent an enormous army of fallen boys and men. When we stop to consider that there are about 730,000 of our boys who become young men every year, the question of chastity and sexual hygiene becomes a very necessary problem, especially when we have full knowledge of the terrible consequences in disease and crime which result from unchastity.

There is another reason for giving girls a broad education. It makes the drudgery of home so much more easily endurable. If a woman has studied science, she is gratified to find how interesting that knowledge becomes when she applies it to household uses. She becomes a veritable queen of her home, because she can command its forces—rather than the unreasoning drudge who accomplishes a definite amount of work in a

given time. The broader a woman's horizon, the better it will be for herself and for posterity. The liberally educated women are the model mothers of today. Look about you with an unbiased mind, and you will see that this is true. In depriving woman of any chance to promote her higher development, we not only strike a tremendous blow against the bulwark of womanhood itself, chastity, but the reaction must be felt by her father, brothers, sons, husband, and society itself.

After all, it does not greatly matter whether girls or boys fail to acquire the highest scholarship. A great work will have been accomplished in training their minds and energies in the upward evolutionary cycle of the social ideal. That alone will be of benefit to their children after them. It matters little, so that the world's great work is ultimately done, whether it is man or woman who does it. All cannot do great work or the same work, although all may be benefited by the special education which makes such work possible. All physicians cannot be surgeons, yet the special knowledge of the surgeon is equally valuable to the physician in his practice. Any specialization in education should be according to natural inclination or future necessities—in the types rather than in the sexes. Thus it can be seen that from the beginning of sexual development until the twenty-first year, when the power of self-control, voluntary inhibition of natural impulses has been acquired, school work under right hygienic conditions is of incalculable value to the individual. In healthy, well-developed children, sexual impulses develop early. Its full satisfaction, however, is injurious to the perfect development of their physical and normal organism, which thereby is hindered from the normal evolution. Therefore, young people should grow to full development of their physical and moral organism before they indulge in sexual pleasures. To this end, after the awakening to activity of the generative functions, a normal sexual hygiene should be instituted. At this age uninhibited sexual impulses are likely to lead to vice and crime. Masturbation is the most frequent form of initiation into vicious practices. Some of the causes which bring about masturbation are: sitting for hours, especially with legs crossed; obscene jokes, pictures, and exhibitions, since they arouse the unstable imaginations of the young; too acid urine; long retention of urine; climbing poles and ropes without taking proper hold; eczema; vermin; and, last but not least, the kinds of foods taken. The dormitories of boarding-schools and colleges should have an effective supervision. Masturbation has a degrading influence on the moral character and is often the direct cause of certain disorders, usually nervous exhaustion from loss of sleep. Thus it becomes necessary to substitute bad habits with good ones—hence the great value of the proper educational influences.

The sexual hygiene should be such as to affect the whole life of the youth. The food, clothing, amusements, society, books, physical exercises, work, the care of the genital organs, all should have intelligent supervision, and should direct the attention away from the genital sphere. Educators should realize the importance of this subject, and direct special attention to the eradication of such evils as naturally arise from these causes.

The adolescent stage of development has been termed "the golden period of life when the faculties of both soul and body reach their acme." It is the transitional period when youth begins to look out upon society with the dawning insight of maturity. It is the time when childish illusions are dispelled. It is the time for college work. The pupils should now be able to take full gymnastic work and to carry on a fairly heavy course of study without injuring the health. Girls should be exempt from gymnastic work and other heavy physical effort during the menstrual period, lest they bring about pelvic disease. Enthusiasts are likely to neglect this precaution for the welfare of female health. The gymnastic ideal should be to develop a splendid physique, a sound condition of the body, which is the uniform development of the organism in all its organs and parts. There should be a perfect adjustment of structure to function, a conservation of energy which shall protect the individual from unnecessary loss of energy and strength through the necessary activities of life. It should create a perfect metabolism, *i. e.*, nutrition and waste should balance each other.

Colleges are merely secondary schools and should not make any pretense of being a university. They should have a high standard of excellence socially and educationally. Their tendencies, altogether, should be wholesome, and they should observe the same moralities, civil, and social requirements as rule society at large. Their work is only suited to adolescent powers, and those who have arrived at adult age should not be admitted. This is especially true of men. Inasmuch as men have attained their physical, mental, economic, and political emancipation, and because of their different outlook, they naturally tend to introduce unwholesome elements into college life. So, too, college societies should be in a measure prohibited, because they serve to excite social jealousies and to lead to extravagances which it should be the purpose of the college to curb. Therefore, colleges having the adolescent stage of human development in their charge, should insist that the pupils practise those principles which are fundamental in life. They should insist on integrity of purpose, personal and financial responsibility, and economy. The pupils should be held accountable for their use of money, and any extravagance in the superfluities of life should be checked by increasing the cost of their intellectual training. This would serve the double purpose of limiting their needless or harmful expenditures and of increasing the college endowment.

The training in college, if begun too early in life, should reckon with the fact of the physical exhaustion which follows the period of rapid growth, and such pupils should not be pushed too rapidly. It should develop the pupil intellectually in such a measure as shall conform to the perfect physical standard, *i. e.*, there should be a vigorous and balanced nervous system and a harmonious relation between the physical and mental activities. Ethically, the training should so fix the principle of self-control that the student shall not depart from the established ethical standards universally recognized as the right rules of life that he shall not only respect the social ideal, but will also have the courage to maintain these principles under any temptation; finally the college life should complete the training of the primary schools in the development of the ideal citizen.

School janitors, like teachers, should be required to qualify themselves for their position. They should have a general knowledge of the sanitation and hygiene of the school building and the grounds. The reason for this is self-evident. Upon their efficiency the health of the school, in a large measure, depends. The hospital training of the male nurse is probably the best place for janitors to get the special training needed for such a position. The duties of the school janitor are manifold. He has charge of the heating of the building. He should keep the temperature constant at from 76° F. to 80° F. for young children, and from 72° F. to 78° F. for older children, according to climate; and the air moist; the neglect to keep the air moist renders the nasal mucous membrane unhealthy; the secretions become scanty and the mucous membrane dry, parched, and fissured. In this way the dust is not eliminated in the normal manner. Then, too, there may be an adherent crust formation which tends to crack or to be torn off, leaving abraded surfaces—an opening for germ infection. Erysipelas, boils, anthrax, and other microbic diseases are very likely to be started in this way. If the building is overheated it causes headache, lassitude, and exhaustion. The children cannot do the same amount or quality of work in a high temperature. Then, too, there is danger in suddenly cooling the room, as this tends to develop croup, bronchitis, quinsy, pneumonia, etc.

The ventilation of the halls and basements is the work of the janitor. In city schools this is important, inasmuch as the lavatories are usually in the basements. He should see to it that not only these places, but also the whole building should have a constant and abundant supply of fresh air.

The care of the lavatories is an exceedingly important matter. They should be kept thoroughly clean, free from odor, and disinfectants should be freely used every day. In one school a girl, who had contracted gonorrhea by means of the water-closet, infected all the other pupils.

The care of school rooms, halls, and basements cannot be too thoroughly emphasized. When we consider the homes from which many of the children come—homes which are the

hotbeds of disease and filth—and how these children will bring in their clothing the germs of disease, we must know that, for places rich in pathogenic bacteria, none other can, probably, equal or compare with the average school room.

Every year adds to our knowledge of the dangers from dust. Already there is a long list of the known dust-borne diseases. The germ of disease especially likely to be found in the dust of schoolrooms are those of typhoid fever, cholera, streptococci, pneumococci, diphtheria, diplococcus intracellularis, the staphylococci of suppuration, and the tubercle bacilli. There are also molds, chromogenic bacteria, the spasm producers, such as anthrax, tetanus, malignant edema, etc. In addition to these, there are organic impurities from the lungs, skin, and clothing of the children which disintegrate into poisonous volatile substances. Imagine the exhalations and conditions of the skin of children who only take baths in the summer months, or not at all! In health, the skin is the host upon which numerous microbes prey. Taenzer found 80 species of microbes in the crust and discharges in a case of eczema.

Many of the microbes are capable of causing boils, carbuncles, anthrax, sycosis, alopecia, alopecia areata, and acne; and there are also the parasite skin affections. Other germs cause such diseases as scarlet fever, diphtheria, smallpox, measles, mumps, whoopingcough, chickenpox, german measles, pneumonia, typhoid fever, cholera, plague, tuberculosis, the bacterial eye diseases, etc. There is an enormous dissemination of bacteria from the mouths of school children, taken collectively, in speaking, reading, coughing, etc.—toxic products which are dangerous to health. Such impure air causes anemia, debility, etc.

Think of it, what a list of preventable ills for children to suffer—and which may find their inception in the dust of school rooms! Even if the dust of school rooms was free from disease germs it would still be a menace to health, because it is capable of acting as mechanical irritant to the bronchial mucous membranes and to the conjunctiva. Dust is an enormous factor in respiratory troubles. It should be remembered that the children of tuberculous parents are especially prone to suffer, owing to their weakened immunity to the inroads of disease.

Because of the serious menace to the health of children, and to the health of the public in general, the school buildings should be kept immaculately clean. The floors should be kept oiled with "dustless oil." This is a sanitary measure of great importance as it prevents the pores of the wood from becoming germ-filled. If the floors become gummy they can be cleaned of the superfluous oil with gasolin. The windows and the interior walls should be kept clean and free from dust. There should be daily moist sweepings of the school rooms, halls, and basements; and they should be thoroughly scrubbed at least once a week. Every Friday night, after school is closed, the rooms should be thoroughly disinfected with formaldehyd gas. On Saturday morning they could be opened, swept, dusted, and scrubbed. This would give ample time to dry the rooms thoroughly before the following Monday. Of course this would imply that a fire would need to be kept all the week. School boards would usually consider this plan one of reckless extravagance. Trial is cheaper to the nation than disease. Let any school board disprove this statement if they can. Then there is the insect danger, from spiders, flies, mosquitos, fleas, bedbugs, and body vermin, that should come under the care of the janitor for eradication. It is a wellknown fact that many diseases are carried from place to place and from person to person through the agency of these pests.

The teacher should have a much more thorough knowledge of physiology and hygiene and of the practical application of these principles. First of all, as to hygiene, the teacher should insist on having a clean school room. Public sentiment can be relied on to back any teacher against any school board that opposes such a demand. The children should be required to be clean. If they come to school dirty, they should be sent to the bathroom or lavatories to make themselves presentable. If no provision is made in the school building for lavatories and shower baths, they should be sent home, nor should they be allowed to return until they are clean. The lesson of personal cleanliness is one of the fundamental principles in education. It is hard to instil moral truths into a dirty child. Nothing truer was ever said than, "Cleanliness is next to godliness."

Steam or hot water are the best methods for heating school buildings. Any system used must provide against irregularities, *i. e.*, the required temperature must be constant and the ventilation must be perfect. The ventilation should be carefully looked after by the teachers also. There should be no draughts, and the room should be kept at a uniform temperature. There should be standard thermometers in the various parts of the room and the children should be taught to make hourly records of temperature. Blackboards should be cleaned with wet sponges, as the dust acts as a mechanical irritant to the conjunctiva and the respiratory mucous membranes.

Children should not be allowed to expectorate on the floor of the school building. They should be advised of the necessity for keeping the scalp clean, and required to shampoo their hair frequently. They should also be taught the importance of keeping the teeth clean—the teeth, tongue, and mouth, are breeding places for pathogenic bacteria. Miller made a culture of the bacteria found in an unclean mouth, and estimated that the number of cultivatable bacteria was 1,140,000,000.

By kindly talks to the pupils much of the home life may be improved. Children will very often heed advice when they understand the reason why, but, like older people, they resent blind coercion. They should be impressed with the importance of sleep and that they should have abundance of it. Less sleep is needed in hot than in cold climates. The bed-clothing should be light and warm and the bed moderately hard. Social life, which deprives them of the necessary sleep, should be absolutely prohibited as it probably does far more harm than an excess of school work. For this, and for other reasons, school societies should be abolished from the public schools.

Pupils should not be required to think too quickly or to speak too loudly. They should not be allowed to shout, because of the injurious effects of the vocal cords and to the hearing of other pupils. They should be advised as to the proper clothing. They should know that if they fail to remove their rubbers it may cause them, later, to suffer from corns, bunions, and chilblains. They should be told that they must not remove their rubber mackintoshes too soon after active exercise, because they are likely to be perspiring freely and to take cold easily. They should be taught correct habits as to attending to the various bodily functions, nor should they be refused permission to go out "when necessary." If there seems to be an abuse of the privilege the child should be referred to the family physician to ascertain if there be any physical cause requiring treatment. This would be a measure which would prove effective in the case of a "nuisance."

Lunching during intermissions should be permitted. When there are 2 long school sessions, 2 hours at noon should be allowed, that the children may have time to digest their food before they return to their studies. After a full meal the blood should not be turned away from the stomach until digestion is nearly over.

The diet of children is very important. It should be plain, wholesome, and well cooked. The meals should be substantial, regular, and easily digested. Tea, coffee, condiments, and alcoholic beverages should be prohibited. In healthy, well-nourished children, meat should be sparingly used. Meat, eggs and milk should never be permitted at one meal. Inasmuch as the urine of children is more acid than that of adults they need an abundant supply of good water to dilute the urine, and to make it less irritating to the delicate mucous membrane and nerves of the genitourinary system. Candy and sugar in moderation should be allowed at meal times for dessert; but children should not be allowed to lunch on sweets at any and all times. An excess of sugar will ferment in the stomach and form alcohol, which is then broken up into acetic acid, which impairs digestion. Bathing and violent exercise should not be allowed for 2 hours after any meal.

There should be a recess in the middle of the forenoon and afternoon, and between each lesson, a 10-minute intermission. At these times study or gymnastics should be prohibited. These intermissions are for the important purpose of resting the body, mind, and eyes of the children, and nothing more serious than play should be permitted.

The question of 1 or 2 school sessions a day is a weighty one. Undoubtedly a morning session is better than 2 sessions, providing the intermission between each study is extended to 15 minutes, during which time the children may lunch if they so desire. There should be long vacations during the warmer months of each year, and the school term should be interrupted at Thanksgiving, Christmas, Easter, and in May by vacations of several days' duration. The rest thus afforded will be more than compensated by the improved physical condition and work of the pupil.

Mental fatigue and nervous exhaustion should be guarded against as much as possible. For this reason children who have received double promotions should be carefully watched. Owing to mental fatigue, afternoon work is particularly injurious to the brain of a child. The arrangement of the studies should be most judicious, and the work which taxes the child's mental and physical powers most, should be given when he is in the best physical condition. Mathematics have been found to cause great fatigue, hence this study should come first in the day. It should be followed by some easy restful subject, as history, geography, or nature study. After the morning recess modern languages, which occupy the middle place for fatiguing power, should come, and these should be followed by some lighter study. Much of the lighter work should be postponed for afternoon. Such an arrangement allows the child's recuperative powers to come to his aid most successfully.

Singing and drawing make great demands on his strength. Drawing should not be given under the age of 10 or 12, as it is too great a tax on the eyes of young children. Music, as given in the average school, is a very questionable study, especially to those who lack musical ability. It should not be a compulsory study, and should at all times be under the supervision of a well-trained musician. Children of different ages should not be allowed to sing together. They should be arranged in groups, according to the parts which they sing. Singing in subdued tones should be insisted on, and the pitch should be suited to the voice, otherwise, the muscles of the larynx and of the vocal cords are likely to receive serious and permanent injury.

From the inception of puberty to the seventeenth year, children should be excused from singing, or if singing be permitted, special care should be exercised. This is particularly necessary during the period of voice change, and until the transition is complete. The pupil should stand correctly while singing, nor should the chin be lowered or raised in singing low or high tones. Long-continued standing is exhausting, hence the singing lesson should be broken by breathing exercises and intermissions. Singing, being naturally an exhausting exercise, the children become overheated, and should be allowed time to cool off before they leave the room. For this reason the temperature of the room should be lower than usual. Finally the air should be especially pure and dust-free. As the average school room is usually a very dusty place, the respiratory tract of children very delicate and irritable, and the musical training of an inferior order, it would seem that vocal music is largely if not altogether injurious to the health of children.

Gymnastics are only of value in physical development when properly given. This requires a well equipped, well ventilated, and clean gymnasium, and the exercise to be followed by a shower bath and a change in clothing, all of which are impracticable in our present school system. The abuse of gymnastic work is very likely to occur, and is injurious.

Physical culture along the improved Delsarte lines is of great value in the school room, if not given in the resting periods. Every teacher should have a thorough knowledge of the subject. Physical culture improves the muscular development, tends to make it symmetric, and corrects many irregularities. It is very useful in overcoming vocal defects. The deep breathing-exercises improve the circulation and the general nutrition of the child, because of the improved quality of the circulating blood, and the increased lung development. Special exercises can be given which will improve the circulation and functions of the special organs, as the stomach, liver, and intestines—exercises of very great importance to the health of the average school child who is more or less subject to indigestion and constipation from errors in diet and posture.

Physical culture is practicable, easily given, and without the disadvantages incident to gymnastic work. It can be given in any school room. It creates no more disturbance of dust than the other school work. Finally, these exercises, if given in moderation, are restful, and can be given at any time, thus helping to relieve the muscular strain of long sitting or long writing, and thereby tend to prevent the postural disease.

As eyestrain is of a serious nature, with a train of attendant evils, such as hysteria, headache, myopia, granular lids, malnutrition, nervous exhaustion, mental fatigue, etc., it is important that the children's eyes receive special consideration from the teacher. Too much written work is injurious to the eyes as well as to the muscles of the trunk and arm, and should be reasonably limited in time and interrupted by short rests. It should never be given as a task for punishment. The bacteria-laden air is an important factor in the causation of eye diseases. Even germ-free dust will act as a mechanical agent and cause conjunctivitis. Teachers should never use the stygmographic outlines. The work should be well written, typewritten, or printed. School paper should be light cream or yellow-white, instead of pure white, and have a dull gloss. It should be as free from woody pulp as possible, and .075 mm. in thickness. The writing tablets should be 20 cm. or more long, and 15 cm. wide. Vertical paper should be considerably narrower. The paper should never be ruled in squares, nor the lines red in color, as such rulings cause the eyes to become more easily fatigued; blue is preferable. The ink should be a permanent black. Color blindness should be discovered early, that valuable time may not be lost in preparing for occupations where color recognition is necessary.

All textbooks, graphic devices, and written work should have clear texts, and the type should be clearly legible at 20 inches. The reading distance should be 14 inches from the eye, and any marked deviation from this standard should cause the pupil to be referred to a competent oculist. Constant focusing of the eyes should be avoided.

Needlework in the schools should not be permitted, as it is a frequent cause of defective vision. Lacework taxes the eyes very severely. The eyesight is too valuable to strain for the superficial knowledge of needlework gained at school. If later in life, girls must sew for a means of livelihood, they would find it necessary to learn the trade.

The hearing of school children should also be protected. Coryza and catarrh, because of their relation to ear disease, also otitis, foreign bodies in the ear, and earache, all should be referred to a physician. Water in the ear, boxing the ears, violent noises, and draughts, all should be avoided, as they may result in very serious consequences.

Children with acute coryza may have the beginning of some acute infectious disease, as measles, etc., and should be excluded from the school room. Trachoma cases are infectious in nature and should be excluded from school. Children with any acute throat trouble should be sent home, lest they expose the school to diphtheria, scarlet fever, etc. Cases of parasitic diseases of the head or skin should be excluded for obvious reasons. "Mouth-breathers" very frequently are victims of adenoid growths. These growths impede normal respiration and the proper development of the lungs. There is increased exposure to the germs of disease which render the individual especially prone to diseases of the respiratory tract. Catarrh, by causing hypertrophy of the mucous membranes and bony tissues of the nose, acts as a mechanical obstruction to respiration much in the same way as do the adenoid growths. In catarrh there is increased danger, due to the fact that the process may extend to the ears, causing deafness; its drippings into the throat cause abnormal changes there, and if these secretions are swallowed, as they usually are in children, there may be catarrh of the digestive tract, etc. Catarrh should not be neglected. Headaches may be due to nasal causes.

There are certain diseases brought about by faulty positions in sitting, writing, study, and standing. For instance, cramped positions cause round shoulders, scoliosis, flat-chest, myopia, etc. It is estimated that fully 90% of curvature, not due to bone disease, is developed during school life from this cause alone.

Sitting on the small of the back with legs crossed tends to produce atony of the colon and rectum, and later, chronic constipation. At all times, for the purpose of symmetric development, the children should assume the correct position in standing, and in the various occupations they should also carry their books in first one hand and then the other.

If a child is taller or heavier than normal he should be regarded with suspicion, as the capacity of the organs and the nutritive supply is overtaxed, and any excess of physical exertion may be followed by disease.

It is needless to say that cases of infectious and contagious diseases should be excluded from the school. During epidemics of typhoid and other water-borne diseases, the water should be boiled and filtered with particular care. The books infected with any of the communicable diseases should be thoroughly fumigated with formaldehyd gas for a period of 24 hours, or they should be burned. Pencil and paper should take the place of slate and pencil; but each child should either be required to keep his own pen and pencil or they should be sterilized each time before they are again given out, and the children should neither be allowed to borrow or lend these articles.

It is imperative that cases of goiter, myxedema, failing hearts, flat-chests, impaired digestive organs, chorea, anemia, etc., be recognized and the children receive proper medical attention.

Cases of epilepsy and chorea should be excluded from the school room. Epileptics should be educated in a class and school by themselves.

Certain individuals are born with deficient cell development, thus they naturally become abnormal individuals in society—the degenerates, criminals by heredity, incorrigibles, and the social defectives; and inasmuch as the influence of education upon these unfortunates is never absolute, they should be separated from the normal children. School rooms or school buildings should be set apart where they may be educated by themselves and where every effort should be made to direct their impulses and tendencies in the right channels. Thus separated, their bad influence will not undermine the moral health of the other children. From this class the instinctive or born criminals come. A criminal is a degenerate person, an individual whose abnormal propensities make it impossible for him to live in accordance with the social standard fixed and recognized as binding by the community or country in which he lives. The intrinsic defect of his mental and moral development prevents him from comprehending his own self-interest and his individual responsibilities to society. Hence, it follows that he lacks a motive for voluntarily resisting or controlling the vicious or criminal impulses which the expediency of the moment may prompt him to exercise; and this absence of self-restraint leads him to the commission of such acts as are designated as vicious or criminal. Crime wages a perpetual warfare against society. Personal safety, property, law, government, and civilization itself, all are disregarded. The annual cost of crime from the public treasury of the United States is more than $600,000,000. This estimate does not include the losses to private individuals.

Pelvic disease is a factor in degeneracy, hence, the necessity for correct personal and sexual hygiene. Alcohol is another prolific cause of degeneracy and crime, and children should be taught the true scientific reasons for its deleterious action. Tobacco and opium also tend to lessen the vital resistance of the individual, to produce organic and nervous diseases and to transmit the stigmas of degeneracy to the second and third generations. The prohibition against their use by minors should be strictly enforced.

Backward children should have separate class rooms and special care, that they may develop to their maximum, and also that they may not be a hindrance and source of discouragement to other and more precocious children.

Another important consideration is the location of the school buildings. There should be wise and rigid laws, concerning the location and protection of school buildings and grounds. The school site should be selected with the utmost care. The soil should be sand, gravel, or rock—if it has good drainage. Clay, peat and swampy soils should, if possible be avoided, as they absorb and hold moisture. If these soils are unavoidable, the lots should be drained with the greatest care. In the country, the building must not be placed below or on the north slope of a steep hill. The building should not be shaded by large trees or by any other obstruction to light. There should be from 75 feet to 100 feet of open space on every side of the building. The building should have a southeasterly or southwesterly exposure, so that there may be sunlight during several hours each day. A good and constant supply of water is imperative. School gardens are useful, instructive, and a source of much pleasure to the pupils. Large, well-grassed or graveled playgrounds should be provided; the natural rights of children are the enjoyment of an abundance of pure air, water, and light; the use of clay, sand, and gravel, and the protection of life and liberty.

In cities, when the school building unavoidably must be placed on filled land, the lots should be carefully cemented and paved. Good environments are of the utmost importance. Schools are better located near parks and away from the main thoroughfares and paved streets. The city should prohibit the location of railroads, glue factories, stock yards and abattoirs, stables, markets, saloons, brothels, hospitals, noisy factories, a police or fire station, or other businesses that are likely to prove a nuisance in the neighborhood of the school.

Inasmuch as children spend the greater part of their waking hours at school it is imperative that every care known to science should be taken in the construction and care of the school buildings. The architecture should be of high order, beautiful and artistic in design, and the coloring harmonious and restful. All the materials used should be of the best and most lasting kind. The school buildings should be built substantially, fire-proof, and with the best workmanship. The walls should be of stone or brick, the partitions of fire-proof brick, the woodwork of oak, the interior walls all finished in cement plaster with a 4-foot high dado of marble, tile, or glazed brick; wood wainscoting should not be used, as it affords a home and hiding place for vermin. The walls should be painted in restful colors to harmonize with the woods.

The floors should be well constructed, that they may be warm and noiseless. They should be stiff and so constructed as to prevent vibration. The best floors are built with blocks of wood placed in a bed of cement, and asphalted at the joints. These are warm, comparatively noiseless, and easily kept clean. Linoleum over soft-wood floors is fairly satisfactory. The halls should have stone, tile, or pressed brick floors and the basement asphalt or cement.

The staircases should have a landing for each story, winding stairs should never be used in school buildings. They should be built of iron, with treads of lead and steel 12 inches wide, and with risers 6 or 7 inches in height. The balusters and rails should be very strong and firm. The interior woodwork cannot be too simple. The moldings and corners should all be round and dust-shedding; the base should finish against the floor by a curve which prevents the accumulation of dust and dirt in the angles. Cabinets are necessary and should be as dust-proof as possible. The doors should swing outward. All the rooms, entrances, corridors, and vestibules should be of generous dimensions, light, and easily heated and ventilated.

The school-room decoration should be pleasing, the charts, pictures, vases, tiles, plants, and flowers all chosen and arranged very carefully.

The cloak room for very young children should be adjoining their departments. For larger pupils, owing to the necessity for economy of space, they are usually put in the basement. A separate, well-heated, and ventilated locker for each pupil is the best method. If space allows, they may be put in the main halls.

The toilet rooms and baths should be conveniently located. The best method is in a separate wing with closets, etc., for each floor of the building, and with closed passage-ways, so that the children are not exposed to the inclemency of the weather.

In country places the dry closet system is the best. In cities the closet system should connect with the city sewerage. The plumbing should be simple, of the best kind, and work automatically and powerfully. There should not be less

than 1 closet for every 15 girls, and 1 closet and 1 urinal for every 25 boys. The closets should only have screen doors; these tend to keep the children from vicious habits. There should be some provision made for them to wash their hands after visiting the water-closet.

The provision for baths is of the greatest importance. It provides an opportunity for very poor children to enjoy the wholesome luxury of a bath, when otherwise they would not have one; besides, it is educational. The shower-bath is the best and most sanitary for public bathing-places.

Sanitary drinking fountains of running water should be provided, or each child be required to keep his individual cup and to allow no one else to use it. The water-filters should be simple in construction, of the best variety, and should be kept clean.

The window construction should be very carefully done. Cross-lights should be avoided, as they make shadows on the books. School rooms are best lighted from one side only—the left—or from the left and rear sides, if the rear windows are high enough to prevent the making of shadows. Light should be so disseminated that there are no shadows. When the light enters from the right and left sides of the room it illuminates the right and left eyes differently, and may cause the development of defective refractive power. So, too, direct sunlight should not be allowed to fall on the work or eyes of pupils, as it will irritate the retina. The room should be light enough for a person with normal vision to read diamond type at a distance of from 12 inches to 14 inches in any part of the room. The proportion of window space to floor space should not be less than a fourth. The minimum space between windows should not be less than 1½ feet. The tops of the windows should be square and extend to the ceiling.

It is an easy matter, by the use of shades, to shut out the excess of light in school rooms. The best shades are those of light grey or grey-blue, as these colors are pleasant and restful to the eyes. It is a harder matter to increase the light supply in dark rooms. One of the simplest ways of doing this is to paint the ceilings white and the walls a very light grey or green. There are various devices for this purpose. W. F. Henney's daylight reflector is one of the best. For artificial lighting, electric light reflected from a reflector on a white ceiling, which in turn will reflect the rays in all directions, making the remotest corners light and free from shadows, is the best method. Artificial light must be abundant; it must not change the composition and temperature of the air; there must be the least possible heat and light radiation; it must be safe; it must not irritate or fatigue the eyes; and, for fine work, it must not be less than 15 candle power, or, for large work, 10 candle power.

The system of ventilation should be perfect. The air should be changed every 10 minutes—2,000 cubic feet of fresh air being supplied to each small child, 3,000 cubic feet for older children and 3,500 cubic feet for young adults, and it should be distributed without draughts. The air supply must be constant and from a pure source; there must be an exit for the impure air; and there should be no perceptible currents. The purity should be frequently tested by some of the standard methods. When stoves are used in heating they should be jacketed and a provision made for the exchange of impure for pure air.

There is always danger from overcrowding school rooms. It has been estimated that 500 children assembled in the average school room for 2 hours will generate enough carbon dioxid to equal the pure carbon in 20 pounds of coal.

Of the school furniture, the seats and desks rank first in importance. On their adaptability to the needs of the developing child much depends, as many of the postural diseases result from faulty seat and desk equipments. Seats should be so constructed that the center of gravity of the trunk shall be directly over the supporting surface—thereby furnishing a continuous rest from sacrum to shoulder—and to allow the feet to rest squarely on the floor, or on a foot rest; and to keep the upper and lower leg at right angles to one another. The height of the seat must be a trifle less than the distance from the knee to the sole of the foot. Its width should be fully two-thirds the length of the upper leg. There should be a slight backward inclination of the seat, with a difference, in height, in front and rear, of 1 cm. to 1.7 cm. The front edge must be rounded. The back-rests should be horizontal slabs and must conform to the curvature of the spinal column, and should only reach to the lower fourth of the shoulder blades, that the children may put their elbows back on the top, and thus rest the vertebral column. The vertical distance or "difference" between the rear edge of the desk and the front edge of the seat can be determined by measuring the distance from the elbow to the seat bones, ⅛ or ⅞ the height of the child. He must be able to bend the elbow on the desk, without raising or lowering the shoulder, and to use the back rest when engaged in writing or free hand drawing. The desks must allow the pupil to stand in recitation. It should slope 15° and, when sitting down, be adjustable for a "minus" distance, which is the best for reading and writing. When the desk is too high, an improper "difference," it tends to cause myopia and lateral curvture of the spine. If the desk is too low kyphosis may result. Incorrect positions throw the organs out of their normal relation and thus impair their function and produce disease. There should be several sizes of forms in every school room, that the children of different statures may be accomodated properly. The Schenk desk is the best model, because it is adjustable for pupils of any size. Kottman's is also a good model and is arranged for standing. Blackboards should be large and have a dull finish. Natural slate or black glass are the best kinds; they should be well lighted, but not on the same wall with the windows. Movable blackboards are better than fixed ones.

As colored chalks are likely to be poisonous, they should be handled with care. Sornnecker's chalk holder is a satisfactory device.

The upper floor of every school building should be utilized for a model kitchen, a lunch, and a dining-room. A competent teacher of scientific cookery should have these rooms in charge. Warm lunches should be served in the dining-room. All the children in graded classes should receive instruction in dietetics and the preparation of food. These lessons can be made the source of much pleasure and real practical value.

No school building is complete without a hospital room. It should be adjoining the principal's office and fitted up for emergencies. It should have a water-closet, a stationary washbowl, one or more bamboo cots, and other necessary conveniences for the care of emergency cases of sickness and accident.

The foregoing outlines of the real and ideal condition, and of the relation that schools bear to the right development of children will make plain to all that very radical changes in the present school system are necessary, and that a continuance of the evils, which blemish the present system, would be a criminal negligence of duty.

The momentous question is, "What are the necessary changes essential to the evolution of a better system?" They are manifold. One of the elementary principles of all upward and onward movements is to have a practical working ideal in advance of the present conditions. This implies the requisite insight into the great needs of the time, the elimination of these factors which are inimical to the social welfare, and such improvements as the expediency of the time will permit. The ideal for the physical, mental, and moral development of the child has already been stated; and it has been shown to be very much in advance of the system now in vogue.

As so many of the adverse conditions of life are avoidable, it is self-evident that the practical application of preventive medicine is the essential improvement needed in the evolution of our school system.

This is preeminently the age for system and organization in all great undertakings, and if preventive medicine is to have its legitimate place among the social forces, some method of procedure must be adopted which shall place physicians in authority over these matters. This can only be brought about by organization, local and national. To this end I would submit suggestions as to the establishment and work of such an organization, leaving the details and perfection of the system to be worked out by the profession and the public.

This system should be supported by the general government and not from the school fund; therefore, there should be a National Board of School Hygiene and Preventive Medicine

to be composed of representative physicians—with the Commissioner of Education for a member, exofficio—whose duty it will be to make investigations in school hygiene, in education in its relation to human development, causes and means of prevention of contagious and infectious diseases and of degeneracy and crime; to indicate measures of national importance in preventive medicine, to frame laws for the protection of the public health, to be the center of information for all matters relating to the public health, to be authority on the scientific and sanitary construction of school buildings along the most approved lines, and to furnish model architectural drawings and sanitary plans for the construction of school buildings and their furniturings.

A State Board of School Hygiene and Preventive Medicine should be formed, whose duty it will be to supplement the work of the National Board. It should supervise the choice of location, and the construction of the school buildings upon the best hygienic principles; it should help the National Board to frame the laws for the protection of the public health; and it should promote the necessary legislation to make them effective in the State; it should have a general oversight as to the efficiency of the work of the physicians who hold public offices under this system; it should have the power to close unsanitary schools; it should determine the fitness or unfitness of incorrigible children for attendance in the public schools; should have charge of the examination for school janitors; and should issue certificates to the successful candidates for examination, etc.

There should be a city medical inspector of public schools and grounds, and all private schools should come under public school regulations, whose duty it will be to inspect the general cleanliness of the same, to supervise the heating and ventilating systems, and to control the work of the janitors. He should have the power to close unsanitary schools. It should be his duty to report to the local Health Board all pupils who are absent from school because of contagious or infectious diseases; and no pupil, absent from such cause, should be allowed to return to school without a written permit from him.

As the education of teachers in the principles of hygiene and preventive medicine must necessarily be very superficial; and as the school age includes the period of the greatest development, during which time the children must spend a large part of their time in the school buildings; it would seem imperative that, if only one principal can be afforded to any school building, that that person should be a graduate physician from some recognized, reputable medical school. Certainly well-qualified teachers are far more competent to supervise the general education of the child without a lay superintendent's constant oversight, than they are to control the physical needs of the children in the application of the principles of hygiene and preventive medicine without medical supervision.

The work of a medical principal, apart from the oversight of the general educational work of his teachers, would be to keep a vigilant guard over the health of the pupils. When a pupil is admitted he should undergo a thorough physical examination, after which examination his grade, class, exercises, diet, amount of sleep, amount of study, etc., should be prescribed.

There should be some systematic plan followed in making such examinations. The following outline is only suggestive of the scientific possibilities which this work opens up for the promotion of the social ideal through scientific investigation and the application of preventive medicine in the development of children.

Such an examination should ascertain the hereditary data. This includes the nationality, family record, and the home environments; and will aid in determining the relative value of any physical abnormalities found in any individual case. It will help better to determine the probable reaction to educational influences of all those naturally weak, backward, or degenerate, depraved, and criminal. The first physical examination should include the Bertillon system of physical measurements and descriptions, modified and expanded until they best meet the morphologic, physiologic, pathologic, and sociologic requirements. This, and subsequent examinations, should investigate the physical status as to diet, quantity, and quality; condition of digestive system (neurotic parents usually have children with faulty livers); general metabolism; condition of the blood and organs of circulation; conditions of the excretory organs; the response of the muscular system to dynamic tests; the reaction and reflexes of the nervous system; the physical and neurologic activities, including the psychologic data, which deals with the fundamental elements and qualities in the character, morality, education, religion, reason, memory, and the sentimental bias; the relative capacity of the various organs to the physical demands made upon them; the pathologic data, which includes the summing up of all the abnormal findings; and the prognosis as to the probable development of the individual along normal and abnormal lines. The fatigue of the children at various times during the school day should also be registered by means of the eryograph.

These physiologic records should include later tests made during the whole school life of the individual, the tabulation showing the subsequent reaction of the organism to all those regenerative influences which are brought to bear for the promotion of his normal development. These records should be preserved, as they will become of great statistic and sociologic value to the government as well as to the scientific study of human development.

There should be a county medical superintendent, whose duty it will be to visit the country schools and to perform such duties as has been conferred upon the medical principals and superintendents of city schools. He also should give out literature and printed instructions for the aid and education of the parents, that they may know the best home care to give their children.

The majority of the members of the school board should be representative physicians and educators, with a sufficient representation of successful and practicable business men to look after the financial end of school affairs.

Further, to aid in this campaign for the maximum development of our school children, it will be necessary to have the various social forces enlisted and organized to help on the work of preventive medicine. This means education—the education of parents and others as to their responsibilities to the children and to the public.

Club women should be interested in forming health societies, and sanitary squads for the inspection and improvement of the neighborhood and home environments of weak, backward, sick, degenerate, incorrigible, and vicious children, and to raise funds, that those needing special medical care may be provided with the necessary means for such treatment. When children are found subjected to constant ill-treatment from their parents, they should take measures to have the parental rights forfeited.

Pamphlets of instruction on home and public hygiene and preventive medicine, treated in a popular manner, should be distributed to parents through the medium of the school boards. Each school should be made a distributing center, from which these pamphlets will be carried by the children to their parents.

There should be printed forms, or circulars of information on the special hygiene corresponding to the normal development of every period of school life. These periods should be divided into 6 months or a year each. These circulars should be given one to each child, according to his age, by the medical examiner, for the special instructions of the parents as to the individual needs of that child; and he should add any special comments for the care needed in any given case. In this way there could be brought about intelligent cooperation between parents and educators.

It may be urged that teachers need the lay principal's constant oversight, else they will neglect their duty. This is an illogical objection, if competent teachers are employed. Teachers are often hampered in their work by the unwise interference of their school principals. There should be a city superintendent of public instruction who will supervise all those school matters that are outside the province of the medical principal. Beyond this the school work should be left to the teachers themselves. If this were done there would be better general results. The school board and the city superintendent should demand results, and the teachers will not be found to lack enthusiasm and the required success in their work.

The teachers of the city or county should organize themselves into a school faculty or association whose object will be the study of education.

The physicians of the county should form an association of school hygiene and preventive medicine for the purpose of original investigations along these lines.

Finally, for the separation and education of the idiotic, depraved, insane, epileptic, and the naturally criminal, special provision should be made by the State.

There should be separate industrial homes for girls and boys, a State Board of Corrections and Charities, a public school for dependent children, a public school system of compulsory education and more stringent laws for the protection of the health and lives of children. There should be efficient factory regulations and inspection regarding minors, and dependent sick children should be provided with efficient medical, surgical, and hospital treatment.

Such a medical supervision of schools should do away with the closing of schools in epidemics, and should be one of the most important measures for checking the spread of contagious diseases. Crime will be diminished, because those children with the stigmas of degeneration and the naturally criminal instincts will be discovered early in life, and every effort known to science, ethics, and education will be used to reclaim them.

So, too, discrimination will be practised in favor of the nervous, weak, or backward child. Moreover, those who are subjected to frequent punishment will have an opportunity for justice, if physical causes are the bases of their various troubles; and nervous children will not be forced to practise music to the irreparable injury of their nervous system and general health. Moreover, diseases will be discovered in their incipiency and the curable pathologic processes checked or cured, thereby saving many to lives of usefulness.

Such a system of preventive medicine will develop the mental, moral, and esthetic status of children, and transmit a better heredity to posterity. Browning must have felt its significance when he wrote:

"Fool. All that is, at all,
Lasts ever past recall;
Earth changes, but thy soul and God stand sure:
What entered into thee,
That was, is, and shall be:
Time's wheel runs back nor stops: Potter and clay endure.

"He fixed thee 'mid this dance
Of plastic circumstance,
This present, thou forsooth, wouldst gain arrest:
Machinery just meant
To give thy soul its bent,
Try thee and turn thee forth, sufficiently impressed.

"So, take and use thy work,
Amend what flaws may lurk,
What stain O' the stuff warpingd past the aim.
My times be in thy hand.
Perfect the cup as planned.
Let age approve of youth, and death complete the game."

I am unable to quote the authorities from which I have derived much valuable information, and therefore hereby acknowledge my indebtedness to any source from which I have imbibed the ideas which have made this paper possible.

Reduction in Infant Mortality.—The Bulletin of the Chicago Health Department says: "In 1891 there were 8,208 deaths of infants under 1 year old, and the rate was 7.08 per 1,000 of total population. In 1902 there were 5,144 infant deaths and the rate was 2.82, or 60.1% less than the infant deathrate of 1891." And concerning the rate of infant mortality in Chicago, it further adds: "It is shown that during the 12 years, 1891–1902 inclusive, the deaths of infants in New York have been reduced from 242 in 1891 to 158 in 1902 out of every 1,000 infants living in the respective years. This is a reduction of 34.7%.

Poison for Food Coloring.—The Department of Agriculture has directed that a consignment of cherry fruit color from Posen, Prussia, and purporting to be entirely vegetable in character, be denied admission at the port of San Francisco. Professor George E. Colby of the University of California, appointed to represent the department as chemist, found, on analysis, that the stuff was not vegetable at all, but entirely coaltar dye. This is pronounced the worst violation of the new law prohibiting adulterated food products that has yet occurred. A sample of the stuff was forwarded for duplicate analysis, but the department acted on the telegraphed report and ordered the stuff thrown back on the importers.

THE WORLD'S LATEST LITERATURE

Journal of the American Medical Association.

October 31, 1903. [Vol. XLI, No. 18.]

1. Talma's Operation in Cirrhosis of the Liver. M. L. HARRIS.
2. The Restoration of the Perineum. HENRY O. MARCY.
3. The Repair of Cystocele by Utilization of the Anatomically Fixed Points in the Anterior Vaginal Wall. E. REYNOLDS.
4. Repair of Lacerations of the Cervix Uteri: An Investigation as to the Proper Time for the Operation. DANIEL H. CRAIG.
5. Acute General Staphylococcus Infection Through the Puerperal Breast. W. P. MANTON.
6. The Morphology and Biology of the Parasite from a Case of Systemic Blastomycosis. F. J. OTIS and NEWTON EVANS.
7. Anophthalmos: Report of a Case. LAWRENCE R. RYAN.
8. Calcareous Degeneration of Corneal Cicatrices. H. MOULTON.
9. Present Status of the Purification of Public Water Supplies. GEORGE W. FULLER.
10. Meatotomy Plus Meatorrhaphy. JOHN PRENTISS LORD.

1.—Talma's Operation in Cirrhosis of the Liver.—M. L. Harris reports 4 new cases, making six with two previously recorded. Of these 5 alcoholics were dead within a month and 1 syphilitic patient alive without improvement 5 months after operation. All were far advanced when operated on. Drainage of the gall tracts in connection with Talma's operation may be desirable in cases with cholemic symptoms. In 1 case in which there had been relief for 3 years after tapping 3 times within 3 weeks extensive adhesions were found, these having set up a free collateral circulation. This confirms the previous statement of the writer that congestion of the portal radicles is not the sole cause of ascites, but that chronic inflammatory changes in the peritoneum are instrumental in its production, especially in the terminal stage. The fluid in 2 cases had a crenating effect on fresh blood, showing its inflammatory character. Harris believes the benefits of the operation in alcoholic cirrhosis, even under favorable conditions, are only temporary. [H.M.]

2.—See *American Medicine*, Vol. V, No. 22, p. 860.

3.—See *American Medicine*, Vol. V, No. 22, p. 861.

4.—See *American Medicine*, Vol. V, No. 23, p. 901.

5.—See *American Medicine*, Vol. VI, No. 1, p. 12.

6.—See *American Medicine*, Vol. V, No. 21, p. 822.

7.—See *American Medicine*, Vol. V, No. 24, p. 946.

8.—See *American Medicine*, Vol. V, No. 25, p. 986.

9.—See *American Medicine*, Vol. V, No. 23, p. 903.

10.—Meatotomy Plus Meatorrhaphy.—J. P. Lord directs attention to the value of suturing after incision for the introduction of instruments, etc., in order to prevent hemorrhage, save after-care and suffering, and enable the surgeon to use the cystoscope in a day or two without blood smearing the lamp. He uses 4 or 5 interrupted stitches to unite the urethral lining to the mucous membrane of the glans. Most textbooks recommend instead the daily introduction of a sound to prevent union of the wound surfaces. [H.M.]

Boston Medical and Surgical Journal.

October 29, 1903. [Vol. CXLIX, No. 18.]

1. The Relation of Laboratory Research to the General Practitioner of Medicine. HORACE D. ARNOLD.
2. Pneumothorax Associated with Fracture of the Ribs: Report of Two Cases. FRED T. MURPHY.
3. Some Observations on X-ray Therapeutics in Skin Diseases. FREDERICK S. BURNS.
4. Record of Parasitic Infections in the Philippines. W. J. CALVERT.

2.—Pneumothorax Associated with Fracture of the Ribs.—Fred T. Murphy reports 2 cases. A fireman of 40 was thrown from a truck and run over by a wheel. The patient was in mild shock; lungs apparently normal, except for a few rales; there were multiple bruises; the left shoulder was dislocated; the ribs of the right side, from the second to the fifth, were fractured in the anterior axillary line. Under ether the dislocated shoulder was reduced. During the following night the patient grew worse, color became bad, there was cyanosis. Examination of the chest showed a tympanitic resonance over the right side, with a loss of respiratory sounds and fremitus. The condition became alarming, and the chest was punctured below the angle of the scapula. At once with the out-rush of the air, extreme dyspnea disappeared and color returned; aspiration seemed to afford even greater relief; there was some coughing. Five days after aspiration the lung had returned to the normal condition, and the patient was discharged well on the

ninth day. The next patient was a boy of 9. He had been thrown from a bicycle by a team. When brought in, his color was bad, respiration rapid and labored, the pulse 135, both sides of the neck and the left back were markedly emphysematous, the chest was resonant all over, and on the left there was absence of breathing and fremitus. No definite fracture of the rib, but only a marked tenderness under the emphysema could be made out. His condition became worse, and a large trocar was inserted under the angle of the left scapula; air rushed out and the dyspnea was immediately relieved, cyanosis likewise disappearing. All but a trace of the emphysema and pneumothorax had disappeared by the fourth day and the boy made an uneventful recovery. Murphy states that experience has proved that interference is rarely necessary to relieve the intrapleural pressure after fracture of the rib, but occasionally, as in these cases where symptoms become so marked, it is necessary. [A.B.C.]

3.—Some Observations on Röntgen ray Therapeutics in Skin Diseases.—The paper of F. S. Burns is based upon experience with 150 cases of skin disease treated at the Massachusetts General Hospital during the past year. Of all the cases treated, epithelioma has given the most constant and encouraging results. Of 55 such cases treated, 27 were discharged healed, 9 progressed favorably but failed to continue treatment, and 19 are still being treated. Each patient was treated at an average interval of twice a week. Preliminary curetage or cauterization facilitates the healing of this variety. Epithelioma and carcinoma below the cutaneous surfaces, and even lesions which have become deep by infiltration from the skin, have uniformly failed to respond to Röntgen ray treatment. A large number of cases of carcinoma of the breast were negative so far as permanent cure was concerned. Twenty-one cases of tuberculosis of the skin, including lupus and scrofuloderma, were treated. Lupus has proved more resistant and difficult to cure than scrofuloderma or even epithelioma; 9 such cases were cured. In scrofuloderma this means of therapy proved very satisfactory. Eight cases of folliculitis of the beard responded to this form of treatment and in no case did it fail. The treatment of psoriasis by means of the Röntgen rays has been thoroughly tested and no lesion treated has failed to disappear under this treatment, even though the cases were those which had resisted all other treatment for a considerable period of time. Eczema, especially chronic with epidermic thickening, responded quickly to the rays. The writer states that only after long observation in many cases has he become impressed with the fact that no curative effect is exerted when the disease is wholly subcutaneous. [A.B.C.]

4.—Parasitic Affections in the Philippines.—W. J. Calvert reports 136 autopsies, fairly representing percentages of infection. Ascaris lumbricoides were usually found in small numbers; 17% or 1.6 of total adults, and 35% or 1.3 of total children are affected. All of the infections with ankylostoma duodenale were light. Eighteen worms was the largest number counted. Of total adults 7%, and of children 2% were infected. About 10% of the inhabitants harbor the tricocephalus dispar. The figures are not so high as one would suppose, considering the customs of the natives. The relatively small number of tenia is surprising when it is known that 4% of the hogs are heavily infected with cysticercus. Trichiniasis was not observed in any of the autopsies. [H.M.]

Medical Record.

October 31, 1903. [Vol. 64, No. 18.]

1. High-frequency Currents. HENRY G. PIFFARD.
2. Two New Methods of Determining the Digestive Activity of Gastric Juice. HENRY WALD BETTMANN and J. HENRY SCHROEDER.
3. A Case of Neurofibroma of the Skin and Large Nerve Trunks in which there Developed a Large Spindle-celled Sarcoma beneath the Body of the Scapula. H. W. AUSTIN.
4. Some Notes on a Diet of Bread and Fruit, and its Effects on High Blood-pressure, Dropsy, and Obesity. ALEXANDER HAIG.
5. Hallux Valgus. JOHN G. SHELDON.

1.—High-frequency Currents.—H. G. Piffard discusses the high-frequency currents derived from the apparatus of D'Arsonval, which consists essentially of the following parts: (1) A good, high-tension spark coil, rated at 8 or 10 inches; (2) an efficient interrupter of the primary circuit; (3) Leyden jars, or some other form of condenser of suitable capacity; and (4) a solenoid. This is the simple addition of solenoid to a Röntgen ray outfit. He refers to a high-frequency current which he introduced 3 years ago, to which he gave the name "hyperstatic" in order to indicate its origin, and to prevent its being confounded with the high-frequency current of D'Arsonval. The greater part of the paper is devoted to a description of the mechanism of the different apparatuses for inducing high-frequency currents. He endeavors to make clear that the function of the hyperstatic and D'Arsonval currents are different and distinct, the former being chiefly used for local applications, while the latter is capable of distinctly influencing the general system. The main body of the article, while interesting, is too technical for valuable abstract. [A.B.C.]

2.—Two New Methods of Determining the Digestive Activity of Gastric Juice.—H. W. Bettmann and J. H. Schroeder describe the methods of Meth and Hammerschlag, and discuss their unreliability, there being a range of error from 5% to 20%, the reagent precipitating peptone, the tubes of egg white varying in resistance power, and no account being taken of inhibiting substances present in gastric juice 1 hour after a test breakfast. A quick clinical test is as follows: A quantity of gastric juice is diluted with 3 times its volume of a .2% solution of HCl; 1 cc. of this is placed in a homeopathic vial and to it is added 2 cc. of a 1% solution of egg albumen containing .2% free HCl. The vial is thoroughly agitated until a column of foam about 2½ cm. (1 inch) high is formed, and then placed in an incubator or in water at 37° to 40° C. (98⅗° to 104° F.), and the time required to clear the surface of foam noted. In the one-fourth dilution of a normal case the foam disappears in 20 minutes. This divided by two gives the time required by undiluted juice and from this the pepsin strength can be calculated. The centrifugal method is more accurate for scientific work. In this the juice, diluted as above, and the standard albumen solution are placed in the incubator 15 minutes to be warmed to body temperature. In each of 2 test tubes are placed 10 cc. (2½ dr.) of the standard acidified albumen solution. To one 5 cc. (1¼ dr.) of diluted gastric juice is added, to the control tube 5 cc. (1¼ dr.) of a .2% solution of HCl. These tubes are then placed in the incubator at 37° to 40° C. (98⅗° to 104° F.) for exactly 70 minutes. Then 10 cc. (2½ dr.) are taken from each tube and placed in the centrifugal tubes graduated to .02 cc. To each tube is added 5 cc. (1¼ dr.) of a 10% solution of trichloracetic acid, and after inverting the tubes several times they are placed in a high-speed centrifugal machine for 2 hours, removed, and the sediment measured. The difference in the 2 sediments represents the proportion of albumen which has been transformed into peptone. [H.M.]

3.—Neurofibroma of the Skin and Large Nerve Trunks, with Spindle-celled Sarcoma Beneath the Scapula.—H. W. Austin reports that, until 4 years ago, a sailor of 46 enjoyed good health. Ten years ago he was vaccinated, an eruption following; soon there developed small nodular growths of the skin on the body and extremities. Since then they have gradually increased in size, and until the time in question, they gave rise to no trouble; but since this there has been much pain, especially in connection with the tumor in the arm, which later proved to be of the musculospiral nerve. This tumor, which was the size of a hen's egg, was removed in December, 1902, and the severed ends of the musculospiral were united by suture. Pain in this situation was relieved, but in and about the shoulder it remained constant. Another tumor of smaller size was removed from the anterior thoracic nerve, which resembled, in structure, the one removed from the musculospiral. These examined microscopically were found to be fibroid and nonmalignant. Somewhat later a tumor developed underneath the scapula of the same side. It was thought that possibly this, like the others, was nonmalignant, but its rapid growth argued against this. Operation was performed and a large mass removed in 2 parts from beneath the scapula. Examined microscopically it was found to be a spindle-celled sarcoma. Recurrence was rapid and the patient died 51 days after its removal. Necropsy showed the sutured musculospiral intact, but another tumor in its course. A tumor the size of an orange was in the long thoracic nerve. Metastases from the malignant growth were found at the base of the right lung and

in the diaphragm, but the lymphatic glands appeared normal. The question is, whether the neurofibromas had any direct connection with the sarcoma. The rapid growing malignant tumor, he suggested, may have originated in a neurofibroma of the subscapular nerve. [A.B.C.]

4.—Bread and Fruit in High Blood-pressure, Dropsy, and Obesity.—A. Haig allows 21 ounces of breadstuffs and 7 ounces of dried fruits daily to a person of 140 pounds weight. This can be prepared simply or elaborately. The advantages of the diet are seen in the high blood-pressure group of uric acid food poisonings, such as headache, epilepsy, depression, neuralgia, asthma, Bright's disease, cerebral hemorrhage, cardiac failure, angina, dropsy, and obesity. The relief is in the lowering of blood-pressure which is impossible to bring about on a diet of milk. By cutting down fluids and placing on the above diet a pressure of 150 mm. to 160 mm. can be reduced in a week or two to 120 mm. with corresponding improvement in all the symptoms. In many cases of headache and epilepsy complete abstention from food and fluid will produce in 12 to 24 hours a fall of from 20 mm. to 40 mm. markedly modifying the attack. As soon as the pressure has fallen to 120 mm. a little food may be given. [H.M.]

5.—Hallux Valgus.—John G. Sheldon says: (1) That an improperly fitting shoe is never the sole cause of hallux valgus; (2) that in the great majority of cases it occurs in feet so formed as to predispose to the condition; (3) that the extensor proprius hallucis muscle plays a most important role in causing and aggravating the condition; and (4) that osseous changes in the inner side of the distal end of the first metatarsal bone, are commonly found in severe cases. In all cases of hallux valgus which he has seen, the instep is high, the arch of the foot well formed, the extensor tendon of the great toe prominent at the metatarsophalangeal joint. He has operated on 30 cases, and in all there was a subluxation of the first metatarsophalangeal joint and changes on the inner side of the distal end of the first metatarsal bone. Refering to treatment he believes mechanical appliances are usually futile, and resection of the metatarsophalangeal joint is unnecessary. Weir's plan of resecting the inner part of the distal end of the metatarsal gives good results. Dawbarn exposes the joint by a flap whose convexity is upward and outward, the head of the metatarsal bone is resected with a Gigli saw without injuring the tendon or sesamoid bones, the toe is held in position with a plaster splint, and plaster is applied to the knee. Good results are reported in over 50 cases. In 6 instances the author has lengthened the extensor proprius hallucis tendon, and that of the flexor brevis digitorum to the extent of 2 inches, the toe being held in the correct position by plantar splint and adhesive plaster. Good results are reported. In 12 instances of operation by the Dawbarn method, 10 proved successful. He recommends a method similar to that of Dawbarn, removing the inner one-half or two-thirds of the head of the first metacarpal bone instead of the entire head, the extensor tendons are lengthened and the toe being held in proper position by adhesive plaster and splint. This is said to give good results. [A.B.C.]

New York Medical Journal.

October 24, 1903. [Vol. LXXVIII, No. 17.]

1. Conservation of Ovaries and Tubes. ALEXANDER HUGH FERGUSON.
2. Cancer of the Prostate. ROBERT HOLMES GREENE.
3. The Differential Diagnosis between Friedreich's Disease and Insular Sclerosis. F. SAVARY PEARCE.
4. Radium in Medicine. SAMUEL G. TRACY.
5. Tubal Pregnancy: Report of Cases. MARY D. RUSHMORE.
6. New York State Medical Association: Twentieth Annual Meeting Held at New York, October 19, 20, 21 and 22.

1.—Conservation of Ovaries and Tubes.—A. H. Ferguson in his address offers a short contribution of his conservative work on the ovaries and tubes. Many conditions of the ovaries demand conservative operative procedures, such as single or multiple Graafian cysts, cyst of the corpus luteum, adhesions surrounding and imbedding the ovary, hematoma, dermoid cysts, and ovarian cystoma. He emphasizes how unnecessary it is to remove the ovaries unless they are hopelessly destroyed by infection, or are affected with papilloma, sarcoma, carcinoma, or tuberculosis. An ovary that appears normal should not be removed though the other has to be sacrificed. Even a small portion of one ovary should always be conserved. He gives the indications for hysterosalpingostomy and the technic observed by him, with a report of several cases. [C.A.O.]

2.—See *American Medicine*, Vol. V, No. 22, p. 854.

3.—See *American Medicine*, Vol. VI, No. 14, p. 541.

4.—Radium in Medicine.—S. G. Tracy's is an interesting article on the physical and physiologic properties of radium and its uses in medicine. He concludes as follows: 1. The discovery of radium may make it necessary to change our theories of the old hypothesis about matter and the conservation of energy. 2. Radium may possibly open up the way for a cheaper and more wholesome lighting of houses by phosphorescence. 3. Radium is a practical agent to differentiate genuine gems from artificial. 4. Radium is a useful agent to kill bacteria. 5. Radium may be considered a valuable agent for the treatment of lupus, carcinoma, tuberculosis; and a possible agent to improve the eyesight and overcome partial blindness. [C.A.O.]

5.—Tubal Pregnancy.—The article by Mary D. Rushmore is a report of a series of 10 cases; all subjected to laparotomy, and all presenting the same gross lesion of a hemorrhage from or within the fallopian tube. The clinical histories and conditions found upon examination presented much similarity, and were sufficiently classic that in every case a diagnosis of probable tubal pregnancy was made before operation. In no case was a fetus found; only in 1 case was there a fetal sac; in 8 cases the microscopic examination showed decidual formation, while in 2 cases no evidences of pregnancy were found. The patients all recovered, and were cured of their symptoms. The first group of 4 cases all presented free hemorrhage into the peritoneal sac, 3 times from rupture of the tube, and once from the dilated fimbriated extremity. In 3 instances the operation was done soon after the rupture, when the patients were in a condition of extreme anemia and partial collapse. In 1 case several weeks had elapsed. [C.A.O.]

Medical News.

October 31, 1903. [Vol. 83, No. 18.]

1. On the Production of Specific Cytolitic Sera for Thyroid and Parathyroid, with Observations on the Physiology and Pathology of the Parathyroid Gland, Especially in its Relation to Exophthalmic Goiter. W. G. MACCALLUM.
2. Skin Lesions Associated with Rapid Growth of Long Bones, Lineæ Albicantes. (Les Vergetures De Croissance. Jules Comby.) W. P. NORTHRUP.
3. Caffein in the Treatment of Alcoholic Toxemia. ARTHUR J. HALL.
4. A Case of Chronic Lymphatic Leukemia without Enlargement of the Lymph-nodes. GEORGE BLUMER and HERMON C. GORDINIER.

1.—See *American Medicine*, Vol. VI, No. 1, p. 7.

2.—See *American Medicine*, Vol. V, No. 23, p. 895.

3.—Caffein in Alcoholic Toxemia.—A. J. Hall credits caffein with a physiologic antagonism to alcohol, as easily demonstrated as that between belladonna and opium. If this is established the contention that alcoholism is a disease will be abandoned, and the fact that it is a toxemia must be admitted. He tabulates the symptoms and pathology of alcoholic toxemia together with the therapeutic effect and physiologic action of caffein, which he administers in 1 gr. or 2 gr. doses every 1, 2 or 3 hours. This will usually in 24 or 48 hours so effectually quench the craving for alcohol that the most confirmed habitues will voluntarily abandon its use. [H.M.]

4—Chronic Lymphatic Leukemia without Enlargement of the Lymph-nodes.—Blumer and Gordinier report a case. The clinical picture suggested severe anemia. The striking features were the marked lymphoid changes in the marrow of the long bones, and the absence of enlargement of the nodes. The mononuclear blood cells showed marked increase, and while resembling closely the normal lymphocyte, had an acidophilic protoplasm, and possibly represented an ancestral cell. Some of the elements increased in the case had a basophilic protoplasm, and it is questionable whether the identity of these different cell forms should be questioned on account of slight tinctorial differences in the protoplasm. If these are ancestral cells, we must assume that for some reason, while they show marked activity in reproduction, they have lost their power of developing beyond a certain point. Their rapid extension into the blood current may place them in a medium unfavorable for

further development. If this is tenable it would explain both the anemia and the lack of typical lymphocytes. The changes in the marrow would seem to be best classed as a hyperplasia. If leukemia is due to an infectious process, we are justified in assuming that the hyperplasia is compensatory to the withdrawal of certain varieties of leukocytes by a specific chemotactic agent. [H.M.]

CLINICAL MEDICINE

DAVID RIESMAN A. O. J. KELLY

EDITORIAL COMMENT

The Cancer Problem.—The search for the ultimate cause of cancer is most active, and announcements of a supposed discovery in this realm are constantly recurring. Broadly speaking, two views are at present held, that of the infectious, or parasitic, and that of the non-infectious nature of the disease. The burden of proof lies upon the advocates of the former view, and the general consensus of opinion is that they have as yet failed satisfactorily to substantiate their claim. One of the most recent contributions is that of A. T. Brand,[1] who mentions no particular parasite, but adduces arguments in favor of the parasitic origin by answering certain objections which have been raised against that theory. With those arguments we are not specially concerned, as they present practically nothing that is new. Dr. Brand, however, raises a question that has been discussed, that, namely, of the proper attitude to assume regarding our present knowledge of the etiology of cancer. It is best presented in the words of Dr. Brand:

> Thus we have two opposed factions, one consisting of those who are out-and-out believers in, and advocates of, infection, of whom I am one; and the other of those who equally strenuously dissent from this belief. There is, no doubt, another class, which, however, may be disregarded as a negligible quantity, typified by that dilettante agnostic, the man with the "open mind," who knows nothing, who believes that nothing is known, of the causation of cancer, and whose Gallio-like attitude is well calculated to delay indefinitely all progress of its elucidation.

After considering this statement, as well as the arguments of the writer in favor of the parasitic theory, the editor says:

> As a result of the whole consideration of the case, we venture to maintain our original position "on the fence." We are quite ready to accept as the cause of cancer any parasite which can be found to fulfil the conditions of proof, but in defect of such discovery we think that the available evidence is rather against than in favor of such mode of causation. . . . We doubt whether vigor of polemics will aid much in the search, and whether those who keep open minds are not as likely to have also open eyes, as are those who are red-hot partisans in matters in which proof is wanting.

The view here expressed appears the safer one to adopt at the present time. The mind of the man who is yet to be convinced is surely as receptive as that of the one who has no doubt, whether the particular point or an entirely dissimilar one is finally proved correct. The attitude of the advocates of the infectious nature of cancer, particularly the actual workers in that line, is well shown by Dr. J. G. Adami[2] in some exceedingly pertinent remarks on "Enthusiasm and Logic." He speaks of the number of otherwise careful observers who have announced the discovery of a microbe of cancer. Studies of these supposed causes by many other equally careful observers show that these have been led astray by their enthusiasm. Adami states that the study of logic as an exercise for the mind in scientific thinking has been altogether too much neglected by members of the medical profession. We believe that the man who is honestly and consistently, not perversely, "on the fence," occupies a logical position that is not inimical to further progress along lines in which he is interested.

[1] The Practitioner, October, 1903.
[2] New York Medical Journal, October 17, 1903.

REVIEW OF LITERATURE

An Address on Sciatica.—In this address William Bruce[1] concludes from a study of 418 cases that sciatica is not a neuritis of the sciatic nerve, but is an affection of the hip-joint, connected with the gouty or rheumatic diathesis, or with socalled monoarticular rheumatic arthritis of the hip. This contention is supported by the fact that there was flattening of the glutei and obliteration of the folds of the nates in 30% to 39%, while the muscles of the leg, which are supplied by the sciatic nerve, were not affected. Moreover, there never occurs the electric reaction of degeneration which is the rule in cases of neuritis. Another argument in favor of his view is that absolute rest of the entire extremity, including the hip-joint, is the most efficient treatment for sciatica. The pain is to be regarded as being referred from the hip-joint to the skin covering the extremity, as often occurs in hip disease. There is very often tenderness on pressure over the capsule of the joint; and in almost every case there is lameness of the affected limb, which symptom is usually to be referred to a joint affection. [B.K.]

The Value of Lumbar Puncture in General Practice.—Herbert Rhodes[2] states that the diagnostic value of lumbar puncture is already a recognized procedure, and the reports of a number of cases illustrative of its value in diagnosis as well as the indications which it may give for treatment. In some cases it was used as a means of treatment, giving temporary relief from intracranial tension, as where a girl was suffering from gliosarcoma of the optic thalamus, the withdrawal of 2 ounces of spinal fluid caused cessation of vomiting and headache, and gave relief for a number of hours. In other instances it was found to relieve a deepening coma in cases suffering from cerebral affections. In other cases it was used to indicate the necessity for other operation. In several cases of postbasal meningitis the lumbar puncture appeared to contribute materially toward the recovery of the patients. Lumbar puncture may enable the general practitioner to arrive at a correct diagnosis. [A.B.C.]

Import of Persistent Vomiting with Acetonuria.—The case of Le Meignen and Mirallie[3] shows that uncontrollable vomiting accompanied by acetonuria may not have a favorable prognosis. The patient was a child of 9, habitually constipated, who had had numerous attacks of vomiting that lasted for some days. The last attack was accompanied by acetonuria, the breath also having a strong odor of acetone. The vomiting ceased on the thirteenth day, and on the fourteenth appeared signs of tuberculous meningitis, death of the patient from that disease occurring 5 days later. No conclusions are drawn from this one case, except that vomiting accompanied by acetonuria is a syndrome of as yet unknown etiology, and is not to be regarded as a benign entity. [A.G.E.]

A Case of Severe Intestinal Autointoxication.—Stuertz[4] reviews the literature on this subject and states that the etiologic relation between abnormal digestive processes and disease of the nervous system had only recently been demonstrated. From clinical experience he observed that autointoxication may cause epileptiform convulsions, disturbances of consciousness, severe headache, paresthesias, great anxiety and acute psychoses. It has thus far been impossible to isolate the harmful toxins. The urine in nearly all cases, shows indican, and sometimes acetic acid and acetone. Of Ewald's cases of autointoxication accompanied by severe nervous disturbances, one was due to gastric and another to intestinal indigestion. Jaksch states that symptoms of meningitis in children are not rarely caused by intestinal indigestion and constipation, and that they usually disappear after the administration of calomel. Stuertz gives the case history of a young man who ate raspberry ice bought on the street. He rapidly developed symptoms of gastric disturbance and later of pseudomeningitis. There was obstinate constipation; and for 12 days, wellmarked bradycardia. His illness lasted 24 days. The treatment consisted in the administration of calomel, intestinal and gastric irrigation and careful diet. [W.E.R.]

[1] Lancet, August 22, 1903.
[2] British Medical Journal, July 11, 1903.
[3] Gazette Medicale de Nantes, August 15, 1903.
[4] Berliner klinische Wochenschrift, June 8, 1903.

GENERAL SURGERY

MARTIN B. TINKER
A. B. CRAIG C. A. ORR

EDITORIAL COMMENT

Some recent suggestions regarding the treatment of fissure in ano, from Professor Czerny,[1] of Heidelburg, seem worthy of notice, not only because his suggestions almost always contain something original and important, but because of the difficulties which sometimes exist in such apparently trivial cases. Nearly all practitioners are familiar with the numerous and even most severe disturbance which may be caused by an insignificant fissure. It is not unusual to find a fissure hidden by large hemorrhoids in the case of a nervous or hysteric woman which may have much to do with her condition. There are also occasional cases of chronic colitis from this cause, and practically every one afflicted with fissure is subject to obstinate chronic constipation and the train of symptoms which accompany it. Forcible stretching of the sphincter under ether as suggested by Recamier puts the muscle at rest for some time, but it also converts the fissure into a deep radiating tear, sometimes several of them, which requires some time for healing. Division of the sphincter muscle relieves the pain and cures the condition, but often requires weeks or months for healing. In the less extensive cases of fissure Czerny suggests excision of the fissure, removing a piece of tissue of triangular form with the base at the mucocutaneous border. The fissure should be thoroughly excised, even down to the fibers of the sphincter. In closing the defect in the mucous membrane, the same principle applied in pyloroplastic operations, sewing up a transverse incision in a longitudinal direction is made use of. A stitch is inserted in the mucous membrane at the apex of the triangle, and this point is brought into apposition with an opposite point at the base of the triangle. The closure of the defect is completed with 2 to 4 other sutures on each side of the first suture. In this way the bed of the fissure and the exposed nerves are entirely covered. A rubber tube covered with gauze, rubbed full of boric acid ointment, is inserted in the anus. Czerny has used this method in a number of cases with relief of the pain and rapid healing. The important point to observe is thorough excision of the irritating area and covering with healthy mucous membrane. In cases in which there are also good-sized hemorrhoids he advises the complete excision of the hemorrhoids by Whitehead's method, and suturing of the mucous membrane of the healthy rectum to the skin at the mucocutaneous border. The first mentioned operation, it would seem, might readily be done with cocain anesthesia, and it should give less discomfort than usually follows forcible dilation of the sphincter and without the accompanying incontinence. If prompt healing occurred, recovery should also be much more rapid and satisfactory, as the diseased area would be entirely removed and the defect covered with healthy mucous membrane. Whitehead's operation would seem unnecessarily extensive, unless there were large hemorrhoids as well as the fissure, and no doubt Czerny did not intend to recommend this operation except for such cases.

[1] Beiträge zur klinische Chirurgie, 1903, xxxvii, 765.

REVIEW OF LITERATURE

Treatment of Cancer of the Rectum. — W. Watson Cheyne[2] says the treatment of cancer of the rectum practically resolves itself into 3 forms: (1) To leave the disease alone; (2) to perform colostomy; or (3) to remove the affected portion of bowel. He then enters into a somewhat lengthy discussion of each of these methods and the indications for each. The cases suited for the nonoperative treatment are those in which there are fungating masses, chiefly growing from one side of the rectum, as distinguished from those in which there is an encircling and constricting growth. Colostomy removes the risk of obstruction and is of great value when other organs, such as the bladder, are involved. However, it does not stop the severest form of pain which occurs in these cases and which is due to involvement of the sacral plexus in the malignant growth. Most patients object strenuously to the results of colostomy. The chief point for the discussion is the period at which colostomy should be performed, and in his opinion, while it frequently gives great relief to the patient and prolongs life, it should not be performed in the early stages while the patient is still comparatively comfortable. In regard to removal of portions of the affected bowel, he says that in the rectum, as in the intestine generally, the form of cancer which occurs is usually of the slow growing variety, and consequently it may frequently be removed with hope of successful cure. The author has a number of patients living who have been operated upon for this condition, some so long as 9 years ago. Kocher's statistics, published some years ago, showed 28% of the patients living from 3 to 16 years after the operation. However, only about 20% of patients with rectal cancer who present themselves to the surgeon are suitable for this operative procedure. The mortality ranges from 5% to 10%. His own conclusions with reference to the feasibility of this operation are, that in suitable cases it is a very valuable procedure and that the risk run by the patient is not at all in excess of what ought to be expected from the advantages to be gained. The chief local contraindication to operation is fixidity of the bowel, thus showing that the malignant growth has extended further than the walls of the rectum and is invading perirectal tissue, but some even hold that this is not a contraindication to operation. [A.B.C.]

[2] British Medical Journal, June 13, 1903.

Muscle Abscess.—F. Adolph's[1] patient complained of pain along inner side of thigh; no cause could be found for it; it yielded to heat. A few days later the pain returned associated with enlargement of the thigh. The third time he also had fever, and a mass could then be made out over the area of pain. As there was no history of syphilis, a diagnosis of possible sarcoma was made and the patient operated on. The operation revealed an abscess isolated between vastus internus and adductor muscles, from the pus of which pure staphylococci were isolated. Prompt recovery followed. No portal of entrance for the organisms could be discovered. [E.L.]

Gunshot Wound of Brain; Röntgen Rays Decide against Operation.—W. W. Keen[2] reports the case of a boy of 15, who, 6 months before, had shot himself in the head with a 22-caliber rifle. Temporary paralysis followed and 6 severe epileptic convulsions occurred the day after the accident. Improvement has since been steady. W. M. Sweet, by the aid of a new form of localizer which he fully describes in the article, determined from skiagraphs that 1 principal and 7 minute fragments of the bullet are in the boy's brain. The largest fragment lies far below the cortical leg center and just above the lateral ventricle. Dr. Keen decided that it would be inadvisable to remove the ball, as removal would result in more injury to the brain than the bullet itself is now causing. Directions were given regarding study, exercise, etc., and the boy ordered brought back immediately if either of 2 symptoms arose: (1) Persistent severe headache or other symptoms suggesting cerebral abscess; (2) a single epileptic attack. The ball would then be doing more harm than the surgeon, and should be immediately removed. To determine if any change in the position of the ball takes place, 2 small pieces of scalp were removed from the sites indicated by the localizer in order to cause permanent bald spots. [A.G.E.]

Guard for Gigli Saw.—F. C. Schaefer[3] describes and gives several illustrations of a device for protecting the brain in using the Gigli saw. It consists of a watch-spring carrier for the saw, and a broad metal protector which is passed with the guide and saw into one trephine opening and out at the other. The guide is removed, leaving the protector between the saw and the dura, which membrane is thus protected from injury while the saw is being manipulated. The author has used this apparatus for a number of years and regards it as eminently successful. [A.B.C.]

[1] Deutsche medicinische Wochenschrift, April 30, 1903.
[2] American Journal of the Medical Sciences, July, 1903.
[3] Annals of Surgery, April, 1903.

GYNECOLOGY AND OBSTETRICS

WILMER KRUSEN FRANK C. HAMMOND

EDITORIAL COMMENT

Sarcomatous Transformation of Uterine Fibroids.—One of the most cogent arguments that has been advanced for the early operation in fibroid tumors of the uterus, is the possibility of malignant degeneration occurring in the growth. The fact that these tumors might undergo necrobiosis, if the nutrition was suddenly cut off, has long been recognized; and the contiguity of the intestines in subperitoneal growths and the exposure of submucous tumors to infection usually determine a necrosis, if the blood supply of such tumor is cut off. To say that a myoma may undergo carcinomatous degeneration involves a contradiction of terms as the epithelial elements requisite for such degeneration are not present. But although the two growths are frequently associated, according to Cullen it is only in very rare instances that the myoma is found to be invaded by the epithelial growth. Hirst believes that the carcinomatous degeneration is explained either by the extension of adenocarcinoma from the endometrium into the tumor, or by carcinoma of the epithelium into an adenomyoma. Sanger asserts that all myomatous growths containing irritation cells (myoklasken) are sarcomatous, and Martin found sarcomatous degeneration 6 times in 205 cases of fibroids, while Cullen and Clark believe that taking all myomatous cases we have at least 2% in which a malignant growth of some character is present. The clinical history of sarcomatous degeneration is rather significant. A myomatous uterus which has lain comparatively dormant for several years suddenly becomes enlarged. If the myoma has been submucous, portions may be expelled and there is often a free offensive discharge. The operative significance of this laboratory investigation is what is important to the patient and to the surgeon and has been admirably summarized by Cullen as follows: 1. Whenever sarcoma or carcinoma may coexist with myoma, panhysterectomy is imperative—not amputation through the cervix. 2. Bisection of the uterus is contraindicated where there is a possibility of a malignant growth developing in or associated with the myomatous uterus. 3. In every case of hysteromyomectomy it will be advisable to have an assistant open the uterus immediately on its removal, to determine if carcinoma of the body exists and to find out whether the myoma has become sarcomatous. If malignancy is detected, the cervix can thus be removed without delay.

REVIEW OF LITERATURE

Indications for Induction of Labor in Hyperemesis and Cardiopathy.—O. Tuszkai[1] gives the clinical marks which differentiate hyperemesis gravidarum: An added tendency to vomiting from local sensibility; an increase in vomiting after bimanual examination, especially in those cases in which it is known that previous perimetritis has lessened the distensibility of the peritoneum. In such cases interruption of pregnancy is justified when local remedies, as hot or cold applications to abdomen or vagina, which are adapted to allaying peritoneal irritation, fail to ameliorate the condition, and inanition has reached such a degree as to cause rapid decrease in weight of the body, in amount of urine, of the chlorids contained in the same, and in rapid diminution of red blood corpuscles; the presence of urinary changes, increase of blood alkalinity, and pulse-rate; the appearance of albumin and kidney elements in the urine and normoblasts and megaloblasts in the blood. In the opinion of Tuszkai, we are rarely led to the induction of labor on account of cardiopathy, for although pregnancy often exerts a very bad influence on a diseased heart and no small number of such cases die suddenly during pregnancy or during or just after labor, yet a certain stage of development of cardiac disturbance and of loss of compensation makes the induction of labor a very dangerous and risky procedure, since it inclines the patient to hemorrhage, causing stagnation in the vessels of the pelvis, so that one can never have any assurance how the operation may terminate. It is exceedingly important to examine the pulse symptoms so as to be able to determine the first steps in failing compensation at the beginning of heart dilation, as all later procedure must hinge upon this. [W.K.]

[1] Berliner klinische Wochenschrift, August 31, 1903.

Hydatiform Mole and Deciduoma Malignum.—O. Polano[1] discusses the development and present status of teaching of hydatiform mole and malignant deciduoma. Bloch spoke of the hydatiform mole as being a proliferation of chorionic villi. Virchow considered them to be myxomas of the chorion. According to Marchand, with whom the author agrees, hydatiform moles are an enormous proliferation of the fetal ectoderm with simultaneous degeneration (vacuolar formation) which extends deep into the maternal structures. The chorionic stroma undergoes necrotic and edematous changes. The malignant deciduoma, considered by Sanger a sarcoma of the uterine decidua, is in reality a malignant proliferation of the fetal ectoderm, which like other malignant tumors, may give rise to metastases. The chorionic stroma does not take part in the proliferation. There are typical and atypical forms. Hydatiform mole is diagnosed by the abnormal size of the uterus and the discharge of chorionic villi; the malignant tumor often follows or coexists with the former. A careful examination through curetage of the placental site must be made. The prognosis of the former is good; of the latter, 50% can be saved by timely operation, which must always be a panhysterectomy. He considers the name of malignant epithelioma of the chorion more correct than malignant deciduoma. [E.L.]

Oophorosalpingitis of Appendicular Origin.—Certain chronic inflammations of the tubes and ovaries primarily due to lesions of the appendix receive the notice of R. Suarez Gamboa,[2] especially in view of diagnosis, for the treatment will offer nothing of difficulty. Old adhesions and plastic processes lock up what may prove a dangerous source of infection. The oophoritis or the salpingitis is to be recognized by the gradual manner of establishment. Several cases are cited. A final hysterectomy may become necessary in the event of delay of treatment. [T.H.E.]

Five Cases of Eclampsia Occurring within 16 Days, Treated by Saline Infusions.—R. Jardine[3] has observed that several cases of eclampsia are apt to occur within a short time of each other, and believes this is due to atmospheric conditions. A sudden lowering of temperature chills the skin and throws greater strain on kidneys on the verge of a seizure. The treatment is based on the assumption that the cause of the convulsions is a poison in the blood. The infusions assist the kidneys, dilute the poison, and stimulate the patient. In none of the writer's cases were drugs administered to control the convulsions. Chloroform was used during delivery and when giving infusions, but the latter can be given without it. There was little postpartum bleeding, although he tried to encourage it. He does not find that it is more liable to occur, as the coagulability of the blood is diminished. [H.M.]

Excessive Growth of the Newborn and Delayed Parturition.—H. Fuchs[4] has made an extended study of unusually large newborn children in relation to age of the mother, number of previous deliveries, sex of child, duration of pregnancy, etc. Some authors have claimed that these large fetal growths were most prone to occur with mothers whose first menstruation was long delayed, but Fuchs found no evidence to confirm this theory. He gives a table showing that of 14 newborn children weighing from 4,000 to 4,500 grams, 11 were males and 3 females, and the duration of pregnancy was was 302 to 322 days; and of 10 weighing from 4,500 to 5,090 grams, 6 were males and 4 females, and the duration of pregnancy was from 306 to 340 days. Fuchs concludes that out of 100 deliveries one may be expected in which the duration of pregnancy is from 303 to 341 days, with a noticeable increase in fetal weight. [W.K.]

[1] Volkmann's klinische Vortraege, No. 329.
[2] Crónica Médica Mexicana, October 1, 1903.
[3] Edinburgh Medical Journal, July, 1903.
[4] Münchener medicinische Wochenschrift, August 18 and 25, 1903.

TREATMENT

SOLOMON SOLIS COHEN
H. C. WOOD, JR. L. F. APPLEMAN

EDITORIAL COMMENT

A Warning against Morphin-Scopolamin Anesthesia.—In the last 2 or 3 years there have appeared several articles recommending the combined use of morphin and scopolamin (hyoscin) for the purpose of surgical anesthesia. This method is known after the names of its 2 most ardent advocates, as the Schneiderlin-Korff narcosis. Kochmann[1] calls attention to the danger of this procedure. Out of 235 cases which he has collected, there have been 2 deaths, beside a large number of cases presenting dangerous symptoms. The method is founded on ignorance of the physiologic action of these two drugs, the statement of the originators being that they are antagonistic in their action, save upon the brain. As a matter of fact while antagonistic in their action upon the pupil, and to some extent upon the heart, there is hardly an organ in the body upon which their effects are entirely antagonistic, while both of them are marked depressants of the respiration, of the peristaltic movement of the bowel and of secretory activity. As the method is being copied into some of the American journals, we have thought worth while to give warning against its use.

REVIEW OF LITERATURE

Treatment of Tetanus.—M. Metschkowsky[2] states that the serum treatment of tetanus lowers mortality in grave acute cases as well as in chronic cases; in chronic cases the action of the serum is particularly evident. He has observed that the longer the period of incubation the more favorable is the prognosis. The serum should be administered as soon as possible, and in large doses frequently repeated. As a prophylactic in suspected cases, its value is incontestible. Intracranial and intravenous injections present no advantage over subcutaneous injections, which are not followed by any unfavorable results. It should be remembered that the action of the serum is slow and progressive. [L.F.A.]

Morphinism.—According to F. X. Dercum (Cohen's System of Physiologic Therapeutics, Vol. viii) isolation is absolutely imperative in the treatment of morphinism. No one should have access to the room save the nurse and the physician. No letters, packages, or newspapers should be admitted to the room under any pretext. Patients practise all sorts of devices to secure possession of the coveted stimulant. Bribery of servants is attempted, or an order may be written on a piece of paper, the paper wrapped about a coin, and the missive thrown out of a window; in his own observation this method upon one occasion actually enabled the patient to procure the drug. It is remarkable also to what extent friends and relatives will enter into collusion with the patient to supply him with the stimulant, all fearing that the doctor is practising great cruelty and is withdrawing the drug too rapidly. Vigilance in such cases cannot be too great. The question of the rate of withdrawal is not susceptible of a routine answer, but must be decided with special reference to all the circumstances in each individual case. It is Dercum's practice not to begin withdrawal until rest treatment is fully under way. The morphin habitué labors under an excessive fear lest the drug be withdrawn too soon. Beside, sudden withdrawal always implies a period of frightful physical and mental suffering. However, if the patient learns after his first few days of rest and isolation that he is still receiving his hypodermic injections or that he is still being allowed his usual quantity of laudanum or opium, confidence sooner or later asserts itself, especially as the physical comfort resulting from the bathing, massage, and proper diet becomes pronounced. Withdrawal may then be begun, and it is almost always best conducted very gradually. At first the diminution of the dose is practically imperceptible; later on the reduction may be more rapid. If the patient has been in the habit of receiving hypodermic injections not only is the dose reduced gradually in the manner indicated, but also small doses of strychnin nitrate, say $\frac{1}{50}$ gr. (1.2 mg.), and if the skin be very moist, small doses of atropin sulfate, say $\frac{1}{200}$ gr. (0.3 mg.) are added to the injection. Hyoscin or scopolamin may also be employed in doses of $\frac{1}{100}$ gr. or $\frac{1}{200}$ gr. (0.6 mg. to 0.3 mg.). These drugs markedly allay the nervousness and suffering of the patient. After the morphin has been discontinued entirely, hypodermic injections of strychnin or of strychnin and atropin may be kept up for some time without informing the patient of the change. Cocain should never be used; a large number of patients that come under our care for the morphin habit have already acquired the cocain habit. The same remarks apply to the use of alcohol. Many cases, indeed, are instances of the "triple" habit, namely, morphin, cocain, and alcohol. The reason for withdrawing the drug in the gradual manner described, is not only to diminish the sufferings of the patient, but also to prevent the onset of serious symptoms. Every now and then, if the drug be abruptly withdrawn, signs of collapse—diarrhea, sweating, cardiac weakness, and dyspnea, with excessive prostration—may set in. In other cases, again, mental symptoms resembling those of confusional insanity make their appearance, the patient becoming hallucinatory, delusional, and finally delirious. Such symptoms are not likely to make their appearance if the drug be withdrawn in the manner indicated and under fully established rest conditions.

[1] Therap. der Gegenwart, 1903, v, 207.
[2] Thérapeutique moderne Russe, No. 2, 1903.

Treatment of Amebic Dysentery.—That the treatment he advocates would be successful in the Philippines or Southern States, S. G. Gant[1] is not prepared to say, but he is convinced that he can in a short time, without giving a dose of medicine by the mouth, heal the ulcers in cases of amebic dysentery as seen in the latitude of New York. During the first week the bowel is irrigated daily through a long colon tube with a solution containing 2 gm. (30 gr.) of silver nitrate to the pint of water. The second week 1.3 gm. (20 gr.), the third week 0.66 gm. (10 gr.) are used. For the next 2 weeks this weaker solution is alternated with an emulsion containing:

Iodoform	8 gm. (2 dr.)
Bismuth	16 gm. (4 dr.)
Olive oil	500 cc. (1 pt.)

The silver nitrate is then stopped and the emulsion alternated with a combination of biborate of soda 8 gms. (2 dr.) in 125 cc. (4 oz.) of fluid extract of krameria, 30 cc. (1 oz.) of this mixture being added to 1 pint of water. For a week the diet consists of large quantities of unsalted butter and baked potatoes. The patient may then have a chop, unsalted butter, baked potatoes, eggs, and later milk. Gant has never found quinin effective in the treatment of dysentery. [A.G.E.]

The Action of Adrenalin.—In view of the diversity of opinion concerning the value of adrenalin, W. F. Simonowitch[2] has undertaken to investigate the subject experimentally on 23 dogs and 4 rabbits. He employed 2 preparations: the adrenalin (Takamine), and Poehl's hydrochlorid or adrenal chlorid. In small doses (0.005 gm. or $\frac{1}{12}$ gr.) the drug exerts a general effect only when injected directly into the blood. Given by mouth to animals in somewhat larger doses the drug has no general effect, that is, it leaves the blood-pressure and the heart-action unchanged. Administered to man in doses of 0.05 gm. ($\frac{3}{4}$ gr.) adrenalin produces no general effect and does not even call forth any subjective symptoms. The inertness of adrenalin when taken internally may be explained by the extremely slow absorption, since the drug acts promptly if injected into the intestinal veins. The absorption of adrenalin is not favored by lesions of the digestive mucous membrane, and it follows that the drug may be used for styptic purposes along the digestive tract without fear of toxic by-effects. The local action depends more on the frequent repetition of small doses than on single large ones. Glycosuria, following the use of adrenalin, is a toxic phenomenon. The injection of adrenalin into the venous circulation, as recommended by Gottlich, for the purpose of reviving the heart must be considered a last resort, since sudden death from cardiac paralysis occurs in animal experiments even after the use of small quantities. Simonowitch is at present investigating the styptic value of adrenalin in hemorrhages from the digestive tract. [L.J.]

[1] The Postgraduate, September, 1903.
[2] Russki Vratch, June 14, 1903.

THE PUBLIC SERVICE

Health Reports.—The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended October 30, 1903:

	SMALLPOX—UNITED STATES.	Cases	Deaths
Illinois:	Belleville....Oct. 10-23	4	2
	Chicago....Oct. 18-24	1	
Maine:	Bangor....Oct. 10-19	50	
	Brewer....Oct. 10-19	10	
Massachusetts:	New Bedford....Oct. 18-24	1	
Michigan:	Detroit....Oct. 18-24	1	
New Hampshire:	Manchester....Oct. 18-24	6	
New Jersey:	Jersey City....Oct. 19-25	1	
New York:	New York....Oct. 18-24	2	
Ohio:	Cincinnati....Oct. 17-23	4	
	Cleveland....Oct. 18-24		1
	Dayton....Oct. 18-24	1	
Pennsylvania:	Altoona....Oct. 18-24	4	
		1 case imported.	
	Johnstown....Oct. 18-24	14	3
	Philadelphia....Oct. 18-24	9	8
Utah:	Salt Lake City....Oct. 18-24	1	
Wisconsin:	Milwaukee....Oct. 22-28	2	
	SMALLPOX—FOREIGN.		
Austria-Hungary:	Prague....Oct. 4-10	9	
Colombia:	Barranquilla....Oct. 5-11		1
Great Britain:	Birmingham....Oct 4-10	6	
	Bradford....Sept. 26-Oct. 10	5	
	Glasgow....Oct. 10-16	5	
	Leith....Oct. 4-10	1	
	Liverpool....Oct. 4-10	3	
	London....Oct. 4-10	2	
	Manchester....Oct. 4-10	2	
	Newcastle-on-Tyne..Oct. 4-10	4	
India:	Bombay....Sept. 16-29		3
Italy:	Catania....Oct. 9-15		1
Netherlands:	Amsterdam....Oct. 11-17	3	1
Russia:	Moscow....Sept. 20-Oct. 3	4	7
	Odessa....Oct. 4-10	2	
	St. Petersburg....Sept 27-Oct. 3		1
Spain:	Barcelona....Oct. 4-10		5
Venezuela:	Bolivar....Oct. 4....Present.		
	San Felipe....Oct. 14....Epidemic.		
	Tucuyo....Oct. 3....Prevailing.		
	YELLOW FEVER—UNITED STATES.		
Texas:	Laredo....Oct. 22-28	95	10
	Minera....Oct. 21-23	3	1
	San Antonio....Oct. 21-26	7	
		1 at Fort Sam Houston.	
	Dewitt Co....Oct. 26	3	1
	YELLOW FEVER—FOREIGN.		
Costa Rica:	Limon....Oct. 1-15	1	
Cuba:	Havana....Oct. 6-9	3	
1 on American Steamship Monterey from Progreso.			
2 on German Steamship Prinz Adalbert from Vera Cruz and Tampico.			
Mexico:	Citas....Sept. 27-Oct. 3	16	5
	Linares....Sept. 27-Oct. 3	555	46
	Merida....Sept. 27-Oct. 3	13	4
	Nuevo Laredo....Oct. 22-27	12	4
	Tampico....Sept. 27-Oct. 3	5	4
	Vera Cruz....Oct. 10-17	58	18
	CHOLERA—FOREIGN.		
India:	Madras....Sept. 19-25		3
Japan:	Kobe....Sept. 26-Oct. 3	2	1
Turkey:	Hama....Oct. 3....Prevailing.		
	Homs....Oct. 3....Prevailing.		
	Nabeck....Oct. 3....Prevailing.		
	Tripoli....Sept. 15....15 to 20 daily		
	PLAGUE—FOREIGN.		
Australia:	Queensland, Brisbane....Sept. 12	2	2
	Townsville....Sept. 4	1	1
Chile:	Iquique....May 15-Aug. 17	170	101
	Valparaiso....To Aug. 24	9	2
Japan:	Yokohama....Sept. 13-26	2	1

Changes in the Medical Corps of the U. S. Army for the week ended October 31, 1903:

BAKER, First Lieutenant FRANK C., assistant surgeon, is granted leave for one month from about October 18.

GREGORY, First Lieutenant JUNIUS C., assistant surgeon, is assigned to duty at the Army General Hospital, Presidio.

THORNBURGH, First Lieutenant ROBERT M., assistant surgeon, is relieved from duty at Fort Slocum and will proceed to Fort Warren for duty, relieving First Lieutenant George W. Mathews, assistant surgeon. Lieutenant Mathews upon being thus relieved will proceed to Fort Du Pont for duty.

COLLINS, First Lieutenant GEORGE L., assistant surgeon, resignation has been accepted, to take effect October 23.

STOCKARD, JAMES K., contract surgeon, is relieved from duty at Fort Du Pont and will proceed to Fort Revere for duty.

MCFARLAND, WILLIAM, sergeant first class, now on temporary duty in the office of the supervising dental surgeon, San Francisco, Cal., will be assigned to temporary duty with the first troops leaving San Francisco for the department of the East. Upon completion of the duty he will proceed to Fort Mansfield for duty.

CORBUSIER, Major WILLIAM H., surgeon, is assigned to duty as chief surgeon, department of Mindanao, relieving Lieutenant-Colonel Geo. W. Adair, deputy surgeon-general, who will proceed to the United States.

The following-named assistant surgeons (recently appointed) will proceed from the places set opposite their respective names to Washington, D. C., and report on November 3 at the Army Medical Museum Building for a course of instruction at that school: First Lieutenants Craig R. Snyder, Chicago, Ill.; Ernest G. Bingham, Talladega, Ala.; James D. Heysinger, Philadelphia, Pa.; John B. Huggins, Corning, N. Y.; Edgar W. Miller, Madrid, Iowa; William H. Tefft, Belmont, N. Y.

MASON, GEO. L., contract dental surgeon, is granted leave for one month, with permission to visit China, from about October 1.

TUKEY, WM. H., contract surgeon, is assigned to duty as transport surgeon of the Dix, and will proceed to Tacoma, Wash.

SABIN, WALLACE E., contract surgeon, now on temporary duty at Vancouver Barracks, will proceed to Fort Lawton for duty.

SMITH, First Lieutenant LLOYD L., assistant surgeon (recently appointed) will proceed from Trenton, N. J., to Washington, D. C., and report November 3 at the Army Medical School, for a course of instruction.

WESTERDAHL, GUS J., sergeant first class, Fort Lincoln, will proceed to Fort Yellowstone to relieve Sergeant First Class Joseph Dykstra. Sergeant First Class Dykstra will proceed to Fort Des Moines for duty.

STROMBERG, AUGUST J., sergeant first class, Fort McDowell, will proceed to Whipple Barracks for duty.

Changes in the Medical Corps of the U. S. Navy for the week ended October 31, 1903:

FISKE, C. N., passed assistant surgeon, commissioned passed assistant surgeon, with rank of lieutenant, from May 15, 1903—October 23.

MORSE, E. T., pharmacist, detached from the Navy Yard, Boston, Mass., and ordered to the Navy Yard, Portsmouth, N. H.—October 23.

BERTOLETTE, D. N., medical inspector, detached from duty at Naval Dispensary, Washington, D. C., and ordered to continue other duty—October 26.

PLEADWELL, F. L., surgeon, detached from the Kearsarge and ordered to duty at the Naval Dispensary, Washington, D. C.—October 26.

LOWNDES, C. H. T., surgeon, detached from Naval Hospital, Boston, Mass., and ordered to the Naval Academy, Annapolis, Md.—October 26

SNYDER, J. J., passed assistant surgeon, ordered to the Kearsarge—October 26.

OHNESORG, KARL, assistant surgeon, detached from the Naval Academy and ordered to the Naval Hospital, Boston, Mass.—October 26.

DUNN, H. A., assistant surgeon, ordered to the Naval Proving Ground, Indian Head, Md.—October 26.

Changes in the Public Health and Marine-Hospital Service for the week ended October 29, 1903:

GASSAWAY, J. M., surgeon, granted extension of leave of absence for one month from October 13—October 24, 1903.

KALLOCH, P. C., surgeon, to proceed to Dorchester, Mass., for special temporary duty—October 26, 1903.

PERRY, J. C., passed assistant surgeon, to proceed to Lexington, Va., for special temporary duty—October 23, 1903

NYDEGGER, J. A., passed assistant surgeon, Bureau letter of October 10, 1903, granting Passed Assistant Surgeon Nydegger leave of absence for one month, amended so that said leave shall be for twenty-nine days from September 23—October 27, 1903.

WICKES, H. W., passed assistant surgeon, granted leave of absence for two days from October 28—October 27, 1903.

FOSTER, M. H., passed assistant surgeon, granted leave of absence for fifteen days from November 3—October 27, 1903.

ANDERSON, J. F., passed assistant surgeon, to proceed to Lexington, Va., for special temporary duty—October 23, 1903.

BULLARD, J. T., acting assistant surgeon, granted leave of absence for four days from October 29—October 29, 1903.

GOLDSBOROUGH, B. W., acting assistant surgeon, Department letter granting Acting Assistant Surgeon Goldsborough leave of absence for three weeks from September 22, 1903, amended to read thirteen days from September 22—October 24, 1903.

JACKSON, J. M., acting assistant surgeon, Department letter granting Acting Assistant Surgeon Jackson leave of absence for thirty days from October 5, 1903, amended so as to read thirty days from October 26—October 24, 1903.

SAFFORD, M. V., acting assistant surgeon, granted leave of absence for three days from October 23, 1903, under paragraph 191 of the regulations.

Boards Convened.

Board convened to meet at Washington, D. C., October 29, 1903, for the physical examination of an officer of the Revenue Cutter Service. Detail for the Board: Assistant Surgeon-General W. J. Pettus, chairman; Assistant Surgeon A. J. McLaughlin, recorder.

Board convened to meet in Philadelphia, Pa., October 30, 1903, for the physical examination of an officer of the Revenue Cutter Service. Detail for the Board: Assistant Surgeon W. A. Korn, chairman; Assistant Surgeon C. W. Wille, recorder.

Promotion.

Assistant Surgeon W. C. Hobdy, commissioned (recess) as passed assistant surgeon in the Public Health and Marine-Hospital Service, to rank as such from August 15—October 26, 1903.

Appointment.

W. J. S. Stewart appointed acting assistant surgeon for duty at Rio de Janeiro, Brazil—October 8, 1903.

Casualties.

Assistant Surgeon C. N. Decker died October 21, 1903. Acting Assistant Surgeon C. B. Sweeting died October 4, 1903.

American Medicine

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PUBLISHED WEEKLY AT 1321 WALNUT STREET PHILADELPHIA BY THE AMERICAN-MEDICINE PUBLISHING COMPANY

VOL. VI, No. 20. NOVEMBER 14, 1903. $5.00 YEARLY.

Reorganization of the Red Cross.—If correctly informed—a particularly necessary proviso—in the present instance, we are next month promised an adoption by the Red Cross of new by-laws and an election of new officers of the Society in this country. The new by-laws have been framed by a committee composed of Senators Hoar and Proctor, John G. Carlisle, Richard Olney, and General Miles. One may, therefore, expect reform, and if we interpret the report correctly, at least the promise of it has been secured. It is said that the executive committee of the corporation has rescinded its action of last spring in suspending twenty-two members of the organization who had signed a petition to the President and to Congressmen for an investigation of the financial side of the Red Cross. Miss Barton says further that the new by-laws are proposed partly because both the present by-laws and the mode in which they were adopted at the last annual meeting have been severely criticised, and partly because during the last year the officers of the Red Cross have entered upon some branches of work, notably a "first aid department," not contemplated or provided for in the existing by-laws. "These proposed by-laws," Miss Barton says, "put the corporation upon an efficient business footing, and under them all moneys received and disbursed by its officers or agents are to be duly accounted for and its financial accounts periodically audited. All of which is a sufficiently frank confession said to be "good for the soul," and we trust the critics who have sent us protests as to the attitude of *American Medicine* upon this subject will help forward the needed reorganization of the Society.

"The Dispensary Problem in Philadelphia" is the title of a valuable study made by Mr. F. B. Kirkbride, the chairman of the Committee on Dispensaries and Dispensary Practice of the Hospital Association of Philadelphia. The data gathered and systematized show the results of inquiries addressed to 481 physicians and to the dispensary superintendents of the city. Beside many individual and semimedical charitable organizations there are 61 dispensaries in the city which constitute the basis of the report. The hospitals proper are not included, but it is suggestive to learn that according to the last report there were 4,670 hospital beds in the city, and the average number occupied was only 2,951, leaving over 1,700 empty. It is plain, therefore that there is "no lack of this kind of medical relief" here. In 1877 there were 126,673 patients treated in the 33 dispensaries of that year, *i. e.*, 159 for each 1,000 of the population. In only 42 of the 61 dispensaries at present considered, 305,980 patients were treated in 1902, or 238 per 1,000 population; 298,000 prescriptions were compounded in the dispensary drug stores. The reports of the superintendents show in a general way that the dispensaries are housed in small quarters, considering the large amount of work which they do. The average number of rooms occupied is 6; the largest number 17; while the average number of patients treated is 7,285. The average number of physicians connected with each dispensary is 22. It is evident that beside being overhospitalized, Philadelphia has also more dispensaries than is necessary or wise, either for patient, public or physician.

The Function of a Dispensary.—In answer to this question the following summary is made by Mr. Kirkbride of the letters received:

For the medical and surgical relief of the poor	165
To provide material for clinical instruction	30
To furnish experience to young physicians	12
To furnish first aid to the injured, rich or poor	11
Selective agency for hospitals	5
For the study of disease	4
To receive convalescents and cases not requiring treatment in hospital	4
To afford special treatment	2
To educate poorer classes in hygiene	2
For experimentation	1
To furnish free medicines	1
To furnish food and clothing in special cases	1
To treat at low cost those who can pay a little	1
To teach patients to avoid advertising quacks	1
To furnish aid to ambulant indigent sick and injured	1
Office practice without pay	1
Total	242

We thus find that 165 physicians say that the dispensary exists for the medical and surgical relief of the poor. But who are "the poor?" There is, it is said, considerable diversity of opinion as to the meaning of the word "poor," which is defined in many ways from the "very destitute" on the one hand to "moderate wage earners" on the other. Many qualifications of the term, such as "honest," "ignorant," or "deserving" poor, are also given. Providing material for clinical instruction, fur-

nishing experience to young physicians, and first aid to the injured, rich and poor alike, are also important and proper functions. While some answers class teaching as more important than the treatment of the poor, a far larger proportion evidently consider the educational function incidental. It is clear that there is a growing tendency on the part of those in charge of dispensaries to make the service less free and to limit in one way or another the plan of unrestricted gratuity. In 90% of the dispensaries of New York City, it is said, there is a charge made for the dispensary card at the first visit. The Massachusetts General Hospital makes a charge of ten cents, and the London Hospital one of three pence. A charge for medicines is another method that has been adopted. Neither is free from possible abuse, and often certain injustice. In either case there is no duty or gratitude recognized as due the chief worker, the physician, whose rights should also be considered, giving his services as he does, without direct compensation, and his indirect financial benefits in actual practice seem already sufficiently encouraged. Twelve dispensaries frankly permit the attending physicians to refer cases to their own offices, and in many others, doubtless, it is done despite any existing prohibition.

The Dispensary Abuse on the Part of the Patient.—The replies to this question are as follows:

Patients treated who are able to pay a physician	125
Pauperizes beneficiaries	14
"Dispensary habit"	6
Belief that dispensary physicians are well paid	4
Desire for treatment by a professor	3
Patients from country come for consultation	2
Cultivates idleness and the drink habit	2
Donors refer improper cases for treatment	2
Patients treated who pay a physician to bring them to dispensary	1
Giving "tips" to dispensary physicians	1
Encourages dissatisfaction with family physician	1
Used by politicians	1
Encourages belief that no medical advice is valuable unless given by a specialist	1
Under cloak of charity dispensaries foster avarice	1
Total	164

Only 18 of the Philadelphia dispensaries make any attempt to prevent imposition on the part of patients. At best there is only a reliance upon their word in answer to a sometimes asked question. It is well known, one may add, that a large number of patients follow the rule of answering regardless of the truth that they are unable to pay, many construing the word, "unable," according to easy standards, while a not small portion put on their worst clothing when they make their visits, and privately feel that they have a perfect right to all they can get for nothing. The superintendents' answers lead to the conclusion that each dispensary is in very large measure a law to itself, and that there is the greatest diversity not only in the method of handling cases, but in the rules governing the dispensary physicians and in the system of accounting. The importance of systematic medical records cannot be overestimated. The Massachusetts General Hospital has recently adopted a very complete system of records which is a model in this respect. Of 26 superintendents who consider that the work of their institutions is more or less abused only 7 make any suggestions as to possible remedies. Manifestly there is altogether too great laxity on the part of legislators and the charitable as to what becomes of the vast sums of money too indiscriminatingly presented these institutions. The whole matter of medical charities has become unwieldy, haphazard, and honeycombed with abuses of many kinds.

The dispensary abuse on the part of the profession about which there is the most agreement, is that patients are not carefully treated. This occurs in the larger and crowded clinics where large numbers of patients must be disposed of in the smallest possible time by the overworked attendant. The replies to this question are as follows:

Patients not carefully treated	17
Used as a feeder for private practice	14
Physicians refer cases to dispensaries instead of referring to a specialist	11
Physicians encourage large clinics	6
Organized by self-seeking physicians	6
Used by physicians for advertising	5
Physicians often inconsiderate	3
Medical profession is responsible	3
Competition between dispensaries and clinics in same dispensary	3
Unsatisfactory scientific work	2
Used to aggrandize medical schools, hospitals, or members of staff	2
Undeserving cases encouraged by young physicians desiring experience	1
Richer patients receive better attention than poorer	1
Chiefs neglect their services, which are left in charge of assistants, or even students	1
Chiefs encourage unnecessary operations	1
Chief abuse, impertinent investigation	1
Reckless prescription of dangerous drugs	1
Waste of time of patients	1
Patients charged for medicine and treatment	1
Treatment at "bargain-counter" rates of those able to pay	1
Total	81

The Dispensary Abuse on the Part of the Dispensary.—The answers elicited by Mr. Kirkbride as to this phase of the inquiry are these:

Large and indiscriminate dipsensary services encouraged	23
Deprive physicians of fees	15
Large and indiscriminate dispensary services used as a means of securing State aid	8
Overcrowding	6
Lack of investigation of cases	4
Dispensaries improperly equipped	3
Not properly managed	3
Charging for drugs as a source of revenue	3
Free dispensing of drugs	2
Teaching institutions foster abuse	2
Lowers standing of medical profession	2
Too many dispensaries	2
Public supports dispensaries under false guise of charity	2
Dispensaries unhygienic	1
Create a public opinion that nobody need pay a doctor	1
Charging for medicine fosters idea that no charity is being received	1
Lower the wage-rate	1
Lay management	1
Prohibition of dispensary physicians referring cases to their own offices	1
Total	81

Fourteen physicians consider the abuses exaggerated, while three can see nothing at all to criticise. The dispensary superintendents' replies show that they take the subject of abuses less seriously than do the physicians, who in a way are more directly affected. Thirty-one of the hospital superintendents report that so far as they know no objection has been raised to the work of their dispensaries. One superintendent states that the work of the place is objected to by physicians of little standing; another that the only definite objection has been made by a tradesman anxious to supply manufactured articles; while a third answers: "Yes, the same as to all dispensaries, that they take away from the office practice of physicians."

Remedies for the Dispensary Abuse.—The remedies suggested by the writers are, on the part of the dispensaries, as follows:

Cards to be issued by clerk under direction of dispensary	32
Cards to be issued after investigation	22
Patients to present certificate from minister or physician	18
Refuse those able to pay	11
Fewer dispensaries	9
Cards to be issued by person in charge of a district	9
Cards to be issued after patient signs statement of need	9
Charge those able to pay for medicines	9
Cooperation of hospitals	9
Cards to be issued by charity organizations	7
Investigate homes of patients	7
Give those able to pay lists of physicians charging moderate fees	7
Charge those able to pay	6
Adopt Rhode Island Hospital system	5
Cards to be issued by a central board of admission	5
Dispensary physicians should be paid	4
Signs in dispensaries	4
Publish lists of patients	4
Publish list of impostors	4
Charge all patients a small fee	4
Dispensary cards should state "Free treatment for the poor only"	3
Confine to general medical and surgical services	3
Adoption of uniform rules	2
Physicians should be given authority to exclude those able to pay	2
Lay management	1
Combined medical and lay management	1
Cards to be issued under direction of Board of Health	1
Eliminate competition by districting city	1
Sworn affidavit before notary from all doubtful cases	1
Record financial condition of all applicants	1
Record financial condition as at Wills Eye Hospital	1

On the part of the profession, the State, the city, etc., the plans of relief offered are of little avail, as indeed are most of those listed above. Three conclusions stand out as certain: 1. The dispensaries must be viewed and conducted from the point of view of the public welfare apart from all special interests concerned. 2. Of the trustees, a more thoroughgoing execution of their duty and fulfilment of their trust must be exacted. 3. The management of all medical charities must be systematized and brought under some common control, even that government or city.

Antipathies: Animal.—The inexplicable aversion to the proximity of "a harmless necessary cat," to which Shylock alluded in his defence of his anomalous monetary transaction with the haughty Venetian aristocrat, is not without occasional illustration in the annals of medicine. Matthiolus, the famous commentator of Dioscorides, tells us of "a German, who coming in winter-time into an Inn to sup, with him and some other of his friends; the woman of the house being acquainted with his temper (lest he should depart angry, at the sight of a young cat, which she kept to breed up) had beforehand hid her kitling in a chest in the same room where we sate at supper. But though he had neither seen nor heard it, yet after some time that he had sucked in the air, infected by the cat's breath, the quality of his temperament that had antipathy to that creature, being provoked, he sweat, and a sudden paleness came over his face, and to the wonder of all of us that were present, he cried out that in some corner or other of the room, there was a cat that lay hid." Dr. S. Weir Mitchell has found numerous instances of morbid suceptibility of this kind among living patients. Marcellus Donatus mentions the case of "a nobleman of Mantua that could not endure the sight of a hedgehog without falling into a syncope, and cold sweats immediately upon it." And the celebrated anatomist Bartholin tells his readers that "there is in Hafria, a man, in other respects strong, healthful, and of a good courage, who yet as oft as he sees a dog (though it be never so small a one) is not only affrighted, but also seized with convulsions in his left hand." The venerable item of biography, that Germanicus could not bear the sight of a cock, possesses the dignity of a classic; and a horror of mice is said to have been a common feature—congenital or acquired—of the Persian Magi. The every-day horror, especially displayed by ladies, of beetles and spiders is, of course, too familiar to all readers to acquire special comment. That the highest type of the human intellect is not safe from such unreasonable antipathies is shown by the unconquerable horror of the sight of a leveret which possessed the famous astronomer, Tycho Brahe, all through life.

Antipathies: Vegetable.—Among the extraordinary series of clinical curiosities collected by Schenck is found the following: "Jacobus Fovoliviensis, the most excellent physician of his age hath left it witnessed of himself, that if at any time he eat garlick he was no less tormented than if he had drank poyson, the very same symptoms appearing in him as is usual in those that are poysoned, and was hurt by the smell of it as if it had been something pestilential." Johannes Quercitanus, secretary to the French King, Francis I, had such an antipathy to apples, that if he was obliged to sit near them at table for any considerable time, a copious epistaxis always resulted. We have known one patient in whom the eating of any raw fruit produced severe asthmatic symptoms, swelling of the tongue, etc. Any well-cooked fruit could be eaten with impunity. The celebrated Julius Cæsar Scaliger always grew deadly pale when a plate of water-cress was placed near him. Zimmermann mentions the case of a lady of his acquaintance who trembled violently whenever she touched the velvety skin of a peach. The Prince de Condé, father of the illfated Duc d'Eughien, could never attempt to eat fruit of any kind. Duchesne, secretary of Francis I,

is reputed to have had a hemorrhagic horror of apples similar to that of Johannes Quercitanus already referred to; and the Polish King, Jagellon, always fled from the sight of one! And we are told by Schenck that: "A noble Count of Arnstadt had such an antipathy to olive oyl, that all kinds of sawces that were prepared with it, and set in the room where he was, must suddenly be taken thence, or else he would immediately be taken with deadly faintings." The celebrated Dr. Johannes Heurnius tells us of himself that whenever he ventured to partake of pepper or horseradish, even in minute quantities, he was sure to be afterward "tortured with the cruel pains of the colick."

Antipathies: Medicinal.—We are informed on the authority of the learned and famous physician and astrologer, Jerome Cardan, that there was a whole family of Milan "that would dye at the taking of a little *Cassia Fistula*." And Donatus Marcellus tells us of a "whole family" of his own city, "who were never able to bear the Electuary, called *Diaphœnicon*, though it was never so privately minced with other medicines; but they would streight reject it by vomit, as myself have often seen." Amatus Lusitanus narrates the following case: "Bernardus Bonius of a Patrician family in Ragusa, a young man of about 20 years of age, caused his water to be brought to me with request, that if it portended any evil, I would administer to him. I found he had a weakness in the reins, and the seminary of the French disease. I therefore prescribe him this and the other syrrup, from the apothecaries; but he desired I would not be so forward to prescribe syrups to him, for he hated all sweet things; and as I afterward found, honey, sugar, and all things made up with these, are most immediate poysons to him, he eat nor grape, nor fig, nor pear, quince, pomegranate, peach, nor prunes; of all kind of fruits, he only eats nuts, almonds, and pine kernels; he delights in vinegar, sour sauces, and water of tamarinds, and salt things; his usual drink is water. These things exactly considered, I prescribed such medicines as the disease did require, made up of things, whose taste tended to bitter, by which he was afterward cured." Schenck tells us that: "The mildest medicines create such disturbances to some, as if they were of the most vehement sort, which physicians did frequently observe in an illustrious lady, who was the light and ornament of our age; for while they endeavoured to purge her, but with manna, she was suddenly taken with torments, loathings, belchings, weariness, and involuntary sweats, and often worse and more dangerous symptoms did ever follow; yet with stronger medicine she was purged without any trouble. Also her nephew (though of a bilious temperament) a man excellently well versed in the art military, and all other laudable studies, could never he happily purged with manna, so that it seemed to be a certain peculiar property of that family."

Scarlet Fever in Havana.—News from Havana, under date of November 5, says there are nearly 600 cases of scarlatina in Havana. Recoveries from the disease are generally rapid, and there have been few deaths.

BOOK REVIEWS

The New International Encyclopedia, Vol. XI.—Dodd, Mead & Co., New York.

This number opens with a short sketch of Larrey, the distinguished inventor of the ambulance volante, first used by the army of Napoleon, and closes with Maximianus II. The chief medical and medicolegal topics treated are:

Laryngitis	Lobelia
Laryngoscope	Locomotor Ataxia
Laryngotomy	Lotion
Larynx, Diseases of	Lumbago
Laudanum	Lumbricoid
Lavender	Lunacy
Laxative	Lunar Caustic
Lead	Lunatic
Leeching	Lupus
Leg, Bandy-, Bow-	Lymph
Lens	Lymphatic
Leprosy	Lysol
Leukocythemia	Magnesium
Leukorrhea	Malaria
Lichen	Malignant Disease
Life, Mean Duration of	Malignant Pustule
Life Insurance	Malpractice
Ligature	Malta Fever
Lime	Mammary Gland, Diseases of
Liniment	Manganese
Lithic Acid and Diathesis	Mania
Lithium	Manna
Lithotomy	Marasmus
Lithotrity	Massage
Liver, Diseases of	

The following are among the more important subjects omitted or to which there are no cross references:

Laryngismus Stridulus	Leukomain
Lateral Sclerosis	Linseed (medical uses)
Lavage	Lips (diseases of)
Leg Amputations	Litter
Leg Fractures	Lochia
Leptomeningitis	Lupulin
Leukoderma	Malingering

The usual quota of physicians receive short biographic notice, and while the list is on the whole well selected, we note the absence of such familiar names as

Loring	Loeffler
Lasegue	Luschka
Lesser	MacEwen
Lieberkühn	Malgaigne
Lisfranc	Marie
Lissauer	Mauthner
Listing	

In a long article on Life Insurance too little space is given to the medical aspects of the subject, and in that on Lightning, injuries to human beings and their treatment are ignored altogether. The delusion of the Magnetic Cure is discussed, but there is no reference to the valuable function of the magnet in the removal of foreign bodies from the eye. It is a real pleasure, however, in looking over the majority of the subjects to find the same familiarity with the latest and best sanctioned views and the same facility in clear condemnation as has been exhibited in previous volumes.

A Textbook upon the Pathogenic Bacteria, for Students of Medicine and Practitioners.—By JOSEPH MCFARLAND, M.D., Professor of Pathology and Bacteriology in the Medico-Chirurgical College, Philadelphia, etc.: W. B. Saunders & Co.

The science of bacteriology is one of such breadth that we are not surprised to meet on exclusive treatise of the pathogenic bacteria which has undergone complete revision for the fourth time within a short period. This fourth revision of McFarland's book has included a consideration of the results of the experimental work of the last 2 or 3 years. The chapter on immunity is a clear presentation of a difficult subject, including all the important phases of this much-studied field. The questions of serum therapy and serum diagnosis, considered under the descriptions of the organisms against which these methods are available, reflect in their explicitness the personal experience of the author. References to many of the important investigations of recent years have been added, together with a bibliographic appendix which contains the names of over 600

authors. We fear that the addition of these references will make the position of the book more difficult. Its value as a textbook may decrease, since such references possess a peculiar formidableness for the average student. Nor has the addition of the bibliography advanced the book to the rank of a reference book—the references are by no means complete, even though they are thoughtfully chosen. In other words, the book is so good that it ought to be better; its value would be materially increased, in our opinion, by extending the scope of the book to include all the microorganisms of interest to the medical student, and by either omitting, or else perfecting the bibliography.

A Textbook of Pathology.—By ALFRED STENGEL, M.D., Professor of Clinical Medicine in the University of Pennsylvania, etc. Philadelphia: W. B. Saunders & Co.

The rapid advance of medicine during the last few years has made this revision of Stengel's wellknown book a matter of necessity. The first section of the book has accordingly been subjected to the greatest revision, especially the chapters dealing with Immunity and Inflammation, and in the discussion of Typhoid Fever, Tuberculosis, Yellow Fever, Dysentery and Diseases of the Blood. The high standard of the author is well seen in the thoroughness with which this revision has been conducted. The second section of the book, dealing with Special Pathology, has also been more or less rewritten, making the textbook up to date in every detail. A new feature is the addition of an appendix, containing the most important pathologic methods. The work aims to present in the clear, concise form essential to the textbook, the subject of Pathology, with especial reference to the clinical aspects of the science. Consequently we find a welcome addition to the concise works upon pathology—an explanation side by side with the anatomic description of a given pathologic lesion, of the physiologic consequences of such lesion. The book is evidently not intended to take the place of the more exhaustive treatises upon pathologic anatomy, and should not be permitted to supplant the special works, but the student who has mastered the elements of morbid anatomy, and the practitioner with limited time, have a distinct use for Stengel's textbook, they will find it a most modern and concise recapitulation of pathologic anatomy and physiology.

Diseases of the Ear: A Textbook for Practitioners and Students of Medicine.—By EDWARD BRADFORD DENCH, Ph.B., M.D. Third edition, revised and enlarged. New York and London: D. Appleton & Co., 1903.

In accord with the marked progress which has been made during recent years in the diagnosis and treatment of diseases of the ear and the recognition of their grave importance in association with systemic disease, it is gratifying to see a work such as this, already one of the acknowledged authorities on the subject, maintaining its high standard. While the third edition has undergone a thorough revision with the addition of much that is new, to be just in comparison, we can not place it quite on a par with Politzer's work, yet the book is an admirable one for both the specialist and general practitioner. Some notable omissions occur, such as tinnitus, one of the most frequent as well as most obstinate conditions with which the aurist has to deal. We fail to find it mentioned in the index, although referred to here and there through the book. The illustrations are fine and well selected. The publisher's work is up to the standard. Altogether we congratulate the author on his excellent work.

Diseases of the Eye.—By HENRY R. SWANZY, A.M., M.B., F.R.C.S.I. Surgeon to the Royal Victoria Eye and Ear Hospital, etc. Eighth edition, 580 pages. Philadelphia: P. Blakiston's Son & Co. Price, $2.50, net.

In preparing the eighth edition of this very popular handbook, a careful revision has been made of the whole text. Much new material has been added, and that which is obsolete omitted, bringing the work thoroughly up to date, without materially increasing its size. The following are some of the additons: In Chapter IV a description of Conjunctivitis Petrificans; in Chapter VI a description of Grating Keratitis, Guttate Keratitis, Keratitis Aspergillina, Recurrent Abrasion of the Cornea, and of Injuries of the Cornea caused by Blows and Burns; in Chapter VII a more detailed account of Herpes Zoster Ophthalmicus, a description of Lymphangiodes of the Eyelids, and of Pflüger's method of Tarsorrhaphy; in Chapter VIII a more detailed account of Kuhnt's method of Extirpation of the Lacrimal Sac; in Chapter X, in view of the vast importance of the subject, a more detailed account of Sympathetic Ophthalmitis; in Chapter XIV a more detailed account of the use of the Magnet for Foreign Bodies in the Eye; in Chapter XVI a more detailed account of Tumors of the Optic Nerve; in Chapter XVII a description of the Eye Symptoms attendant upon Myasthenia Gravis; in Chapter XVIII a description of Mr. P. W. Maxwell's Operation for Shrunken Socket, and of Professor Krönlein's Temporary Resection of the Outer Wall of the Orbit for Orbital Tumors, etc.; in Chapter XIX a description of Amaurotic Family Idiocy.

Elementary Hygiene for the Tropics.—By AZEL AMES, M.D., late Major and Brigade Surgeon, U. S. Vols., Director of Vaccination, Military and Civil Sanitary Inspector, Department of Porto Rico. Boston: D. C. Heath & Co., 1902.

This little book of 180 pages contains much information regarding the laws of health. It is written in a very elementary style especially to adapt it to the needs of small children and the uneducated dwellers in the tropics. As the title implies, it is specially concerned with the sanitary requirements of hot countries. Four appendixes are devoted to the consideration of Preventable Contagious and Infectious Diseases, The Care of Food, Insecticides, Disinfectants, Deodorants, and First Aid to the Injured. Each chapter is followed by a list of questions. The author's experience in Porto Rico has well fitted him to write of tropical hygiene, which at this time is of vital interest to many people in the United States.

Postmortem Pathology.—By HENRY W. CATTELL, A.M., M.D. Philadelphia and London: J. B. Lippincott Company, 1903.

The author states in his preface that this book has been written for those who ought to make autopsies but do not, and for those of whom such investigations are required, as medical students, hospital internes, and coroner's physicians. For these persons the book contains a vast amount of very practical information, and experienced pathologists will find many of the chapters valuable as references. Though standard works have been freely used in the preparation of this volume, the author has mainly relied upon his personal experiences gained in the postmortem rooms of various hospitals, as coroner's physician of Philadelphia, and as a teacher of morbid anatomy. This removes the book from the class of mere compilations, which are at the present time entirely too numerous, and stamps it as a collection of practical suggestions from a discerning pathologist and successful teacher. The illustrations are excellent and explanatory, though perhaps a few are superfluous, as, for instance, that of a coil of twine. The book contains 372 pages, the first chapters being devoted to general considerations, routine postmortem technic, lesions of the organs in various diseases, and special examinations. Later chapters deal with diseases due to microorganisms, parasites, and hematozoa, the preservation of tissues, weights, and measurements, comparative postmortems, medicolegal suggestions, and a list of the usual causes of death. One chapter is devoted to the Prussian regulations for the performance of autopsies in medicolegal cases.

The Latin Grammar of Pharmacy and Medicine.—By D. H. ROBINSON, Ph.D., Professor of Latin Language and Literature, University of Kansas. Fourth edition, thoroughly revised by Hannah Oliver, A.M. Philadelphia: P. Blakiston's Son & Co.

The present edition of this book contains the essential features of the earlier ones, together with some changes and additions. Many prescriptions have been added and the vocabulary made more complete. Professor Sayre has contributed a chapter on Prescription Writing and one on Chemic Terms, and a List of Pharmaceutic and Medical Terms with their Definitions.

Portfolio of Dermochromes.—By PROFESSOR JACOBI, of Freiburg, in Breisgau. English Adaptation of Text by J. J. PRINGLE, M.B., F.R.C.P. London: Rebman, Limited, 1903. Parts I and II.

In recent years a number of attempts have been made to use some of the newer color printing processes in the production of portraits of the skin, but the results have been far from encouraging; indeed, some of the portraits thus produced were little more than caricatures, far inferior to the chromolithograph. In the present atlas a new color process, called *citochromy*, has been employed, for which unusual accuracy in the reproduction of colors is claimed; and author and publisher alike are to be congratulated upon the result. We may say at once that we regard these portraits as among the very best, if not the very best, we have ever seen. The accuracy of drawing and coloring of many of them is such that too much praise cannot be bestowed upon them. The greater number are reproduced from models in Neisser's collection at Breslau, and the remainder from models by Henning of Vienna; Baretta, of Paris; Lesser and Lassar, of Berlin, and others. The subjects of the portraits are selected from among the commoner affections of the skin, but not a few of the rarer important diseases, such as Raynaud's disease, actinomycosis, pemphigus vegetans, are represented. As being especially true to life, we may mention the portraits of the several varieties of psoriasis, lupus erythematosus, and lupus vulgaris, the last having 6 plates devoted to it. We are very glad to see the exanthemas included in this atlas, since we believe these diseases to properly belong to dermatology. There are excellent portraits of variola, varicella, measles, and scarlatina. The text, which has been adapted to the English edition by the editor, Dr. Pringle, while brief, is clear and to the point. If the parts yet to appear maintain the high standard of the first two, the whole will form a most admirable collection of life-like portraits of diseases of the skin.

Practice of Medicine.—By JAMES M. ANDERS, M.D., Ph.D., LL.D., Philadelphia: W. B. Saunders & Co.

The present is the sixth edition of this valuable work, which is evidence that the author is keeping it fully abreast of the latest investigations in all that has to do with internal medicine and treatment. The original scope, aim, and arrangement of the work has not been materially altered, the principal changes consisting in the introduction of new and important subject matter, and such alterations and additions in subjects previously discussed as the latest discoveries warrant. The plan of presenting differential diagnoses in tabulated form is justly esteemed of value to the student, and is still maintained. Somewhat unusual space is given to an intelligent discussion of the pathologic states of the urine. Malaria, yellow fever, bacillary dysentery, cholecystitis, animal parasites, and the application and uses of the Röntgen rays have been fully presented. The new subjects introduced, but for the most part briefly discussed, are: Paratyphoid fever, the fourth disease, trypanosomiasis, albuminuria, transcortical aphasia, adiposis dolorosa, and amaurotic family idiocy. The work is well written, which together with its previous wide circulation, and the extensive experience of the author as a teacher and clinician, will give it wide popularity and make it a useful source of reference for students and practitioners.

The Care of the Baby: A Manual for Mothers and Nurses containing Practical Directions for the Management of Infancy and Childhood in Health and in Disease.—By J. P. CROZER GRIFFITH, M.D., Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania. Third edition. Thoroughly revised. Philadelphia, New York, London: W. B. Saunders & Co., 1903.

The author of this work has succeeded admirably in his endeavor to furnish a reliable guide for mothers anxious to inform themselves with regard to the best way of caring for their children in sickness and in health, and his name and reputation is a sufficient assurance of the safeness of his advice, and the soundness of his teaching. And although we are accustomed to insinuate to the laity that "a little learning is a dangerous thing," and that they must "drink deep, or taste not the Pierian spring," yet one feels that the mother may read this book and absorb a little learning which will be of inestimable value to herself and help to diminish the great infantile mortality and morbidity which is so marked in our great cities. The author has made his statements scientifically correct, and yet couched them in language readily comprehensible to the lay reader as well as to medical students and practitioners. We are glad the author emphasizes the importance of mothers' nursing their children, and that no artificial preparation can possibly make the milk of another animal chemically identical with that of a woman similar in its effects upon the child: and although the nursing may be much the greatest inconvenience of motherhood, still mother-love should certainly prompt the self-sacrifice. We bespeak for the third edition of Griffith's book the same popularity and appreciation which characterized the previous editions.

Modern Materia Medica and Therapeutics.—By A. A. STEVENS, A.M., M.D. Third Edition, entirely rewritten. W. B. Saunders & Co., 1903. 8 Vol., pp. 663.

The author, in his preface, says: "Since the appearance of the last edition of this book such rapid advances have been made in materia medica and therapeutics that the author has felt it imperative to rewrite the work entirely. Instead of considering the drugs in alphabetic order as in previous editions, he has thought it best in the present revision to classify them according to their pharmacologic action. Of the many new drugs, only those have been considered which have been shown by competent observers to possess real merit and to be worthy of a more extended trial at the hands of the profession." The book is excellent, telling briefly and for the most part accurately and fully what is known concerning drugs, with their actions and uses, and is neither credulous nor nihilistic in its general tone.

Essentials of the Diseases of the Ear.—By E. B. GLEASON, S.B., M.D. Third Edition, thoroughly revised.

The author in his revision brings this little work quite up to date so far as is possible in so limited space. With each subject treated in a manner that is clear and nonconfusing to the student, yet sufficiently complete to direct the busy practitioner who has to deal with the actual cases, this volume will continue to supply a demand in medical literature.

BOOKS RECEIVED.

[Prompt acknowledgment of books received will be made in this column, and from time to time critical reviews will be made of those of interest to our readers.]

A Textbook of Practical Gynecology: For Practitioners and Students.—By D. TOD GILLIAM, M.D., Professor of Gynecology in Starling Medical College, Columbus, O.; Gynecologist to St. Anthony and St. Francis Hospitals, Columbus, O.; Fellow of the American Association of Obstetricians and Gynecologists; Member of the American Medical Association of the Ninth International Medical Congress, and of the Pan-American Medical Congress; Honorary Member of the Northwestern Medical Association; Consulting Gynecologist to Park View Sanitarium, etc. Royal octavo pages xvi-634. Illustrated with 350 engravings, a colored frontispiece and 7 full page half-tone plates. Extra cloth, $4.00 net; Half-Russia, $5.00 net, delivered. F. A. Davis Company, Philadelphia.

Transactions of the Congress of American Physicians and Surgeons. Sixth Triennial Session held at Washington, D. C., May 12, 13, 14, 1903. Published by the Congress, New Haven, Conn., 1903.

Hygiene and Sanitation: A Manual of Hygiene and Sanitation.—By SENECA EGBERT, M.D., Professor of Hygiene in the Medico-Chirurgical College of Philadelphia. Third edition, enlarged and thoroughly revised, in one 12mo. volume of 467 pages, with 86 illustrations. Cloth, $2.25 net. Lea Brothers & Co., Publishers, Philadelphia and New York.

Clinical Pathology of the Blood: A Treatise on the General Principles and Applications of Hematology.—By JAMES EWING, M.D., Professor of Pathology, Cornell University Medical College, New York. Second edition, revised and enlarged. In one octavo volume of 492 pages, with 43 engravings and 18 full page colored plates Cloth, $3.50 net. Lea Brothers & Co., Publishers, Philadelphia and New York.

Lea's Series of Medical Epitomes: Anatomy: A Manual for Students and Physicians.—By HENRY E. HALE, A.M., M.D., Assistant Demonstrator of Anatomy, College of Physicians and Surgeons (Columbia University) New York. In one 12mo volume of 384 pages, with 71 illustrations. Cloth, $1.00 net. Lea Brothers & Co., Publishers, Philadelphia and New York.

The Treatment of Certain Malignant Growths by Excision of the External Carotids.—By ROBERT H. M. DAWBARN, M.D., Professor of Surgery and Surgical Anatomy in the New York Polyclinic Medical School and Hospital; Visiting Surgeon to the City Hospital, New York, etc. (The Samuel D. Gross Prize Essay) 8vo. pages xiii-192. Extra cloth; price, $2.00 net, delivered. F. A. Davis Company, Publishers, Philadelphia, Pa.

Static Electricity, X-ray and Electrovibration: Their Therapeutic Application.—By FRANKLIN B. GOTTSCHALK, M.D., Professor of Diseases of Children at Jenner Medical College; Attending Physician German-American Hospital, etc. T. Eisele, Publisher, Chicago, Ill.

AMERICAN NEWS AND NOTES.

GENERAL.

Cholera in the Philippines.—News from Manila, under date of November 5, says 22 cases of Asiatic cholera occurred in Vigan, the capital of Ilocos, Sur, Luzon, last week; 21 deaths are reported.

Report of the Surgeon-General of the Army to the Secretary of War.—The report for the fiscal year ended June 30, 1903, has lately been issued from the government printing offices at Washington. The report covers more than 150 pages and enumerates in detail matters appertaining to the surgeon-general's office, with particular reference to work accomplished in the Philippine Islands, Cuba, Porto Rico, etc.

Miscellaneous.—Dr. HOWARD S. KINNE has removed from 1715 Jefferson street, Philadelphia, to Newberry (Williamsport), Pa., where he will continue practice.—Dr. LAWRENCE HENDEE, graduate of the University of Buffalo, 1897, and for several years past an instructor in anatomy at Cornell University, has been appointed volunteer assistant in surgery at the University of Koenigsberg, Germany. Dr. Hendee has been in Berlin for several months pursuing surgical studies.—Dr. HOWARD S. ANDERS has been elected assistant professor of physical diagnosis in the Medico-Chirurgical College.—The Medical Club of Philadelphia will give a reception to Dr. S. WEIR MITCHELL at the Hotel Bellevue, on Friday, November 20.

Titles of Army Surgeons.—Rear Admiral P. M. Rixey, the Surgeon-General of the Navy, wants the titles of officers of the Medical Corps changed, and devotes part of his annual report to urging the idea. "A dissatisfaction has existed for a long time among the members of the Medical Corps," he says, "in regard to the titles which are given them in the different grades of the corps. The present titles convey no meaning as to military rank or importance of duty, and embarrassment is often the result when medical officers of the Navy are brought in contact with their fellows in civil life or other military services. To most naval medical men it is distasteful to subordinate the professional title to the military one, but it is fully recognized, on the other hand, that a title which designates both the rank and grade is desirable. The bureau recommends that Congressional action be asked for authority to rename the different grades of the Medical Corps now existing, as follows: In place of Surgeon-General, Surgeon-Admiral; and in the other grades, Medical Director to be Surgeon-Captain, Medical Inspector to be Surgeon-Commander, Surgeon to be Surgeon-Lieutenant-Commander; Passed Assistant Surgeon to be Surgeon-Lieutenant, and Assistant Surgeon to be Surgeon-Lieutenant (junior grade)."

Charitable Bequests.—RICHMOND, VA.: Daniel G. Reid, of New York, has given to the trustees of St. Stephen's Hospital the sum of $50,000 for the rebuilding and equipment of a new institution. PHILADELPHIA: By the will of Ludwig S. Filbert, the Methodist Episcopal Home for Old Women, the Methodist Episcopal Orphanage, and the Home for Aged and Infirm Colored Persons are to receive $1,000. By the will of Martha J. Craige and Mary Craige, sisters, the last survivor dying July 2, 1903, $150,000 are given to various institutions, among which are Home for Incurables, Presbyterian Home for Widows and Single Women, Presbyterian Orphanage, Rush Home for Consumptives, and Blind Institution, and Deaf and Dumb Institution. SALEM, MASS.: By the will of Miss Ropes, of Salem, a sum approximating $1,000,000 ultimately is to reach public and charitable institutions. Harvard University gets a block of railroad stock to found the Nathaniel Ropes chair of political economy, in honor of Miss Ropes' father, also stock and bonds to found the Nathaniel Ropes, Jr. scholarship. Tuskegee Institute, Carlisle Indian School, and Berea College, Berea, Ky., are to receive small amounts. NEW YORK: St. Luke's Hospital is the recipient of a gift from Mrs. Henry B. Platt of an elaborate pavilion to that institution.

EASTERN STATES.

Boston Mortality.—For the week ended November 7 the number of deaths reported to the Board of Health is 195, against 239 the corresponding week last year, showing a decrease of 44 deaths, and making the deathrate for the week 16.85.

New Deaconess Hospital.—Laying of the corner stone of the New England Deaconess Hospital, to be erected at the corner of Bellevue and Park streets, in Longwood, was signalized November 5 by interesting exercises held in St. Mark's Methodist Episcopal Church, Brookline.

NEW YORK.

The D. W. Harrington Lectureship.—The medical faculty of the University of Buffalo has chosen Dr. Samuel J. Meltzer, of New York, to deliver these lectures for 1903. The subject selected is: "Edema, a Consideration of the Physiologic and Pathologic Factors Concerned in its Formation." The lectures will be delivered in the Medical College, November 30, and December 1, 2 and 3, at 5 p.m. The medical profession is cordially invited to attend. These are the first lectures given on this foundation. Lectures will be given as often as the income from the fund will warrant.

No Light or Ventilation.—The *Boston Transcript* of November 4 is responsible for the following statement: "The tenement inspectors of New York City have found over 325,000 occupied rooms which have neither light nor ventilation.

New York Medical Directory.—This year's edition of the Medical Directory of New York, New Jersey and Connecticut, was issued recently. It is printed by the Trow Directory Company, copyrighted by the State Medical Association, and contains more than 1,000 pages. The number of physicians listed is 14,524, and of these 11,350 are in New York, 1,991 in New Jersey, and 1,183 in Connecticut.

Hospital for the Tuberculous.—The hospital for the treatment of incipient tuberculosis erected by the State of New York in the Adirondacks, is practically completed and will be ready for the reception of patients by the first of next year. The site of the institution is particularly suited for its purposes. It is more than 1,600 feet above the sea and the air and water are free from all possibility of pollution. The system of treatment at this institution contemplates a life in the open air, and it is proposed eventually, as the demands for accommodation increase, to augment the capacity of the hospital by erecting tents on the grounds for the accommodation of patients.

PHILADELPHIA, PENNSYLVANIA, ETC.

Smallpox Shows an Increase.—There were 42 cases reported for the week ended November 7, as against 13 cases for the previous week. Typhoid fever has also increased, the number of new cases for the week ended November 7 being 96, as compared with 60 during the previous week.

Doctors Plan for New Quarters.—At a meeting of the College of Physicians recently the president, Dr. Horatio C. Wood, was authorized to appoint a committee of 8 members to arrange for plans for the proposed new building, at Twenty-second and Ludlow streets. He will announce the committeemen in the course of a few days.

Mt. Sinai Hospital Site.—The Board of Directors of the Mount Sinai Hospital Association has purchased for $35,000 a site for the new buildings for the association. The property has a frontage of 241 feet and a depth of 88 feet. The Mount Sinai Hospital Association was formed almost 3 years ago, and it has a dispensary and outpatient department at 238 Pine street.

Cottage Plan for Treating Epileptics.—At the third annual meeting of the National Association for the Study of Epilepsy, recently convened at the College of Physicians, Philadelphia, Dr. Sinkler, of the Pennsylvania Epileptic Hospital and Colony Farm at West Chester, urged the necessity for 2 institutions for epileptics in Pennsylvania. He recommended the cottage plan of treating patients. These cottages, he said, should be in the open country, where the patients might have plenty of opportunity to engage in healthy rural occupations.

New System of Medical Inspection.—Dr. Martin, chief of the Health Department of Philadelphia, has planned a reorganization of medical inspection in the city. His purpose is to place at the head of each of the 50 districts into which the city is to be divided a competent medical inspector, with a salary sufficient to pay him for his full time, who is to be held responsible for the condition of his district. In his hands are to be placed the duties now divided among the vaccine physicians, district physicians, and medical inspectors. In place of 36 vaccine physicians who give a portion of their time, 50 district physicians who attend the sick poor, and of 13 medical inspectors of contagious diseases, these 50 medical inspectors will be responsible for vaccination, treatment of the sick poor, and contagious diseases.

Library of the College of Physicians of Philadelphia.—An extremely valuable and unique addition to the library of the College of Physicians has just been made through the generosity of Dr. George W. Norris, consisting of 3 volumes containing the collection of colored eye grounds made up of the original drawings and notes of Professor Eduard Jaeger, of Vienna, from which the wellknown "Jaeger Atlas" was produced. The drawings were all made by Jaeger himself, and each of them represents an exact and careful copy of an eye ground appearance as seen by him. This collection was sold after Jaeger's death by order of his executors, and was purchased by the late Dr. William Fisher Norris, first Professor of Ophthalmology at the University of Pennsylvania, for $2,400. Quite a storm of protest arose at the time from the medical profession in Vienna, who held that such valuable landmarks in the history of Viennese ophthalmology should not have been allowed to be taken from the archives of the "Kaiserstadt." Dr. Norris has also presented 1 volume containing the collection of ophthalmologic drawings from cases seen in the practice of the late Dr. William Fisher Norris, 1873-1901. This volume is valued by the library at $800, which is, perhaps, about one-half of the amount paid by Dr. Norris to the artists.

Graduate Nurses Organize.—The meeting for the completion of the organization of the Graduate Nurses Association of the State of Pennsylvania was in session in Pittsburg, October 5 and 6. Organization was effected and proper officers elected. The next meeting will be held in Harrisburg on Wednesday and Thursday of the third week in January. Enthusiasm was displayed by those present, and hope is entertained, both by the nurses and the public, that the association will be instrumental in preventing those from attempting the vocation of nursing who, at best, have had but a few weeks or months of theory in socalled schools for nurses. These makeshift institutions are without hospital connection, fail to give any practical experience whatever, and are mere mills for granting diplomas or certificates covering a subject of which the holder is grossly ignorant.

SOUTHERN STATES.

Baltimore Health Department Report.—The health report for October shows 776 deaths reported during the month, comprising 321 white males, 251 white females, 97 colored males and 107 colored females, as compared with 800 in 1900, 765 in 1901 and 742 in 1902.

WESTERN STATES.

Penny Baths for the Poor in Chicago.—According to newspaper accounts, floating bath houses will dot the Chicago river next summer, and the poor will have a chance to keep clean at the rate of 1 cent a bath. Henry E. Weaver will find the money to build the barges, buy the towels, and the first cargo of soap, and the bath houses will be expected to pay for their keeping after that. Artistic fountains will adorn the ghetto district. The bath scheme comes from Bonn on the Rhine. "They have floating bath houses there that measure 40 by 100 feet," said the donor. "Thousands bathe during the season, and the inhabitants, no matter how poor they may be, are always clean. The advisability of a floating bath house may be readily seen. Sometimes the poor will not travel far to bathe, but bring the means to their doors, and it is a different matter. The barges are moored to the bank and remain until the inhabitants of one section of the city are clean. Then they float down the river to another point. The charge of 1 cent will pay the cost of keeping the baths."

CANADA.

Sanitation of the Dairy.—At the dairy conference recently in session at Ottawa, Dr. Connell, of Kingston, scored the dairymen for not giving more attention to sanitation and declared that 60% of the factories in eastern Ontario were unsanitary in their condition, faulty drainage, bad flooring, bad water and bad whey tanks; all these defects should be remedied. Water from shallow wells often provides the source of contagion.

FOREIGN NEWS AND NOTES

GENERAL.

The Edward VII Sanatorium.—King Edward, in the presence of several thousands of people, recently laid the foundation stone of the King Edward VII Consumption Sanatorium at Midhurst, Sussex, for the erection of which Sir Ernest Cassel gave his Majesty £200,000. The King said he had decided to expend the amount of the donation in the erection of an open-air establishment, in the hope of arresting the malady and advancing knowledge on a matter of such infinite importance. Fresh air and sunshine were necessary, and the sanatorium would provide all the accommodation necessary for people of slender means.

New Cure for Cancer.—News from London, under date of November 7, says the new cancer treatment discovered by Dr. Otto Schmidt, of Cologne, has been investigated by Dr. Jesse Johnson, of London, with very important results. Dr. Schmidt does not claim finality for his discovery, but he asserts that he has isolated the specific parasite which causes cancer. Dr. Schmidt uses this parasite either sterilized or as serum. In every cancer case of 29 tried the cancerous growth gradually became surrounded with a scar, the tissue contracting the growth and leading to its degeneration. The treatment reduces malignant tumors to innocent growths, limits their spreading power and renders removal effective.

Famine Causing Disease among Russian Peasants.—News from St. Petersburg, under date of November 7, says that large districts of Russia are again threatened with famine and epidemics of typhus and scarlet fever associated with the famine. The Provincial Governors of Nijni Novgorod, Gorbatoff, Aryamas, and Riazan are beginning to send ominous reports, which mean a winter of awful suffering for millions of helpless peasants, men, women, and children, owing to the failure of the harvest. Cases of typhus and scarlet fever among the adults, hunger, typhus, and skin diseases among the children, begin to show with alarming frequency. In numerous districts the peasants have disposed of all their cattle, so their children will be deprived of milk.

Tropical Veterinary Medicine.—The London *Times* states that in connection with the Liverpool Institute of Comparative Pathology (Liverpool University), of which Professors Boyce and Sherrington are directors, a tropical veterinary department has been established. Its objects are to train veterinary and medical men in the tropical diseases of animals, to afford facilities for research in such diseases and organized expeditions, and to organize preventive measures in the tropics against diseases of animals. A memorandum on the subject has just been issued by the institute. It is pointed out that the advantages which Liverpool possesses for the study of tropical medicine are equally applicable to tropical veterinary medicine, there being an immense foreign cattle trade with the port. The secretary of state for war has approved of the course laid down by the institute, and in future officers of the Army Veterinary Department will be sent to Liverpool for their special training, the Army Department paying the fees. The Liverpool School of Tropical Medicine also trains officers sent specially by the government.

Cause of Sleeping Sickness.—According to the *New York Sun*, news received from London under date of November 7, says: "The investigations by the governmental commission sent to Uganda have resulted in the discovery of the cause of the sleeping sickness, which has caused so many thousand deaths among the natives. Buvuma Island, which had a population of 22,000, has now but 8,000. The southern province of Busoga has been practically depopulated. The first step in the discovery was the observation of trypanosomes in the cerebrospinal fluid in 5 cases of the sleeping sickness. A further investigation showed the existence of this parasite in the cerebrospinal fluid and in the circulating blood in all of the cases. As it is closely related to the disease of cattle caused by the tsetse fly, it was suspected that the sleeping sickness was caused in like manner by infection. Along the lake shore numbers of species of the tsetse fly were found. Experiment demonstrated the fact that these, when fed on sleeping sickness cases, conveyed the disease to healthy monkeys. It was also ascertained that freshly caught flies in the infected areas conveyed the disease without any preliminary artificial feeding. Further investigation proved that this fly, like the tsetse of South Africa, is confined to well-defined areas which correspond absolutely with the distribution of the sleeping sickness.

Mortality and its Causes in German Cities for the Last 25 Years.—Consul Guenther reports, October 13, 1903, from Frankfort on the Main as follows: The latest volume of the statistics of the German Empire contains a report with reference to the causes of mortality in German cities of more than 15,000 inhabitants for the period from 1877 to 1901. These cities had a population of 7.3 millions in 1877 and 17.5 millions in 1891. The total mortality per year during the 5 years from 1877 to 1881 for every 100,000 inhabitants was 2,673, against 2,046 in the 5 years from 1897 to 1901. This great decrease of mortality is a result of progress in many respects. Medicine, legislation and government, sewerage, water-works, sprinkling of streets, removal of garbage, more light and air through wider streets and parks, public bathing establishments, and playgrounds for children have improved the sanitary conditions in general, while the progress in medicine and chemistry, the antiseptic and aseptic treatment of wounds, the prevention of the spread of infectious and contagious diseases through disinfection, the serum of Behring, and the larger number of physicians and nurses in hospitals and sanatoriums have increased the chances of recovery and given better protection against infection. The more stringent laws for the protection and health of working people and the inspection of nutriments have also contributed to the general result. The statistics, however, of death from acute intestinal diseases, inclusive of cholera infantum, are very unsatisfactory. In the mortality from this group of diseases no improvement is recorded, on the contrary, more persons died from this cause during the last 5 years than in any similar period since 1877. The reason for this greater mortality and smaller birth rate is to be found in the increased employment of women. The more women enter into remunerative employment the more are infants deprived of their best nutriment, mother's milk. For this reason more attention must be paid to the purity and quality of animal milk.—[Public Health Reports.]

OBITUARIES.

Robert W. Mitchell, at his home in Memphis, November 2, aged 72; a graduate of Tulane University, New Orleans, in 1856. He rendered valuable services during the scourge of yellow fever during 1878, when he was placed at the head of a corps of 111 physicians, 45 of whom were stricken down while attending the more than 5,000 victims. He contributed valuable services during four epidemics of yellow fever; during the Civil war he was surgeon of the Thirteenth Tennessee Regiment of Confederate Volunteers; in 1870 he was elected professor in the Memphis Medical College; in 1878 was president of the Board of Health. At the time of his death he was a member of the Shelby County Medical Society, Tennessee Medical Society, American Medical Association and American Public Health Association.

William Johnson Walsham, M.B., C.M., a graduate of Aberdeen in 1871, F.R.C.S., England, 1875; at his home in London, October 5, aged 56. He began his medical career as demonstrator of anatomy and later was demonstrator of practical surgery and lecturer on anatomy and surgery at St. Bartholomew's Hospital Medical School, London. He was renowned in surgery and his work on the theory and practice of surgery has only lately reached the eighth edition.

Ernst Pflüger, who died recently at Berne, was one of the world's eminent oculists. He held the chair of ophthalmology at the University of Switzerland for many years and had made many important contributions to his specialty. He was president elect of the International Congress of Ophthalmologic Surgeons to be held at Luzerne next September.

William Dobbin, at Belfast, Ireland, October 18, aged 60, after an operation for stricture of the bowel. He became a fellow of the Royal College of Surgeons in 1866, and since that time has made many valuable contributions to medical journals. He was one of the most eminent medical men in the North of Ireland.

W. E. Image, September 26, at Herringswell House, Suffolk, England, aged 96. He was one of the oldest, if not quite the oldest, medical man in England. He was a member of the Royal College of Surgeons since 1844, and one of the best known medical men in England.

Franklin VanArtsdalen, at his home in Philadelphia, November 5, from kidney disease, aged 69; a graduate of Jefferson Medical College in 1856, and prominent in the Odd Fellows and Masonic fraternities.

William R. McMahon, at his home in Huntingburg, Ind., October 23, aged 67; a graduate of the Rush Medical College, Chicago, and chief surgeon of the Southern Railroad, Louisville division.

Charles E. Decker, at his station in San Diego, Cal., October 22; a graduate of the University of Michigan, and assistant surgeon United States Public Health and Marine-Hospital Service.

Quincy E. Andrews, at his home near Fargo, N. D., October 22, aged 69; a graduate of Jefferson Medical College, Philadelphia, in 1865, and one of the pioneers in the Red River Valley.

Cornelius C. Wyckoff, at his home in Buffalo; a graduate of the University of Buffalo in 1848, and one of the oldest and best known practising physicians in western New York.

George C. Hays, at his home in Hillsboro, Ind., October 26, aged 67; a graduate of the Medical College of Indiana in 1876, and one of the founders of Fountain County Medical Society.

Joseph N. Guerard, at his home in Savannah, Ga., October 23, aged 28; graduate of the University of Maryland in 1899, and a member of the Georgia Medical Society of Savannah.

E. C. Angell, at his home in Brooklyn, November 3, aged 81. He was a wellknown writer for medical magazines and had taken an active part in politics.

William E. Waters, at his home in Washington, D. C., October 27, aged 69; he was lieutenant-colonel and deputy surgeon-general in the United States army.

Bernard A. Daly, at his home in Newark, N. J., November 3, from septicemia: a graduate of the University College of Medicine, Richmond, in 1899.

Sarah F. McIntosh, at her home in Asbury Park, October 19, aged 67; a graduate of the Women's Medical College of the New York Infirmary in 1872.

Daniel H. Schaeffer, at his home in Harper's Ferry, W. Va., October 21, aged 36; a graduate of the College of Physicians and Surgeons, Baltimore.

Benjamin Franklin Payne, at his home in Steubenville, Ohio, October 22, aged 76; a graduate of the Eclectic Medical Institute, Cincinnati, in 1857.

Robert John Garden, consulting surgeon to Aberdeen Royal Infirmary, October 22. He was eminent as a teacher and practitioner of surgery.

John W. Brown, at his home in Bailey, Texas, October 7, after a surgical operation; a graduate of Miami Medical College, Cincinnati, in 1873.

Charles E. Quetil, of Philadelphia, at Kingston, Jamacia, B.W.I., September 26, aged 43; a graduate of the University of Pennsylvania in 1895.

Robert H. O'Hara, at his home in Williamstown, Ky., October 20, aged 65; graduate of Jefferson Medical College, Philadelphia, in 1865.

Rose F. Monnish, at her home in Atlanta, October 16; a graduate of the Georgia College of Eclectic Medicine and Surgery in 1882.

Edwin Ashton, at his home in Lima, Ohio, October 21, aged 77; a graduate of the Cleveland Medical College, Cleveland, Ohio.

Henry O. Hearn, at his home in Lexington, Ind., October 23, aged 35; a graduate of the Louisville Medical College in 1894.

Philip Roberts, at his home in Richmond, Ky., October 22, aged 70; a graduate of the Eclectic Institute, Cincinnati.

Emanuel Ridgeway, at his home in Morris, Ill., October 17, aged 71; a graduate of the Chicago Medical College in 1878.

Lafayette Z. Coman, at his home in Boulder, Col., October 18; a graduate of the University of Michigan in 1879.

SOCIETY REPORTS

AMERICAN PUBLIC HEALTH ASSOCIATION.

Proceedings of the Thirty-first Annual Meeting, Held at Washington, D. C., October 26, 27, 28, 29, and 30, 1903.

[Specially reported for *American Medicine.*]

[*Concluded from page 733.*]

Report of the Committee on the Causes and Prevention of Infant Mortality.—Read by HENRY MITCHELL (Asbury Park, N. J.), chairman. Among the measures which were most promising for a further reduction of the mortality among infants the committee directed attention to the following: 1. To secure a more general adoption of cleanly methods of the collection, cooling and handling of cows' milk. It was not enough to destroy bacteria which had been permitted to gain entrance into the milk, or while pathogenic bacteria might be rendered innocuous, the toxins already formed were not affected by high temperature, hence no manipulation of the milk could be safely substituted for cleanliness in its collection and distribution. 2. To abolish breeding places for flies in dwellings and to exclude them from contact with food. 3. To encourage the erection of improved tenements in cities and to show the dwellers in crowded districts the advantage of residence in the suburbs. 4. To more effectually isolate all cases of the dangerous communicable diseases.

Immigration and Public Health.—A. J. MCLAUGHLIN (Washington, D. C.) in considering the danger to the public health from immigration, said 3 factors must be taken into account: (1) The physique of the immigrant; (2) his destination; (3) the presence or absence of communicable disease. The physique of the immigrant was by far the most important factor. Good physique was much more general among immigrants a quarter of a century ago than among the immigrants of today. With the change in the racial character of immigration, most marked in the past decade, a pronounced deterioration in the general physique of the immigrants, and a much higher percentage of loathsome and dangerous diseases were noticeable. The ordinary quarantinable diseases were eliminated by efficient quarantine methods, but certain communicable maladies, classed as loathsome or dangerous contagious diseases, existed among immigrants, and constant vigilance and considerable skill were necessary on the part of medical inspectors of immigrants to detect these cases and separate them from the healthy immigrants. The most important of these diseases, because of its frequency, was trachoma. Of the total number of cases of loathsome or dangerous diseases found in immigrants, 87% were due to trachoma and 10% to favus. Permanent injury to sight was most likely to occur in cases in which early treatment was neglected. Among immigrants with trachoma, ignorance of personal hygiene and inability to secure proper treatment made the spread of this disease alarming and the consequence to sight disastrous. If the thousands of recruits for the sweat-shop army which arrived each year could thus be checked for 10 years, the present existing tenement house problem would solve itself. The terrible congestion of the tenements would be relieved; the scale of wages for the sweat-shop worker would be elevated, and the general sanitary conditions of life in such districts as in the Lower East Side, New York City, improved sufficiently to reduce the menace to the public health from this cause to a minimum.

Preparation of Vaccine Virus.—JOHN F. ANDERSON (Washington, D. C.) said experimental work had shown that the germicidal action of glycerin was feeble. Recently some valuable work had been done with other substances than glycerin to be used in the destruction of the bacteria found in vaccine. These substances were sodium biborate, boracic acid, carbolic acid, chloroform, and potassium cyanid. Of these chloroform seemed the most valuable. According to Green, of England, by the use of chloroform vapor the crude pulp was freed from nonspore-bearing germs in from a few hours to 7 days, while the active agent of the vaccine remained potent as long as in the glycerin controls, and in 6 cases longer. The quick elimination of the extraneous bacteria by this method was a great saving in time as compared with the use of glycerin, which rarely exerted its full effect before the fourth week. Chloroform, being extremely volatile, could be allowed to evaporate from the vaccine under aseptic precautions after being allowed to act as long as desired. It would be especially useful in hot countries, where the active agent in vaccine does not retain its potency long, or when, as in epidemics, sudden calls were made for large quantities of virus.

President's Address.—SURGEON-GENERAL WYMAN, President of the Association, gave an exhaustive review of the history of the Association, its aims and objects, the researches into the fields of medical science which it had conducted and the results it had accomplished. Coupled with this he gave an epitome of the causes that led to the formation of the Association and the history of its growth by the addition from time to time of the various countries of the Western Hemisphere, the last of which to join the Association and take up its part in the field of scientific research being Cuba, only recently

liberated from the bonds that had prevented her from assuming her proper sphere in a study of one of the most deadly of plagues with which she had been for years afflicted. He cautioned the members against being placed in the role of reformers, who, he said, often sought one worthy object and attained it at the expense of many other objects no less meritorious; that their dependence upon on enlightened public sentiment and the careful scrutiny of every proposed measure forfended them against inconsiderate, spasmodic or over-zealous action, but that they might exhort others in behalf of those measures which would insure to the rich, protection from the dangers surrounding the very poor and to the very poor sanitary dwellings, pure air, good water and sunlight in abundance, the God-given blessings of the human race, which should be inalienable. This would then create an aristocracy to which all might belong—the aristocracy of sunshine.

Report of the Committee on the Disposal of Refuse Materials.—RUDOLPH HERING (New York City) read this report. The committee pointed out that (1) different local conditions demanded different methods of collection and disposal; (2) that each municipality should select the method which, after a careful study of specific local conditions, and a further careful investigation of the cost of securing satisfactory results, proved to be the most economic in construction and maintenance; (3) that the problem must include the consideration of the methods and cost of handling all of the several kinds of refuse between the origin in the house and on the streets and the points of final disposal; (4) the several kinds of refuse being ashes, street sweepings and manure, dry rubbish, and kitchen garbage, swill or slop. The garbage question had now reached a point where the proper solution of each case required the aid of the engineering profession, just as the construction of sewage and other sanitary works. The problem was to effect the sanitary collection and disposal of the above mentioned 4 classes of refuse at the least cost.

Report of the Committee on the Etiology of Yellow Fever.—JOHN W. ROSS, U. S. N. (Washington, D. C.) made reference to contributions to the subject of yellow fever since the last annual meeting. A table was presented of cases treated at Las Animas Hospital, Havana, from October 20, 1902, to October 20, 1903, showing the number of cases of yellow fever and of other diseases; also of the patients immune and nonimmune to yellow fever. During the past summer there had been a sharp epidemic on the Mexican littoral. Havana was in constant communication with the infected ports; 10 regular passenger steamers plied to and fro each month with a considerable passenger traffic, not to mention the number of other vessels. The quarantine was rigid in preventing the entrance of persons who had been exposed to infection until the period of incubation had passed, and also against the entrance of mosquitos from these ports; but no precautions were taken against the entrance of baggage, bedding or household goods from those ports. Such things came in without let or hindrance; yet not a single case of yellow fever originated in Havana. Seven cases of yellow fever occurring among men from these vessels were treated in the hospital in Havana during the last yellow fever season, with no precautions except to prevent the access of mosquitos to the patients, still with no case of yellow fever contracted therefrom.

Attention was called to the fact that this was but a repetition of the experience of the previous year. The chances of this also being an accident, considering the former history of Havana, seemed scarcely worthy of consideration.

The committee stated that there were minor problems in the etiology of yellow fever yet to be investigated.

1. As to the determination of the period of the disease in man during which yellow fever could be transmitted to the mosquito, so far, experiments had shown that it was transmitted somewhat over 2 days, *i. e.*, in the first, second and third days, but there were not sufficient experiments made to prove that the third day was the limit at which the mosquito could be infected. The importance of this determination was obvious.

2. The determination of the minimum period after feeding at which the mosquito could become infective. Reed had shown that this seemed to depend upon the temperature. A minimum period, in his experience was 12 days in his first experimental case, and judging from observation of yellow fever as it occurred in nature, this was probably near the limit. Still not sufficient attempt had been made to show that mosquitos contaminated in less than 12 days and not conveyed yellow fever. Since the determination of this point experimentally would involve producing yellow fever in probably a considerable number of human beings and since the minimum in Reed's experiments agreed closely with previous observations by Carter on yellow fever, the committee did not think that additional experiments for this purpose were justifiable.

3. To determine if mosquitos to other genera than the stegomyia conveyed yellow fever, and if other species of stegomyia besides *Stegomyia fasciata* could do so. The first was from analogy very improbable; the latter, for the same reason, was probable.

4. To determine if *Stegomyia fasciata* was found breeding at a distance from human habitations, *i. e.*, if it was anywhere a true sylvan, campestral or palustral mosquito.

5. A closer study of the hibernation of this insect was desirable, in order to determine (*a*) what proportion of the infected animal survived the ordinary winter in the Gulf States; (*b*) whether such as survived retained their power of transmitting yellow fever.

6. To determine if *Stegomyia fasciata* was capable of acclimatization in environments unfavorable to the immigrant mosquito, also deserved observation and further experimentation.

7. To determine the distance across water that this insect was aerially conveyed. If desired, it would be easy to differentiate the blood-fed (not necessarily infected mosquitos) by observing if they deposited eggs.

8. Finally, it seemed advisable to determine directly by observation whether this mosquito was carried by railroad trains, and if so, in what number and the general conditions of such transfer. On this might depend measures of land quarantine.

Characteristics of Stegomyia Fasciata which Affect the Conveyance of Yellow Fever.—H. R. CARTER (Baltimore, Md.) said that among the special characteristics of the stegomyia which affect its role as a carrier of yellow fever are: 1. Its distribution. This is generally between latitudes 43 N. and 43 S. on the coasts and low plains of Africa, Asia, and the adjacent islands, Australia and the Mediterranean basin of Europe. It is also general on the eastern coast of America from 38 N. to 35 S. latitude. On the west coast it is found at Panama and Guayaquil, and its existence is implied from Guayaquil to Acapulco. In the United States it is general on the coast and low plains of the Southern States, except Maryland. 2. That it is conveyed by vessels indefinite distances (from Cape Town to Savannah Quarantine); in much greater numbers and more often by sail than by steam vessels. 3. That it lives a long time—154 days being recorded by Guiteras of an infected insect. 4. That once having acquired the power of transmitting yellow fever it retains it apparently as long as it lives—59 days being recorded. A consideration of the 4 postulates above will render it advisable to safeguard the tropical countries of the East when communication is opened up between them and American ports infected with yellow fever, preferably by freeing the American ports of yellow fever. 5. That it propagates preferably in artificial containers, but will propagate in pools where such containers are not available. 6. That in America it has been reported only in the vicinity of human dwellings and seems here not to be a sylvan, paludal or campestral mosquito. From 5 and 6 the war against this insect in America should be waged about the houses of men, and especially against water in artificial containers. The introduction of a water-supply, piped to every house so as to do away with cisterns and water jars, is the most important measure of sanitary engineering to free a town of this mosquito. Next to this is a system of drainage by covered drains to carry off the rain water and prevent pools. Cesspools are not objectionable on this score. It unquestionably hibernates in the United States either as adult larva or egg, but if the infected adult hibernates, either a very large proportion of them die, or else the infecting parasite must generally die in the hibernating mosquito. The first seems more probable. 7. It is essentially a house mosquito, and is inclined to stay about the premises where it has fed. Hence the greater safety of the wholesale district of an infected city as compared with the residence portion. 8. It does not feed in the dark or in bright sunlight. Therefore, in bright daylight or at night without artificial light is the safest time to be in an infected place. 9. The cycle of the yellow fever parasite in the mosquito before it can be conveyed to man is generally, in hot weather, about 14 days or over. Prior to the accomplishments of this cycle (once called the "extrinsic incubation of yellow fever") the mosquito cannot convey this disease. 10. It is probably usually conveyed aerially less than 100 yards. In Havana the infected insect is believed to be never aerially conveyed 250 fathoms (1,500 feet) from the Havana shore. The direction of the prevailing wind during the day influences its aerial conveyance.

Report of the Committee on the Canteen in Armies.—GEORGE M. KOBER, Chairman, Washington, D. C., read this report. His paper will appear in a future issue of *American Medicine*.

Human and Bovine Tuberculosis.—M. P. RAVENEL (Philadelphia) said during the past year interest in the question of the relation between human and bovine tuberculosis had been unabated, and several papers of interest had been published bearing on the subject. In America Drs. Theobald Smith and Gideon Wells had isolated cultures of the tubercle bacillus from human sources having the characteristics and virulence of the bovine organism. A number of new cases had been reported of accidental infection of man by bovine material, the most important of which was that of Troje, which appeared able to withstand the most severe criticism. The author felt that the genetic unity of the human and bovine races of tubercle bacilli, as well as their intertransmissibility, had been definitely demonstrated. It had also been proved that a certain proportion of persons, chiefly young children, met their death through infection with the bovine tubercle bacillus, but the knowledge at hand did not enable him at present to define extent of this danger.

The Effect of Lemon Juice in the Mixture Known as Lemonade upon Typhoid Polluted Water.—WILLIAM G. BISSELL (Buffalo, N. Y.) said the investigation was prompted by a newspaper statement, purporting as coming from a Board of Health in one of the leading American cities, that lemon juice in lemonade would render typhoid polluted water safe for drinking purposes. Three different methods of testing were tried: 1. By infecting water with typhoid and adding lemon juice. 2. Infecting glass rods with typhoid and placing them in lemonade. 3. Infecting silk threads and placing them in the lemonade. Culture tests with the first method were faulty. The conclusions drawn were: 1. That lemonade cannot be depended upon in this role. 2. That this method of sterilizing typhoid polluted water should be discouraged.

An Emergency Culture Medium for Use in the Routine Diagnosis of Diphtheria.—WILLIAM G. BISSELL (Buffalo, N. Y.) stated in this connection that not infrequently laboratories will run short of their amount of Loeffler's blood-serum. The following mixture could be prepared inside of 3 hours and answered as a good substitute. Two parts whole eggs, thoroughly beaten up, and 1 part of the 3% dextrose bouillon. Material, after being solidified can be autoclaved at 6 pounds pressure.

Studies of Media for the Quantitative Estimation of Bacteria in Water and Sewage.—STEPHEN DEM. GAGE and GEORGE O. ADAMS (Boston, Mass.) offered a joint paper, which stated that in a report from this laboratory at the Buffalo meeting, figures were presented showing that by simplifying the usual culture media higher counts of bacteria may be obtained, and that the counts on a new medium, Nahrstoff agar, were much higher than on the usual media. These studies have been continued, and while not completed, certain points are presented for consideration.

On the Value of Tests for Bacteria of Specific Types as an Index of Pollution.—H. W. CLARK and STEPHEN DEM. GAGE (Boston, Mass.) in their joint paper with the above title, said that the principal types of bacteria used as indices of pollution are the colon type, sporogenes type, sewage streptococcus type, and occasionally the two socalled paracolon types, *i. e.*, the aerogenes or enteritidis Gärtner type and the chologenes type. The colon type is the most numerous of these in normal sewage and is, accordingly, of the most value as a specific indication of pollution.

Isolation of Bacillus Coli Communis from the Alimentary Tract of Fish and the Significance Thereof.—GEORGE A. JOHNSON (Poughkeepsie, N. Y.) stated that it has been shown that the colon bacillus is taken up by fish, and the results of the experiment described indicate that it multiplies rapidly in the intestinal tract of the same. It has been shown that a search of a large number of fish caught in an unpolluted water failed to reveal the presence of this organism in the intestinal tract. It would seem possible, therefore, that fish, having taken up the colon bacillus from a polluted water, might migrate to a water of comparative purity, where they would naturally discharge the greatly increased number of these organisms. Whether the finding of the colon bacillus deposited in a water in this manner would depreciate the value of the colon test in the examination of a public water supply is a question. It would certainly appear that if the colon bacillus can be thus easily transferred from one water to another that the transportation of the typhoid bacillus may be considered quite as likely. At least, the above results may explain the apparent phenomenon frequently noted where *B. coli communis* is found in comparatively large numbers in waters apparently open to but remote chances for fecal contamination.

The Bacterial Examination of 104 Samples of Water Together with a Detailed Study of the Colon Bacillus.—WM. G. BISSELL (Buffalo, N. Y.). A recapitulation of the results demonstrated that the amount of gas produced, the production of indol and putrefractive odors are not constant factors with even true coli; that many of the lactic acid organisms bear a close resemblance to colon bacilli; and that it is not safe to depend upon presumptive tests alone in determining the presence of colon bacilli in the water. Colon bacilli were present in 52% of the samples when 1 cc. was the amount examined at the 12-mile distance and in but 34% when 1 cc. was the amount examined at the 22-mile distance. A test was made as to the longevity of colon bacilli in natural water. Excrement from the horse, cow, and from human beings, was placed respectively in each of 3 wells. A test was made of each well at different periods. The results tended to demonstrate that colon bacilli can live in well waters at least 109 days, and that the human variety seem to have a greater resistance than that from other sources. Tests were made to determine the degree of frequency with which colon bacilli could be found in water known to be polluted with sewage. The results obtained tended to demonstrate that not all cubic centimeter amounts of such samples demonstrate the presence of the organisms. The writer believed that many organisms have been mistaken for the colon bacilli in water works. Tests were made to ascertain the degree of frequency with which colon bacilli can be found in water not presumably polluted. This work was necessarily confined to well water. Results tended to demonstrate that there are many wells, the waters of which do not contain colon bacilli even though larger quantities are examined.

A Simple Method for the Routine Detection of Colon Bacilli in Water.—ROYAL STOKES (Baltimore, Md.) proposed the use of neutral red in a fermenation tube containing 1% lactose or milk sugar bouillon, for the routine detection of colon bacilli in drinking water. The method recommended is to inoculate a fermentation tube containing 1% lactose neutral red in the routine examination of water. If the percentage and amount of gas, the acidity, and the typical yellow-red contrast reaction all occur, the organism can be considered as *Bacillus coli communis*. This is a much shorter method than the isolation in pure culture which takes from 5 to 7 days, and will also make it easier to carry out quantitative experiments. These 4 distinct characterists would seem to be sufficient to identify the colon bacillus in simple routine work.

A Critical Study of the Methods in Current Use for the Determination of Free and Albuminoid Ammonia in Sewage.—EARLE B. PHELPS, in considering this, said that the work which he presented was the first part of a study which will eventually cover the whole field of sewage analysis. It aimed to show what accuracy might be expected from the various processes new employed in sewage analysis, and what modifications, if any, would make them more applicable to the problems of sewage disposal.

A Dangerous Food Preservative.—CHARLES HARRINGTON (Boston, Mass.) in a paper on this subject, stated that sodium sulfite is used very extensively as a food preservative, and more particularly for its effect on the color of chopped meat (Hamburg steak) and certain canned vegetables (asparagus and corn). In this experiment, 5 cats were fed for 5 months on beef containing 0.20% and a sixth one with untreated beef. All six began at once to gain in weight, but about the ninth week all but the control began to lose, and they continued to do so up to the twentieth week, when all were killed. The organs of the control were normal. The chief lesion observed in the others was a parenchymatous degeneration of the kidneys. Each of the five presented cloudy swelling and marked fatty degeneration of the renal epithelium. Acute interstitial nephritis was present in 1 case.

The Termination of Quarantine in Diphtheria.—T. W. SALMON said that 100 consecutive cases of diphtheria which occurred at the Willard State Hospital had been studied with reference to these features. Any especial interest or value in the review of these cases lies in the fact that all the individuals remained under close observation for months after their recovery, and that cultures were taken at frequent intervals from both nose and throat long after they had ceased to be infected. The 100 cases included those in which no pseudomembrane existed and those of real severity. Several nasal cases were among them.

Many Prosecutions for Violation of Pure Food Law.—State Dairy and Food Commissioner Warren says that during October, 621 prosecutions were brought by the Pure Food Bureau against firms and individuals who, it is alleged, had violated the pure food, dairy, and liquor laws. These defendants represent nearly every county in the Commonwealth. Of this large number of violations, 578 suits were based upon the illegal sale of adulterated, preserved, or compounded liquors, while the remaining 43 cases represented impure, or preserved food products, such as oleomargarin, lard, renovated butter, chocolate, molasses, maple syrup, preserved meat and bologna, etc. This was the largest number of cases instituted during a single month in the history of the administration.

Dissension among Vienna Doctors.—The members of the Vienna medical chamber, to which is entrusted the professional control of the doctors of the city, have resigned in a body as the result of a long fight between the antisemite members of the Landtag and Count Kielmansegg, Governor of Lower Austria, on one side, and the general body of the Vienna physicians and university professors on the other. The conflict arose over the question of vivisection, several members of the Landtag accusing the doctors of contravening the vivisection law in their own experiments upon animals, and also alleging that the doctors experimented upon poor patients, inoculating them with the germs of noxious diseases. The doctors declare that the charges are grossly exaggerated, and refer to cases which were investigated more than 10 years ago. Dr. Palitzer, made angry by the accusations against him, has resigned his position as physician to the Vienna poor, which he had filled without remuneration for 40 years.

Recommends New Government Hospital.—Surgeon-General O'Reilly in his report to the Secretary of War advises the abandonment of the General Hospital, now occupying the site for the future Washington Barracks, and recommends the building of a new government hospital. He says: "I repeat most earnestly my previous recommendation that a general hospital of sufficient size and perfect in every respect be built in the District of Columbia for the following purposes: 1. Treatment of cases needing the services of specialists, surgical or other observation and treatment of officers incapacitated for service prior to their appearance before retiring or examining boards. 2. Training enlisted men of the hospital corps in nursing and military duties. 3. Instruction at the Army Medical School in military surgery, hospital administration, hospital corps drill and establishment of field hospitals. 4. To serve as a nucleus around which, in time of war, temporary wards may be erected without delay to any extent and at minimum expense. A conservative estimate of the money saved the United States by the successful surgical operations at this hospital since its establishment, September 8, 1898, to February 17, 1903, has been made, and it is shown that 31 officers completely incapacitated have been operated upon and restored to duty, whose retired pay would have been very nearly $60,000 a year, and that 216 enlisted men have been returned to duty after operations for disability, whose pensions, had they been discharged, would have amounted to nearly $28,000 a year. The institution has, therefore, already paid for itself many times over from its surgical work alone, while its value as an essential part of the instruction of young medical officers and enlisted men of the hospital corps cannot be estimated."

CLINICAL NOTES AND CORRESPONDENCE

[Communications are invited for this Department. The Editor is not responsible for the views advanced by any contributor.]

PIGMENTED SARCOMA OF THE CHOROID WITH RETURN OF GROWTH IN ORBIT FOUR YEARS AFTER ENUCLEATION OF THE EYE.

BY

FRANCIS W. ALTER, M.D.,

of Toledo, Ohio.

CASE.—The case occurred about 4 years ago. The patient gave a history of severe pain and of having lost her vision in the affected eye, some time previous to seeking medical aid. An inspection at that time showed there were symptoms of an acute inflammatory glaucoma with severe bulbar and conjunctival injection, swollen lids, cloudy cornea, and a cataractous lens. Tension plus 3. A diagnosis of sarcoma of the choroid was made and an enucleation performed, snipping of the optic nerve being carried well back. No external evidence of growth being present, simple excision of the globe was considered sufficient. The bisected specimen confirmed the diagnosis of pigmented choroidal sarcoma.



The condition was explained to the patient's family, the danger of metastasis dwelt upon, and a gloomy prognosis accordingly rendered. The latter was especially prompted by the patient complaining greatly of hepatic distress. Until 2 months ago (4 years) our patient enjoyed immunity from the growth, however, at this time a blackish nodule appeared in the enucleation stump, which continued to grow rapidly, till at the time of operation it had attained the size of a walnut. A complete and thorough excision of the orbital contents, including the periosteum, was made. This was followed with an application of zinc chlorid paste.

The patient made a good recovery, and up to date is apparently well, although death by metastasis will probably terminate the case.

This case impressed me with the imperative necessity for complete removal of the orbital contents, including the periosteum, in all cases of sarcoma of the choroid, whether such appear to be purely intraocular or not.

While in some cases there will never be a return of the growth in the orbit when simple enucleation has been made, yet the high mortality in these cases is contributed to if not fathered by the oft considered sufficient enucleation, when the orbit may contain an invisible nidus, which continuing to grow, perhaps slowly, as plainly and conclusively evidenced in the foregoing case, may continue to disseminate itself through the system with fatal results. Whereas if a complete exenteration of orbital contents is made early, we may more reasonably expect what would probably have been the result in the case reported, a permanent cure of what is perhaps one of the most fatal conditions physicians have to deal with.

A WORD FROM THE ORIENT.

BY

MARY ELLIOT FITCH, M.D.,

of Soochow, China.

To the Editor of American Medicine:—There is a very general outbreak of dengue fever throughout this part of China, and it may be of interest to your readers to hear the odd story of its origin as given by the natives here. It has many variations as coming from different parts of the city, but it is essentially as follows:

A few weeks ago extensive repairs were being instituted on our great pagoda, 900 years old; and as the laborers pounded on the beams, they sang at their work and called down, "Our strength is not enough for this task; 3,000 people must die." But the pagoda goddess, the Goddess of Mercy said "Not so; let the people give 3 days of their strength through the city." So in response to this necessity, the people are laying down their strength in dengue fever. Of course, this view is extremely local, as the natives of this city have little idea of the extent of the disease 30 miles away. They have no name for it that I can discover, calling it "that fever," "the fashionable disease," "red measles," etc. Roughly speaking, about half the population is being attacked, but there are no means of securing statistics. We hear of "families" in which 40 or 50 are sick, and one of our dispensary patients said that in her household there were over 100 persons, and they all had it. No doubt an exaggeration, but not a serious one.

PER CENTUM AND PER MILLE SOLUTIONS AND MIXTURES.

BY

AUSTIN O'MALLEY, M.D.,

of Philadelphia.

Many physicians find difficulty in writing prescriptions for percentum and per mille solutions and mixtures, and they are obliged to leave the calculation to the pharmacist. The following rules, therefore, may be useful:

1. *Per Centum Solutions and Mixtures.*—Multiply 480 (the number of grains or minims in an ounce) by the number of ounces of the excipient in the required solution or mixture, then multiply this product by the percentage-number of the drug to be used, and the result will be the number of grains or minims of the drug. If the solution or mixture is in drams, multiply 60 by the number of drams of the excipient, etc.

Example: To make 2 ounces of a 4% solution of cocain in water: $480 \times 2 \times .04 = 38.4$ grains of cocain.

To make an ounce of a 10% orthoform ointment in lanolin: $480 \times 1 \times .10 = 48.1$ grains of orthoform.

2. *Per Mille Solutions and Mixtures.*—The metric system. Since a gram is .001 of a liter, multiply .001 by the number of liters in the solution, and divide this product by the number designating the thousands (as 1 for 1,000, 3 for 3,000, 10 for 10,000) in the excipient, and the quotient will denote the quantity of the drug in grams.

Example: To make 2 liters of a 1:10,000 mercuric chlorid solution: $.001 \times 2 \div 10 = .002$, or 2 grams.

Apothecaries' Measure.—Multiply 7.68 by the number of pints (*i. e.*, 7.680: 7,680, the minims in a pint, : : 1 : 1,000), or, 15.36 by the number of quarts, or 61.44 by the number of gallons, in the excipient; then divide the product by the number designating the thousands (as 3 for 3,000, 7 for 7,000, etc.) in the excipient, and the quotient will represent the drug in grains or minims.

Example: To make a 1:2,000 mercuric chlorid solution in a pint of water: $7.68 \times 1 \div 2 = 3.8$ grains of mercuric chlorid.

WHAT ONE LAYMAN THINKS OF US.

In the ordinary course of life each man receives many buffetings of outrageous fortune, and it is but natural that there should be periods of mental depression in which he thinks that his life has been a failure and his work unappreciated. When those he has befriended, turn against him and circulate false and vicious calumnies, or actually attack him, he loses ambition, even courage, and merely tries to pass the remnant of his days as easily as possible. The physician, more perhaps than any other man, sees the worst side of human nature, and suffers more keenly from the ingratitude of those he has befriended. It seems to be a normal trait of healthy men to forget the sufferings and dangers of a past illness, or to minimize them to the point of refusing to acknowledge the greatness of the benefits received at the doctor's hands. It is only the degraded few who, after being skilfully and quickly cured, deliberately accuse the physician of wrong treatment, and sue for damages at the suggestion of low-class lawyers.

It is then pleasant to know what is the general reputation we bear among laymen, and the following is much to the point. It is an extract from the remarks made a long time ago by the prosecuting officer to a court-martial trying a medical officer for neglect of a patient, and there is good reason for believing that the opinions expressed are the real opinions of the great majority of lay officers of our Army, Navy, and National Guard. Very occasionally scoundrels do enter these services, and it is among them we see the rare spectacle of a man receiving the faithful and skilful attention of a medical officer and then within a short time attempting to ruin that benefactor by false charges or scandalous remarks. Luckily such degraded

creatures are as rare as in civil life, but he who has suffered from them must surely be consoled by the sweet and generous words quoted below, words, by the way, uttered in the prosecution of a real neglect:

The medical profession today stands foremost among the learned sciences. It is, in fact, more than half divine in its practice, if not in its pretension, for do not its disciples follow in the footsteps of the Nazarene—of the Redeemer of the world, himself? In a sense it is surrounded with a halo of sentiment which easily places it upon a pinnacle far above the reach of, and I may say, the understanding, of laymen—from which those who have been admitted into the magic circle of its brotherhood, may calmly and with pardonable pride, look down upon a baser world of the ignorant, the ignoble, and the sordid. It is their privilege, which no other profession enjoys—of administering to mankind, of comforting the heavily laden, of healing the hurts of fate, of soothing the sick and suffering, of succoring the stricken, of easing the aches of the erring and unfortunate, of smoothing the paths of pain leading through the portals of death, which groaning humanity must tread alone in its dreary journey to the grave.

As such, it is an accepted fact, recognized by the civilized world, that its disciples, clothed with a license which, under the law, places in their hands power over life and death itself, and who, possessing at once the wisdom of the serpent and the skill and tenderness of the physician, occupy a loftier plane than do ordinary mortals. In its practice is thought to be involved a more exalted principle than mere routine duty—the care and comfort of the sick; while a trusting world looks up to them implicitly as the fountain head of anesthesia for every mortal ill. To us laymen their profession is a sealed book of mysteries, a closed door through which none may peer without the magic talisman, the open sesame of the key of Hippocrates; no one ever questions a doctor's prescription, unless it is another doctor; we take with sublime faith all they prescribe for us, blissfully unconscious and heedless of its potency or its deception. For all we know, it may be quackery or pure charlatanism. But we question it not, for its cult is beyond our ken; we think we are "being treated all right and have no complaint to make."

Medicine, the art, makes no invidious distinction—knows no rank in humanity; from sovereign to lowliest subject, each is equally born to his heritage of sickness, sorrow and death—nature makes no exceptions to the rule.

"Though there is room in the halls of health for a long and lordly train,
Yet one by one we must all move on through the narrow aisles of pain."

I do not mean to imply, it has not entered my mind for one moment, and I do not want the court to think I believe, that this defendant, or any other doctor, practising the noble art of healing, really intended to entertain any such unworthy motive as to deny or refuse a patient the proper treatment which his case required. Perish the thought! Medicine is a science, is founded on humanitarianism primarily, whatever be its method of practice, it is to alleviate suffering, from the lowliest to the highest. It is for this purpose that she dedicates the lives of her votaries—devours them, too, daily on her sacrificial altar, the God-given cause—duty to humanity. Truly it may be said:

"Beneath her broad, impartial eye,
How fade the lines of caste and birth—
How equal in their sufferings lie
The groaning multitudes of earth.

"By misery unrepelled—unawed
By pomp or power, she sees a *man*
In prince or peasant, slave or lord,
Pale priest or swarthy artisan."

We are told in the history of medicine that the returning Crusaders, in the beginning of the middle ages, are supposed to have been responsible for the introduction into the civilized world of that curse to humanity, syphilis. Perhaps they are, perhaps they are not. But if they are responsible, they expiated their crime by the debt which humanity owes them in the realms of surgery, for the good, as well as evil, they did. They won worldwide renown for their devotion to the sick and suffering. They gave us the first known example of the Hospital Corps in warfare—the present Red Cross Society—which, by common convention of all civilized nations, have had bestowed upon them the rights and privileges of neutrality and been exempted from injury or capture on the battlefield by belligerents of either side.

Article VI of this Convention reads as follows:

"Wounded or sick soldiers shall be entertained and taken care of, to whatever nation they may belong. All persons extending such aid shall participate in the benefit of neutrality and may withdraw, after capitulation, or surrender, to rejoin the Corps to which they belong."

Such duty, then, however irksome, is not without its reward and privileges, as well as remuneration. It is considered barbarous to fire on an ambulance or hospital flag. Humanity, the quality, is therefore in the scale of human affairs, measured by a higher standard than even human patriotism, which reckons it no crime to put to death an enemy of country.

I remember once seeing, in the office of an eminent surgeon while waiting my turn for his professional advice, a strikingly beautiful allegoric painting, representing a white-plumed Knight of Navarre, a Crusader in armor, a Noble of the Legion of Godfrey de Bouillon, of the Order of St. John of Jerusalem, bearing on his shining shield a red Maltese cross. The Knight (the embodiment of knightly sympathy and courtesy, with the sternness of the soldier melting into an expression of infinite tenderness and compassion, born of mercy to a fallen foe) was in the act of stooping from the saddle to succor a wounded Saracen who lay dying, his glazing eyes transfixed with a look of unconquered and unconquerable hatred upon the symbol of the cross.

This picture made a profound impression upon my mind, for in it I read an epitome of the true mission of surgery idealized—to alleviate suffering and distress wherever found, even though it be an enemy and an infidel. That principle inculcated while imbibing the lessons of their cult, which pervades today the medical officers of the armies of the world, and which, in tradition and sentiment, has been handed straight down through all these centuries to the modern Hospital Corps, the last icy spot in the old knightly code of *noblesse oblige*, to resist the fierce rays of later day selfishness, and that finds its significance and survival, as well as its sentiment, in the beautiful emblem of the Maltese cross, worn on the collars of our army medical officers.

In this profession, glorious in its self-imposed devotion to humanity, and about which cluster the cherished memories and traditions of ages, as far back even as the healing of Christ—coupled with the ancient and honorable profession of arms to which it is wedded—we see blended and deified the apotheosis of all earthly ideals—the ministers of those who have fallen in the defense of country, and which can be traced by direct descent through the shadowy mists of antiquity to the officers of the Medical Corps of the Army and Navy today, those modern paladins who are justly, in sentiment and ideals at least, regarded as the legitimate successors of the Knight Hospitallers of old.

W. C. E.

VICARIOUS MENSTRUATION.

BY

T. HORACE EVANS, M.D.,

of Philadelphia.

Assistant Demonstrator of Anatomy, University of Pennsylvania.

The following case may be interesting as a possible case of vicarious menstruation.

Mrs. F., aged about 42, has been in good health with the exception of a tendency to constipation. During the last 4 years menstruation has been irregular, as to time of occurrence and amount of discharge. Finally, it stopped last March and since then the patient has suffered more than ever from hot flashes, or flushes from head to foot.

Four days ago, during such an attack, the right eye in the cornea within the outer canthus suddenly became blood-red and to all appearances actually has become suffused with blood. The pupillary margin seems to act as an impediment to the spread of this inundation. The entire outer corneal boundaries are not affected. The blood is retained within the eyeball. No signs of menstruation are noted. But the patient is very uncomfortable on account of the persistence of heat flashes, and dizziness.

VACCINATION BY BLISTERS.

BY

EPHRAIM CUTTER, M.D.,

of New York City.

To the Editor of American Medicine:—Your announcement of the recent death of Dr. Stanton, of Philadelphia, from smallpox after 24 nontaking vaccinations, recalls to mind that a boy once came to me whom Worcester, Massachusetts, physicians had failed to vaccinate after 24 or more trials. Variola was about, and hence the problem was tried to be solved. Having noted that vaccinations took best when bloodless serum was drawn by the scarification, the idea occurred to raise the epidermis with blister plaster (the size of a pea) the night before and next day to puncture the vesicle and apply the virus to the denuded epidermis, drying it on. This was done. It took the first time. If my memory serves me rightly this mode was successful in other cases and was published. I wish Dr. Stanton had tried it, and that it will not be forgotten in a like case.

AN APPEAL FOR RELIEF: 350 POUNDS WANTED.

BY

NATHAN C. MORSE, M.D.,
of Eldora, Ia.

The following item, clipped from the *Iowa State Medical Journal*, explains the cause of my grief and appeal to my professional brethren for prompt relief:

Dr. N. C. Morse, of Eldora, bears the distinction of being the heaviest physician in America. He tips the scales at 325 pounds. He is one of the jolliest men ever born, and is as active in his work as a man of a third his size.

This slander on the profession was published first about a year ago in the *Chicago Tribune*, since which it has apparently served as a very choice morsel or item of interest for every confounded country cross-road newspaper in the land, and now, since receiving the endorsement of the *Iowa State Medical Journal*, it is but fair to presume it will go the rounds of every medical publication. This newspaper notoriety makes me "blush," and like some other noted surgeons who have the happy knack of getting costly write-ups free of charge (since this advertisement is most too remote to be of benefit), I hasten to deny the responsibility of the birth of this item, and call on the profession at large to hasten to my rescue and place the honor on the manly breast of the distinguished physician or surgeon whose place or pantaloons I could never fill, and who is justly entitled to the honor.

I am willing to admit, in truth am proud of the fact, that I am a "standard bred Kentuckian," one of the F.F.K.'s. (To be "standard bred," according to the old Kentucky rules, a man must stand at least 6 feet in his stockings and weigh 300 pounds —200 pounds being classed as "kids," and anything under 175 pounds "kidlets," regardless of age or beauty.) I was born in "Old Kentucky," am 6 feet, 2½ inches in height, and on certain occasions—Thanksgivings and other national holidays—by the grace of God and Francis, I can frequently (nach mittag) tip the beam at full 300 pounds, yet sir, I protest, and most emphatically object, to the slanderous statement, that there is but one "standard bred man" left in the entire medical profession of the United States, or in other words, if you prefer, I deny the allegation, "that the practice of medicine in America is made up of kids and kidlets." Why, sir, "the woods ought to be full of" men. Where are all the grand, big, noble 350-375 pound boys? I can name at least 20 members of the State society, fellows who have to weigh on apothecary scales to make any sort of a showing, "kidlets" who, on certain occasions, act as if they were the biggest or only toads in the puddle. They look big strutting around and always imagine they can fill any chair or vacancy offered. After elections they swell up until the chair actually sticks to them when they get up and try to walk (very embarrassing, I assure you). But it is not this kind of an M.D. I am after. I want a real manly man (avoirdupois).

Now, in conclusion, won't some good kind brother, who has the interest of the profession at heart, come to my relief and send me the address of a 350 or 375 pounder?

If no kind heart responds to my plea, I give the "kids" and "kidlets" fair warning, that hereafter I shall feel on our national gatherings (as Oliver Wendell Holmes once expressed it), "Like a twenty dollar gold piece amongst a lot of pennies."

SPONTANEOUS COWPOX.

BY

THOS. R. EVANS, M.D.,
of Gauley Bridge, West Virginia.

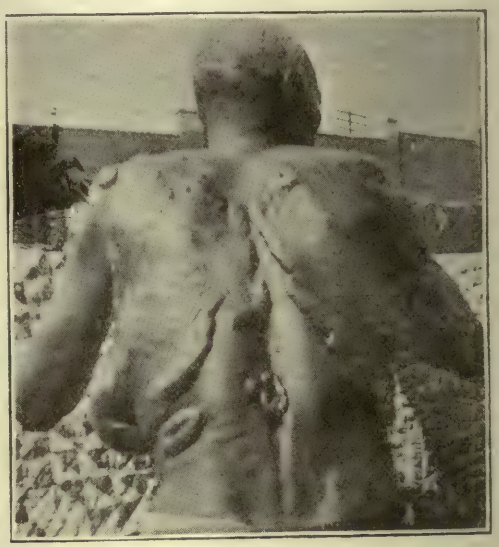
To the Editor of American Medicine:—In my letter on vaccination, which you did me the honor to epitomize, I stated after the quoted paragraph that since 1866 a case of spontaneous cowpox had been discovered in 1881 in Massachusetts, and another in 1885 in Pennsylvania. It is from these two later sources that much of our vaccine is derived. In the case of 1885 Dr. H. M. Alexander and Dr. Welch, from whose letter you epitomized, were intimately concerned. I am lately informed that the United States government requires inspection in all of their departments of all establishments in which toxins, antitoxins, vaccines, etc., are prepared in view to the granting or not granting of license, and that interstate traffic in biologic products prepared in establishments not holding such license is prohibited.

KELOIDS.

BY

BERNARD C. McMAHON, M.D.,
of Memphis, Tenn.

The case portrayed by the accompanying illustrations occurred in an old man who came to the clinic of Dr. Frank Jones, at the Memphis Hospital Medical College, for treatment.



He gave a history of having been bit by another negro 62 years ago, a socalled "blue-gummed nigger." Among the negroes of



E. T., aged 70. Keloids, the result of bites from another negro, 62 years ago.

the South the superstition is rife that the bite of such is poisonous.

The old man is now 70 years of age, and is a preacher in one of the negro churches of this city.

The tumor on the left side has commenced to suppurate and is discharging a foul-smelling pus.

ORIGINAL ARTICLES

CHRONIC MALARIA: COMPLICATIONS AND SEQUELÆ WITH SPECIAL REFERENCE TO DIGESTIVE COMPLICATIONS.*

BY

JOHN C. HEMMETER, PHIL. D., M.D., Etc.,

of Baltimore, Md.

Professor in the Medical Department, University of Maryland, and Director of the Clinical Laboratory.

History.—Historic records of the human race give the undoubted evidence that malaria is one of its oldest enemies. During the migrations and wars of antique nations the poisonous emanations of swamps are described as having claimed countless victims. Unmistakable descriptions of some forms of malaria are found in the writings of Protagoras, 500 B. C. The disease was well known to later Greek and Roman physicians (Celsus and Archigenes). It is probable that the drainage and sewage system recently discovered among the hills of Rome, and to which a great antiquity is ascribed, was constructed with the conscious purpose of ridding the soil of the endemic malarial fever. In Arabic medicine the various forms of malaria and their causative relationship are well described.

Agriculture and malaria are two factors which mutually control each other in the early history of the human race. Where there was no culture of the ground, malaria was exuberant, and the disease declined as soon as the ground was cultivated. There is no distinct reference to malaria in the papyrus of Ebers; but according to W. Groff, malaria was well known to the ancient Egyptians. The word "*Aat*," which occurs in the inscriptions on the temple of Denderah, refers to the annual recurrence of chills and fever. The entire history of our knowledge of malaria can be divided into 3 epochs: (1) The antique history, descending to the time of the discovery of the specific virtues of cinchona bark; (2) the period between this discovery (about 1640) and the discovery of the malaria parasite by Laveran (1880); (3) the development of malarial hygiene, prophylaxis and parasitology since 1880. The most important and far-reaching of these events was the introduction of cinchona and quinin into the therapeutics of malaria.

When the Spaniards, under Pizzaro, conquered Peru, they became acquainted with this remedy from the "tree of health," which had been known to the natives from time immemorial. The Viceroy del Cinchon, whose wife was cured by this remedy, gave to it the name of cinchona, but the real credit of having introduced the remedy into Europe is due to the physician of this prince, whose name was Juan del Vego. In England Sydenham was largely instrumental in disseminating knowledge concerning cinchona, and it was he who first emphasized that the remedy must be given in the interval between the attacks, in order to prevent the following attack. In recent time much has been done to make malarial regions healthy by drainage, laying dry of swamps, and improving the condition of the soil, and special efforts directed toward the destruction of mosquitos.

Referring once more to the first period, it is necessary to state that Hippocrates had described fevers "without demonstrable localization" in the section on the "Nature of Man," chapter XVI. He says: "There are four kinds of fever, in addition to those which occur with distinct pains. Their names are synochic fever, daily fever, tertian fever, and quartian fever." In his aphorisms, 21 and 22, he even emphasizes that certain characteristic fevers are distributed upon certain times of the year. In chapter VII he refers to the infectiousness of water coming from swamps. "Whoever drinks it," he says, "must have, during the entire time, a large, consistent spleen." Bellos, of Athens, confirms a complete identity between the fevers described by Hippocrates and those which are found at the present day in Greece.*

After the discovery of the malaria parasite by Laveran in November, 1880, his results have been confirmed in every country of the world where malaria is known. The names of Golgi, Marchiafava, Celli, Grassi, Feletti, Bignami, Bastianelli, Romanowsky, Di Mattei, are intimately associated with the development of the etiology and parasitology of malaria. Most valuable contributions to this subject in America have been made by the author's teacher, William T. Councilman, Osler, Thayer, Hewetson, Craig, James Ewing, and C. F. Craig.

Chronic Malaria.—By chronic malaria we understand an infection of the organism with malaria parasites, extending through months and years. After Ross, under the direction of Manson, had shown that certain infections in birds, due to sporozoa, are caused by the sting of mosquitos, Grassi established the fact that the malarial parasite of man is also acquired by the sting of mosquitos. It is at present believed that the mosquitos have infected themselves by previously stinging human beings afflicted with malaria, and sucking in their blood. There is no other source of infection. The mosquitos that transmit this infection belong to the genus anopheles, and they infect man with the youngest developmental stage of the malarial parasite. In the following account I will not use a specific name for this organism, for there is as yet no agreement concerning the terminology. Romberg[1] speaks of "sporozoids;" Laveran and a great many of his followers use the term "plasmodium;" Welch, the term, "*Hæmatozoon falciparum*," etc. There are many other names which are listed in Mannaberg's work on malaria;[2] I shall prefer to speak of the organism here simply as the "malarial parasite." There is no doubt at the present time that this organism is the specific cause of malaria, and that it is acquired by the sting of the mosquito. It is not yet decided among special workers whether there are several species of this same parasite. The best workers, however, consider that the phenomena of the disease are more easily reconciled with the existence of a single polymorphous species.[3] Mannaberg,[4] accepts the view of Celli, Bignami, and Marchiafava, in respect to the separate nature of the malignant tertian and a quotidian group of parasites. Charles F. Craig[5] also divides the parasites producing these fevers into quotidian and tertian. W. S. Thayer, in a recent personal communication to me, expresses the belief that the estivoautumnal fevers are all due to one and the same parasite.

In a practical consideration of chronic malaria a detailed consideration of the parasitology of the disease is out of place. By chronic malaria I do not understand, necessarily, that the continuance of the infection is due to frequent reinfection, but to the stubborn persistence of the parasites which have once entered. If careful statistics of all malaria diseases as they occur in hospitals and camps could be established, I believe that we would discover that the majority of malarial infections have a chronic character; for among the acute malarias we can only class such cases in which the patients are finally and radically cured after few attacks, whereas those cases which are characterized by four or more relapses are in the majority. Such cases may extend over 6 or 8 weeks, and still they are acute. In order to designate a special case as chronic, it will have to extend over several months. Without the use of quinin the majority of malarial infections would inevitably become chronic.

If we accept, for the sake of argument, the classifica-

* Address before the National Association of United States Pension Surgeons, Washington, D.C., May 13-14, 1903.

* Bull. de l'Acad. de Méd., 2 Ser., 12, 1883.

tion of Mannaberg,[6] of malarial fevers into 2 groups: First group, fevers caused by the ordinary malarial parasite (the tertian and quartian parasite of Golgi) without the occurrence of half-moons (crescents), and the second group, fevers caused by the parasites forming the half-moon (he has also a third group due to mixed infections, and a fourth group which he entitles masked fever)—we may say that the malarial infections of the first group rarely become chronic if they receive proper treatment. The principal contingent of the chronic malaria is supplied from the infections with the second group (those with crescents in the blood). Although it is, as a rule, possible to cure radically malarial infections by the correct use of quinin, a complete eradication of the parasites from the organism is frequently impossible. Quinin therapy, and hygiene, and diet, can accomplish practically nothing in this guerilla warfare, when the parasite is entrenched in the tissues of the parenchymatous organs. It is only when the enemy leads his hordes into the free circulation that quinin can overwhelm them. Consequently we find that chronic malaria is much more frequent in those countries where the parasites of the second group predominate, and not so frequent where only the parasites of the first group cause the infection. The parasites of the second group, presenting the crescent or half-moon shapes, cause the most frequent infections during the summer and autumn. These are the estivoautumnal malarial fevers, and they are most likely to become chronic.

The characteristics of chronic malaria, from a clinical standpoint are the following: (1) During many months recurrences of malaria from time to time. These may be typical or masked attacks of chills and fever; (2) anemia; (3) splenic tumor, eventually together with liver enlargement; (4) the same species of malaria parasite is demonstrable in the blood during the entire time; (5) decline of the general constitution. Concerning the nature of the relapses, it is necessary to emphasize that the patients are frequently not aware of having fever, nor have they a chill, as a rule. Indeed, it frequently happens that patients with chronic malaria, even when they have fever, suffer very slight subjective distress. I have seen malarial patients with the crescents in their blood, splenic tumor and cachexia, who denied ever having had fever. It pays to take frequent measurements of the temperature of such patients before crediting their statement of the absence of fever. It is the chronic form of malaria which is most frequently latent, and which most frequently leads to pernicious malaria. To those who have occasion to see soldiers returning from Cuba, Porto Rico, or the Philippine Islands, the following clinical picture is a familiar one: The soldier enters a hospital, the diagnosis occasionally being that of masked typhoid fever. He has a slight splenic tumor, is anemic, pale, weak and nervous. In about 10 days he seems convalescent, and is directed to leave the hospital. Just about this time he is attacked by violent fever, which is repeated every third day until treatment succeeds in suppressing it by quinin. The patient again becomes anemic, and the splenic tumor enlarges. Once more he seemingly improves, though it takes longer this time than it did after his first admission to the hospital. Convalescence will not progress very far, however, before he has a second relapse. This may repeat itself and continue with alternate improvement and exacerbations for many months. Such soldiers who were admitted in July or August will be found with periodic attacks of fever still in the hospital during the following spring. It may happen that the soldier at this time is discharged, and returning to his home gradually appears to improve, but still showing the evidences of malaria. Cases are on record in which such patients have suddenly collapsed at their homes in a comatose condition. As the physician who is then called in, knows nothing of the preceding history, the case presents diagnostic difficulties. It has happened that such patients have died in these comatose attacks, and only the autopsy revealed the true nature of the chronic malaria infection. On the other hand, cases of complete recovery after such comatose attacks are on record, and the patient may remain well for the rest of his life.

I am requested to speak also on the complications and sequelæ of malaria. What is a complication and what is a sequela? (*a*) A complication is a diseased condition coexistent with and modifying another, with which it may or may not be etiologically connected. (*b*) A sequela is a consequence of an abnormal condition—any abnormal state following an attack of disease or injury. The difference between the two is considerable. A complication is coexistent with malaria, and a sequela follows it. For instance, splenic tumor and anemia are as a rule complications, but hypertrophy of the heart is as a rule a sequela, and not a complication. In textbooks on malaria you will meet the most striking confusions of these two terms. Malarial cachexia is also a sequela, and not a complication.

The complications involve the following organs in the order stated with greatest frequency: 1. (*a*) Complications of the digestive tract; (*b*) genitourinary system; these two systems are involved with equal frequency. 2. Of the heart and blood vascular system. 3. Of the respiratory system. 4. Nervous system. 5. Diseases of the bones, muscles, and joints. 6. Diseases of the skin. 7. Diseases of the lymphatic system. 8. Diseases of the organs of special sense. 9. Diseases of metabolism—notable among these are diabetes and amyloid degeneration.

You will notice in this tabulation that I have not mentioned the diseases of the blood itself, which, no doubt, should be mentioned first, if we wish to consider it a complication. But malaria itself is from the very beginning a disease of the blood, and we cannot consistently designate as a complication what really constitutes the disease itself. Occasionally it is difficult to hold apart the complications and the sequelæ. Some of the conditions stated may be complications and sequelæ at the same time. It is doubtful whether diabetes mellitus and insipidus deserve the place of genuine complications of malaria. I have a record of 198 analyses of urine of malaria patients gathered from hospitals, and found only two with diabetes mellitus. The coincidence of the 2 diseases can hardly be considered more than accidental. The same can be said of amyloid degeneration. For our special point of study, only the most frequent complications are of importance, those of the digestive organs, the respiratory organs, circulatory and renal organs. The conditions of the blood can appropriately be considered under the heading of malaria cachexia.

Complications of Digestive Tract.—The complications of malaria with typhoid fever can only be substantiated by the demonstration of the simultaneous presence of the typhoid bacillus and the malaria parasite in the same individual. The coexistence of the two infections is reported by Barker and Thayer, and published in the works by Osler and Gilman Thompson. It was J. J. Woodward[7] who first used the term "typhomalarial fever," by which he conceived a third or hybrid form of fever not identical with malaria or typhoid. Smart, who worked over the material of J. J. Woodward, found that actually 80% of the cases classed as typhomalaria were nothing else than malarial remittent. With our present clinical methods, which establish beyond a doubt the existence or nonexistence of malaria by blood examination and the Widal reaction, there should be no confusion on these points. It was occasionally noticed that an intermittent fever followed in the course of the continuous fever of typhoid—that this intermittent fever was even preceded by chill and ended in sweating. This gave rise to the belief in the union of typhoid fever and malaria. At present we know that these fevers are typhoidal or sequelæ to typhoid fever, and that malaria has nothing to do with them.

Association of Dysentery with Malarial Fever.—Numerous of our soldiers, returning from tropical countries are found suffering both from dysentery and malaria. About 15 years ago a vehement polemic filled the journals as to whether malaria *per se* could cause genuine dysentery. It is now known that in this association we have to do with two distinct infections. One with malarial parasite, and the other either with *Amœba coli*, or one of the forms of *Bacillus dysentericus*. It is self-evident that if a patient is already afflicted by one of the forms of dysentery a very slight attack of estivo-autumnal malarial fever may prove pernicious to him. The thing to do in these cases is promptly to ascertain the nature of the dysentery and remove it by high colon irrigations of tannin and quinin, and at the same time to get a clear insight into the nature of the malarial infection by thorough examination of the blood, and treat it by quinin, hypodermically if necessary. For if the patient is simultaneously afflicted by an acute intestinal infection like dysentery, it has been my experience that he frequently rejects the quinin if given by the stomach, and in some cases even when it was retained it did not act as it should have done, because of the deranged gastric chemistry, intestinal putrefaction, diminished gastrointestinal absorption and rapid propulsion of the drug through the gastrointestinal tract. In fact I no longer wait until the stomach rebels, but start from the beginning by giving .065 gm. (1 gr.) of quinia hydrobromate hypodermically four times a day. In case of soldiers returning from the Philippine Islands, as observed at the United States General Hospital of San Francisco, 65% showing the estivoautumnal parasites in the blood were also suffering from acute and chronic dysentery. Of these about 10% were suffering from amœbic dysentery, as evidenced by the presence of *Amœba coli* in the stools. It is necessary to emphasize that the blood in every case of dysentery coming from malarial and tropical regions (we are specially interested in Philippine Islands, Porto Rico and Cuba) should be examined for the malarial parasite, and the stools for the presence of *Amœba coli* or one of the varieties of *Bacillus dysentericus* of Shiga and Flexner. It is not stated in the report of the United States General Hospital in how many cases the dysentery was found to be due to *Bacillus dysentericus*. In this connection it is necessary to call attention to the fact that dysentery may occur as a complication of malaria, and yet not be due to *Amœba coli*, nor even to *Bacillus dysentericus*, but to actual destruction of the mucosa of the colon by the malarial parasites. That gastric ulcers may be due to malaria was pointed out by me years ago.[8] Marchiafava and Bignami[9] assert that gastric ulcers are found which are due to the malarial condition, in malarial cachexia and amyloid degeneration. Naturally if the malarial parasite can destroy gastric tissue in this way, it can have the same effect on the structure of the colon. These Italian authors assert that in cases of chronic malaria with frequent relapses there are sanguineous diarrheas, which may persist after the malarial attack, and finally present the clinical form of ulcerative enteritis. I have dwelt upon the association of typhoid fever, diarrheas and dysentery with malaria, not because these are the most frequent complications, as proved by statistics, but because, excepting the case of typhoid fever, they are the most frequent complications as presented in our soldiers returning from Cuba and the Philippines.

It is practically impossible to recognize malaria without having acquired the skill in examining the blood for the malaria parasite. It does not require, however, much training to be able to recognize the more significant forms of the malarial organism. For the methods of examination the author refers to the article by W. H. Welch and Wm. S. Thayer in the "Loomis-Thompson System of Medicine;" to the valuable monograph of W. S. Thayer on this subject, entitled "Lectures on Malarial Fevers;" see also, Thayer and Hewetson,[10] "The Malarial Fevers of Baltimore;" also the work of Geo. M. Sternberg on "Bacteriology;" the article by James Ewing,[11] "Malarial Parasitology," and the scholarly contribution to this subject by Marchiafava and Bignami in the "Twentieth Century Practice of Medicine." I shall come back to this in the paragraph on the "Diagnosis of Chronic Malaria," but this much I must emphasize right here, that in addition to the ability to recognize the malaria parasite, the physician must also be able to recognize the various microorganisms that might cause dysentery, especially *Bacillus dysentericus* and *Amœba coli*. In order to be able to distinguish typhoid fever, the execution of the Widal test is indispensable. It may not be absolutely necessary for a pension surgeon to be able to execute all of these tests personally, but he should be at least able to recognize the malarial parasite itself; the Widal test and the cultures for *Bacillus dysentericus* may be left for the trained bacteriologist. But to show what dangers may arise from inability to recognize the malarial parasite, the following is quoted from the work of Chas. F. Craig, "Estivoautumnal Malarial Fevers." At Chickamauga Park, where his first work was done, hundreds of cases of typhoid fever, pure and simple, were diagnosed as remittent malarial fever, and treated as such, this being due very largely to the belief that the camp must necessarily become infected by malaria, because it was located in the South. As a matter of fact, there was but very little malaria present among the troops at Chickamauga Park, as was amply shown by the investigations of Vaughan, Dock, Reed, Shakspeare, and others. The colossal mistake of diagnosing hundreds of cases of typhoid fever as malaria was really responsible for causing the terrible epidemic which caused the evacuation of the park as a camping site, and Craig has attributed this mistake to ignorance of the nature and methods of diagnosing the remittent malarial fevers. Even at the risk of becoming redundant, I cannot suppress the desire of again emphasizing the infinite importance of blood examinations by the physician himself. I have very frequently noticed that physicians who did not have the training, confidence in themselves, or desire to do microscopic work, became intensely interested in blood examinations when they were instructed by capable teachers.

Complications Involving the Spleen and Liver.—In patients who have suffered from chronic malaria, a condition known as hypertrophic malarial hepatitis, in which the organ is sometimes enormously enlarged, the spleen similarly becomes enlarged, and the simultaneous enlargement of these 2 organs constitutes an almost constant symptom of chronic malarial infection. In old chronic malaria patients the spleen may become so enormous, that it may occupy the larger part of the left half of the abdomen. There may be perisplenic and perihepatic inflammations eventuating in fibrous adhesions. These changes in the liver and spleen have recently acquired additional significance in the etiology of a complication first described by Banti as "splenomegalie with liver cirrhosis, and disorganization of the blood." It has been pointed out by several authors that chronic malarial infection of the spleen may give the first incentive to the formation of poisonous substances in the spleen which may cause the cirrhosis of the liver and also the disorganization of the blood. The point to bear in mind is that Banti had clearly demonstrated that there are primary diseases of the spleen which, in a very peculiar way, may lead to toxic infection of the entire organism.

Splenomegalie with Liver Cirrhosis and Disorganization of the Blood; Banti's Disease.—Although not all cases of this complication which are on record have been attributed to chronic malaria, I consider it necessary to include this complication here because in 2 cases which I observed, it occurred in individuals who had been in malarial countries, one of them a soldier who had served in the Cuban campaign, and had an unmistakable history of chronic

malarial infection. In Osler's report on "Anæmia Splenica,"[12] he gives a record of 15 cases that have been carefully studied. In five of these, that is, one-third of the cases, there was a history of malaria. The term, "anæmia splenica," was originally used by Griesinger, after it was discovered that leukemia need not necessarily be associated with a large spleen. Banti[13] described a splenomegalie with cirrhosis of the liver occurring in young individuals, and in the etiology he excluded malaria, syphilis, alcohol, and other intoxications, and seemed inclined to admit only digestive disturbances as predisposing factors. The condition begins with a primary swelling of the spleen, which is followed by anemia and cachexia, and a chronic inflammation of the liver tissue, which in its final stages may present the clinical and pathologic characteristics of Lænnec's cirrhosis. The blood of these patients shows marked diminution of the red blood corpuscles, moderate poikilocytosis, no leukocytosis during the course of the disease, hemorrhages may occur especially from the gastrointestinal tract, edema, dyspnea, in some cases ascites and icterus. In the beginning the urine is normal, and later on shows urobilin and bilirubin.

The anatomic basis of Banti's disease is a trabecular and follicular hyperplasia of the spleen (in later stages an extensive fibrinous transformation of the splenic pulp develops).

The splenic vein (lienal) showed atheromatous changes in one of my patients, an individual 22 years old. In the liver inflammatory foci were evident in the parenchyma around the portal vein extending into the interlobular spaces—eventually this presents the typical picture of portal cirrhosis. The prognosis is grave, and the disease terminates fatally in 5 or 6 months, unless an extirpation of the spleen is successful.

Banti conceives this complex to be a direct intoxication, which is caused by toxins originally formed in the diseased spleen, and are first of all conducted to the liver with the portal blood, there acting as local inflammatory irritants, and furthermore as destructive of the protoplasm of the blood cells.

The direct proof of the validity of this view is furnished by a report of complete cures that have occurred after the extirpation of the spleen (splenectomy). These recoveries followed even in such cases in which signs of cirrhotic contraction of the liver were evident at the operation. These statements of Banti have in principle been confirmed by other investigators, especially the conception that it is a primary disease of the spleen (see Bonardi, Cavazzani, Tenile, Rinaldi, Maragliano, Benevuti, Sciolla, Sippy, who partly report clinical and partly operative cases).

A number of investigations have been made with a view to determining whether bacteria are active in the production of the primary splenic infection, but neither in the juice of the spleen nor in the blood could bacteria be demonstrated. Senator, Sippy, Sciolla[14] have conducted investigations in this direction. Their negative results indicate that the exact nature of this disease is unknown. It is probably not an infective disease, but rather a chronic intoxication caused by an unknown poison. Harris and Herzog[15] suggest that a chronic hemolysin is produced by an enzyme manufactured by the endothelial cells of the spleen. Banti seemed to favor the view that disturbances in the digestive tract were predisposing factors. As in a third of Osler's cases, and both my cases, there was a distinct history of malaria, this would impress the necessity of going over the entire reports of cases of this kind to determine whether malaria is really not more than an occasional cause. Of course, there are cases like that of Dr. A. D. Atkinson,[16] in which there was no history of malaria, and as a blood examination was made in most all of the cases, it is not probable that the malaria parasite would have escaped detection had it been present. On the other hand, we must not overlook the fact that chronic malarias of long-standing antecedents, may have produced decided detrimental effects upon the splenic tissues, and the parasite been eradicated by quinin treatment. This was the status in one of my cases; a youth of 27 had a history of chills and fever in April and May, 1900. The malarial parasite was then found in the blood, in Richmond. But when I examined him in March, 1903, no malaria parasite could be detected either by myself or by two other competent clinicians. So that the important point about the factor of chronic malaria in Banti's disease is a scrutinizing inquiry into the previous history of the patient. From a number of the publications on the subject, it is evident that the cirrhosis of the liver is not necessarily pronounced in all cases, and consequently ascites is not always one of the phenomena. It may occur, however, in the absence of evidences of liver cirrhosis, as a result of the passive congestion caused by the splenic swelling, or as a result of the anemic state of the blood. According to Senator, the ascites may be due to obstructions of the lymph channels by simultaneous swelling of the mesenteric glands. Gilbert and Fournier,[17] in discussing the relation of the swelling of the spleen to the inflammation of the liver, suggest that both organs may be simultaneously infected by the same toxin only that the liver infection develops slower than that of the spleen. The most characteristic symptoms are those referring to hemorrhagic diathesis. Osler, as well as Senator, has emphasized that gastrointestinal hemorrhages are very frequently observed, but hemorrhages from the mouth and nose and urinary tract are also frequent, and Osler has observed cutaneous melanosis similar to that occurring in pseudoleukemia.

From the cases compiled by Sippy and Osler,[19] I think the conclusion is justifiable that the results of the blood examinations are quite uniform. Stating it in a general way, these may be stated as follow: Moderate or severe anemia with reduction of the number of red corpuscles; a further reduction of the amount of hemoglobin (out of proportion to the reduction of the erythrocytes); small number of leukocytes (leukopenia); sometimes normal relations between the different forms of blood cells; at other times moderate presence of lymphocytes.

Banti's conception of this complex of symptoms for which Osler prefers the name of "*anæmia splenica*," really stamps this as a pseudoleukemic disease, a chronic infection of the general organism, originating in the glandular swelling, with this difference between pseudoleukemia and Banti's complex: In pseudoleukemia we have a progressive involvement of new groups of glands, but in Banti's disease we have an inflammation of the liver tissue. The general intoxication in both diseases is expressed in the cachexia, anemia, edemas, hemorrhages. It is especially interesting to be able to demonstrate that the formation of the infective toxins occurs primarily in the spleen because in 19 cases of extirpation of the spleen collected by Harris and Herzog[20] recovery followed in 14, and in one the result was not given. In Cases IV and V of Osler's compilation the spleen was removed by Dr. Harvey L. Cushing. In Case IV the patient was reported well 4 years after the operation (information from a private conversation with Dr. Cushing). In Case V the patient died of an esophageal varix.

According to Osler and Cushing, all cachectic symptoms disappeared after removal of the spleen, and Bessel-Hagen,[21] Maragliano Terrile emphasized that the spleen should be removed as soon as the nature of the disease is recognized, and clinicians should by no means wait until an irreparable general condition and a severe cirrhosis have been produced. If a comparison to pseudoleukemia is permissible, we might suggest that all suspicious lymph-gland tumors should also be removed as soon as the pseudoleukemia is recognized. As a result we might also comment on the influence of the removal of the spleen on the cells of the blood. Numerous careful observations by various competent authors have failed to demonstrate that splenectomy has any influence

whatever in producing changes in the red or colorless blood-corpuscles. This is in agreement with the views of Ehrlich and Lazarus, who attribute no active influence to the spleen in the production of the normal blood cells. It is of further interest to note the diametrically opposite effect that splenectomy has had on the condition of the blood known as leukemia, in which the result was extremely unfavorable or fatal. This demonstrates a fundamental difference between the pseudoleukemic and spleen diseases, and those depending on a leukemic basis. In the former, including Banti's disease, the gland and spleen changes are the primary element in the disease process, whereas they are only secondary complications of diseases of the bone marrow in leukemia.

Diseases of the Nervous System.—Coincident with the estivoautumnal fevers there may occur attacks of acute mania, and such cases have been described by Yanarris,[22] but this complication is very rare. Hysteria is not a very uncommon complication in nervous women and even in men, and as in hysteric attacks in general, the symptoms complained of vary greatly in character and severity. Paraplegia and hemiplegia may rarely complicate these fevers, and neuroses of various kinds are not uncommon. Meningitis may also occur.[23]

Diseases of the Respiratory System.—Both lobar and lobular pneumonia occur as complications, the first being by no means a rare complication. Early observers held that the pneumonia accompanying malaria was directly due to malarial poison; but recent investigations have proved conclusively that the malarial parasites, *per se*, are unable to produce a true pneumonia. The pneumonia complicating malaria will always be found, upon bacteriologic examination, to be due to *Diplococcus pneumoniæ*.

There is a form of pernicious estivoautumnal fever in which the symptoms are chiefly referred to the lung, and are identical with those of lobar pneumonia. The condition present in these cases is due to a localization of the parasites in the lung capillaries. Microscopic examination of the lung in such cases shows that the lesions present differ widely from those common to lobar pneumonia.

Pneumonia may complicate the malarial infection at any time, and may develop suddenly or insidiously. The course of the pneumonia is generally but little altered, although the disease is apt to assume a more severe type than when it occurs alone. Pneumonic symptoms may entirely mask the malaria, or on the other hand, may be so slight as to be masked by the malarial infection.

The prognosis in pneumonia complicating estivoautumnal malaria is always very grave, many cases proving fatal. The mortality is stated by Ascoli to be as high as 60% to 78% in patients who have had repeated estivoautumnal attacks. Death may occur in from 36 to 72 hours from the initiation of the attack.

In patients who recover, the convalescence is very slow, resolution being greatly delayed. An empyema may result in rare instances. Not rarely the affected portions of the lung become fibroid, and a chronic fibroid pneumonia results, or a bronchiectasis appears.

Acute bronchitis is a very common complication of the estivoautumnal fevers, being observed in about 40% of the cases. It may be very persistent, and often very markedly weakens and exhausts the patient.

A septicemia due to pneumonic infection has been described by Marchiafava, Bignami, Nazari, and others as complicating malaria.

Tuberculosis.—Tuberculosis and malaria may occur simultaneously in the same individual. It is known that both diseases are very commonly associated, and that even fatal cases of estivoautumnal malaria may occur in patients suffering from active tuberculosis. Marchiafava and Bignami have reported a very interesting case of this kind. Marchiafava claims that "if the malarial infection attacks organisms affected by tuberculosis, the latter is not arrested, but acquires a tendency to spread and produces miliary tuberculosis." The same authority states that "according to our experience, malarial cachexia does not predispose to tuberculosis, as do other cachexias." Pleurisy and malaria are sometimes associated, but it is a somewhat rare complication, and when it occurs pursues the same clinical course as usual.

It has been stated that if quinin be administered to a patient suffering from any of the complications mentioned, it will be followed by a cessation of the malarial symptoms, and the complicating process will run its usual course. This is, of course, not invariably the case, for certain forms of chronic malaria do not improve under quinia and again sometimes the complicating process may become much better, as in pneumonia for example.

The diagnosis of estivoautumnal malaria, when its symptoms are masked by complications, is only to be made by the microscopic examination of the blood.

Diseases of the Circulatory System.—Those organic diseases of the heart which happen to be present at the time of an estivoautumnal infection will, as complications, render the prognosis exceedingly grave. Acute endocarditis may occur as a complication and the ulcerative form of the disease may follow a pneumonic complication. Functional disorders of the heart are very common complications of the estivoautumnal malarial fevers. A slow pulse during convalescence is common, sometimes counting but 40 to the minute.

Diseases of the Genitourinary System.—Nephritis is one of the most common complications of these fevers, and occurs in about 3% of the cases. As a rule, the nephritis is an acute one, and generally subsides shortly after the cessation of the malarial attack. Nephritis is as much a consequence of malaria infection as it is a complication.

Orchitis and epididymitis are rare complications, but as a rule a history of gonorrhea infection is usually to be obtained. There are no reliable evidences indicating that there is an orchitis due to the malarial poison, *i. e.*, a malarial orchitis.

It is impossible within the short time to which this address is limited to give an exhaustive treatise of all the possible complications and sequelæ of malaria, nor can it be expected that the diagnosis could be fully presented with such regard to detail as the importance of this subject requires. The main object of my report, as I was requested to make it by the president and committee, was to emphasize the relationship between chronic malaria and disturbances of the digestive organs. And even in this regard I am conscious that the paper is incomplete. If I have succeeded in only stimulating your individual thinking, and given an incentive to personal research along these lines, I will be satisfied with the little progress that has been accomplished.

In conclusion I desire to express my appreciation of the honor conferred upon me in the invitation to address your representative body.

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CONTRIBUTION TO THE CLINICAL STUDY OF CEREBROSPINAL MENINGITIS.*

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The cases herein reported represent a series of 23 sailors from the United States training ship "Minneapolis," at League Island, Philadelphia, who were treated at the Naval Hospital, Philadelphia.

Notwithstanding the exhaustive literature of this disease, and the study of many epidemics, medical interest must always be attracted by so fatal a malady, a malady so sudden in its onset, a veritable Jove's thunderbolt, sometimes out of a seemingly clear sky without warning, and with mortal symptoms, fatal in many cases in a few hours.

In a report of the Massachusetts State Board of Health, by Councilman, Mallory, and Wright, regarding the epidemic of 1873, Dr. J. B. Upham is quoted as saying:

> In weighing the evidence of insanitary conditions I find the cases are distributed among all classes and grades of society —the high and low, the rich and poor, in locations unexceptionable for situation, open to abundant light and air, and pent-up hovels of the lowly and wretched, have all contributed material for the epidemic. We believe the origin of the disease is atmospheric and for the present beyond our ken.

To Weichselbaum in 1887, perhaps earlier to Lichtenstern, belongs the honor of establishing the fact that *Diplococcus intracellularis* is the cause of the disease. But from where comes the diplococcus? And how does it gain access to the meninges of the brain and spinal cord?—inflammation of which, perhaps, represents the local lesion of this constitutional malady.

We have not yet solved the riddle of the sphinx in explaining fully the etiology of the sporadic cases definitely classified by their clinical history, by bacteriologic and pathologic findings, and which occur under most hygienic surroundings, and we yet seek the full explanation of epidemics in widely separated localities with no apparent evidences of transportation.

In this series of cases of cerebrospinal meningitis, our object has been to make a purely clinical study, with particular attention to areas of anesthesia, wasting of muscles, electric reactions, and the newer clinical signs, viz., Kernig's and Babinski's signs, and Quincke's lumbar puncture.

Kernig's sign is a very valuable one and was present in most of our cases. It consists of an inability to extend the leg to a straight line on the thigh with the thigh held at right angles to the body, due to strong contractures of the flexor muscles. It only occurs in cases of meningitis.

Babinski's reflex was present in nearly all of our cases to a marked degree. It also occurs in other conditions and usually indicates some disturbance of the central motor neurons. It is obtained by stroking the sole of the foot, when we will get a dorsal extension of the great toe; while in health the same irritation will cause a plantar flexion of the great and second toes or a rapid withdrawal of the whole foot and leg.

Quincke's lumbar puncture has been given quite an important place of late years in the diagnosis of various forms of meningitis. It can be done without a general anesthetic, with the aid of a local freezing mixture. Puncture is usually made between the third and fourth lumbar vertebras, the patient being placed on the right side with the back bowed, the knees drawn up, and the left shoulder forward. Then take a small aspirator needle, or one from an antitoxin syringe, and thrust it deeply in an upward and inward direction. The spinal canal is reached at a depth usually in children of from 2 cm. to 4 cm., and in adults from 4 cm. to 6 cm. The fluid usually runs drop by drop and should be received in a sterile flask and kept free from contamination. It can be carefully studied by smear preparations, cultures, and animal inoculations. The fluid may be clear, turbid, only rarely purulent and sometimes bloody. The whole process should be done under the most rigid antiseptic precautions. Performed in this manner, the operation is claimed to give temporary if not permanent relief. The puncture may be repeated as often as may be deemed necessary, but too much fluid should not be drawn at one sitting on account of the lessening of the intrameningeal pressure, which at times seems to have a bad effect. To the bacteriologic findings made possible by this latter procedure we must look for the exact diagnosis of the disease.

Formerly a classification of the varieties of meningitis was founded on clinical facts and pathology; now bacteriologic proofs largely decide whether meningitis is tuberculous, pneumococcal, or pyogenic, as from a mastoid disease.

As much as we must allow to the rapid strides in surgery in the last decade, yet a good illustration of the progress of medicine is the exact diagnosis of cerebrospinal meningitis; and as much as we as clinicians love our bedside pictures, yet we must in this instance yield much to the laboratory and to bacteriology for an exact diagnosis.

In studying the history of cerebrospinal meningitis we find that histories of the great epidemics of Europe from the thirteenth century record a symptomatology characteristic of this disease, though the earlier cases, of course, were unrecognized, and were confounded with other diseases, particularly with typhus fever. It is quite certain that many of the earlier diseases described as purpuric fever, spotted fever, petechial typhus, and febris nigra, were cerebrospinal meningitis. The older literature shows distinct recognition of the disease as early as 1805, when in Geneva, Switzerland, Vieusseux described an outbreak of the disease. In the next 2 years, epidemics occurred in Bavaria, Holland, Germany, England; and in America, in Medford, Mass., in 1806.

Since this date epidemics have been frequently reported in both the Eastern and Western hemispheres; France from 1837 to 1849 seems to have suffered far more than any other country, particularly among the soldiers, in many localities, and in military barracks. At present in practically all cities of our own country, the disease has become endemic—that is, each weekly deathrate is apt to contain cases of cerebrospinal meningitis. Whether such are in all instances properly classified, when not bacteriologically studied, may be open to question. Cases of cerebral typhoid, cerebral pneumonia, and diseases of allied symptoms, even hydrophobia and other types of meningitis are apt to be confounded with this disease.

In the State of Pennsylvania, and particularly in the city of Philadelphia, there was an epidemic in 1863–65. Since then, in Philadelphia, sporadic cases are annually reported. The number of deaths from 1863 to 1891 due to this disease was 2,575. From 1892 to 1899 deaths reported in Philadelphia for respective years were 22, 35, 18, 17, 7, 10, 24, and 146 in 1899; 18, 16, 11 and 24 in 1903 to August 29.

Continental epidemics show the predisposition of recruits and young soldiers to this disease. The cases, however, herein reported, all occurred in young recruits, chiefly 1 and 2 months in the service, none more than 3 months. No seasoned sailor was affected. In our study of these cases we have confined ourselves to a description of the clinical symptoms observed, not including even reports of autopsies. The bacteriology and pathology of this disease has been so exhaustively studied by Councilman, Mallory and Wright, and by Osler that it leaves nothing for us to say on this point.

Leukocytosis has been so convincingly proved in other epidemics that we have not given results of blood-

* Read before the fifty-third annual meeting of the Pennsylvania State Medical Society, held at York, September, 1903.

counts, but have confined ourselves to the clinical phenomena.

Case I.—E. H. H., admitted to hospital March 29, 1903. He was taken sick suddenly with headache, pain and stiffness in the neck. The head was markedly retracted. He had some dyspnea, and complained about distress about the head which he could not describe. His temperature was 104° F., and he was quite delirious.

On March 30 the patient was still delirious with a temperature of 103°, respirations 56; he was markedly cyanotic. Physical examinations revealed consolidation of the right lung posteriorly involving the whole lower lobe. There was little, if any, cough. Widal reaction was negative. The head was turned well backward when the patient was held on his side. The patient became comatose and died on the third day of his illness. Some special postmortem findings bearing upon this disease were that the blood was of a dark color, and unusually fluid. Extravasation of blood had occurred into the thoracic and abdominal organs. The cranial sinuses were engorged with blood and contained soft dark clots. The meninges were hyperemic. Quincke's lumbar puncture had revealed the presence of *Diplococcus intracellularis* which was substantiated by later cultures. The absence of cough in this case was probably due to the diminished sensibility of the vagus, owing to inflammation or effusion. This was 1 of the 3 cases complicated by pneumonia.

Case II.—Hulsworth. Admitted to the hospital April 3, 1903. Died April 9. On admission the patient was delirious with a temperature of 103°. There was general tenderness all over the body and great mental hebetude. He had a dry coated tongue, and passed urine involuntarily. The patellar reflex was absent. The pulse was of good strength and volume. The pupils reacted slightly to light. Kernig's sign was present.

April 4, he was semiconscious and vomited frequently. He responded when spoken to and then lapsed into a comatose state. Purpuric spots were observed over the chest, abdomen and anterior surfaces of the arm, particularly. The muscles of the back of the neck were rigid and the head was retracted (this sign appeared late).

April 5, his temperature was 102°, pulse 98, respirations 36 (the reported temperatures unless otherwise noted represent 9 a. m.) Complete unconsciousness supervened. The urine and feces were passed involuntarily. Physical signs of congestion of the lower and middle lobes of the right lung appeared.

April 6, convulsive movements of the arms were noted. The patient was partially conscious at intervals. He grew rapidly worse and died in coma on April 9.

Case III.—H. P. H. was admitted April 4, 1903. He was first taken with vomiting, loss of strength, and violent pain in the head and along the spine. Temperature 104°. He had some nose-bleed, and showed great mental hebetude. The pupils were dilated, and there was marked retraction of the muscles of the back of the neck. The head was drawn to one side. Facial paralysis of the right side and also paralysis of right half of tongue existed.

On April 11 his temperature was 99.6°, pulse 76. April 13, temperature 103°, pulse 126. Complete paralysis of the right side of the body was observed. He died April 14.

Case IV.—H. H. A., aged 21, was admitted to the hospital April 7, 1903. He had been taken suddenly ill with a chill, pain in the head, back, and limbs. The temperature was 101°, pulse 90. He was partially unconscious, had some muscular twitchings, and stiffness of muscles of the back of the neck. There was some partial anesthesia. Bowels and bladder moved involuntarily. He had an eruption on the body resembling that of typhoid, but more petechial.

April 11, the patient was aroused with difficulty, but answered questions fairly well—then lapsed.

April 19, his mind was clear, and he appeared much better. A bed-sore had formed on the back, quite gangrenous in type. Slight deafness in the right ear was noted.

May 26, the patient was convalescing and was able to be up and around the ward. Total deafness of the right ear was noted. Pupils were dilated. He conversed intelligently. Some hyperesthesia of the spine persisted. The right knee and ankle were swollen and painful for several weeks.

June 15, examinations of the eye-grounds showed: Vessels of the right eye were sclerotic. The left eye showed optic nerve atrophy. Papillitis and choked disc were present.

Case V.—A. R. S., aged 22, was admitted April 18. He complained of being feverish and dull, with headache and chilly sensations. He vomited profusely. The head was retracted and muscles stiff. Patellar reflexes were diminished. Kernig's sign was present. Babinski's reflex was also present. The spleen was not palpable. Some hyperesthesia of the spine existed.

May 25, the patient was convalescent and moving about the grounds. He was very much emaciated, and had the appearance of having been through a severe illness. The pupils were widely dilated and slightly unequal. He showed a puzzled, far-away look when spoken to, and answered slowly with a stammering or scanning speech. He made a good recovery.

Case VI.—D. S., aged 19, was admitted April 25. He was feverish and complained of intense pain in the head. He was very restless and was semiconscious. He had severe pains in the neck, back, and legs, with some stiffness of the neck muscles which pained on motion. The eyes were sensitive to light. The left pupil was larger than the right.

May 15, found him apparently convalescing. He still had pain in the back and head, and pain on pressure over the spine. He remained in this condition for a week.

May 24, he had a relapse. He was taken with violent headache and pain in the neck. Temperature 102°, pulse 84. Retraction of the head was marked. Kernig's sign was present. Knee-jerks were absent. Babinski's reflex was negative.

May 25, there was less headache and the stiffness of the neck had disappeared.

May 26, severe headache persisted all day. The pupils were dilated. Kernig's and Babinski's signs were present. Knee-jerks were absent. He vomited and had a slight chill.

May 28, the head was still retracted, and he complained of severe headache.

On June 15 he was convalescing. His weight had diminished 75 pounds since the beginning of his illness. There was still some vertigo and headache, and tenderness of the spine. Eye examination showed vessels sclerosed, optic atrophy, and choked disc.

Case VII.—C. H. B., a colored boy, aged 17, was admitted April 25. He was taken sick on board ship, when he became suddenly delirious and maniacal, as if under the influence of liquor. He had to be restrained, and cried out as if in severe pain. On admission, his temperature was 103°, pulse bounding, with visible pulsations in the vessels of the neck. The pupils were dilated and equal, and reacted to light.

He became stupid, and for 4 days was unconscious. No herpes was apparent, spleen was not enlarged, and the liver appeared normal in size. Urine contained albumin, hyaline casts and cylindroids. Knee-jerks were absent when admitted, appearing later. The head was retracted, a condition of opisthotonus existing for several days. He was hysterical and noisy, for 10 days crying loudly with pain in the back and head, with a sense of impending death, asking for a clergyman. He gradually became quieter and assumed a vacant bland expression. Arthritis occurred later.

His convalescence was rapid, and he was sent on duty June 2, 1903.

Case VIII.—A. D., was admitted May 7 and died May 11. He was unconscious upon admission, and had a violent convulsion. The pulse was full and bounding. Temperature 102°. The head was retracted and the neck and back rigid, presenting a condition of extreme opisthotonus. The face was congested. He was quite delirious and grew gradually worse. The respirations became more shallow and coma deepened. He passed urine and feces involuntarily. Rigidity of the neck and back muscles gradually disappeared, he became weaker, and died 10.10 p. m. on the fourth day of his illness.

Case IX.—C. H. S., was admitted May 8 and died May 9. He was very dull and could be roused only with great difficulty. The head was retracted, and pressure on the muscles of the back caused pain and spasm. The face was congested, pulse full, temperature 100°.

May 9, he had a restless night, complaining in lucid intervals of pain in the abdomen. The skin was clammy, extremities were blue and cold. He gradually lost consciousness. The head became retracted more and more, burying itself in the pillow at almost a right angle to the body. Paralysis occurred, first of the left and then of the right side. Death occurred at 12.10 p. m.

Death in this case was probably due to the action of a specific toxin on the nerve centers of the heart.

Case X.—E. G., male, aged 18, was admitted to the hospital May 11. He was delirious, with retraction of the head and hyperesthesia of the skin generally, and to some extent of the deeper structures. The pupils were dilated, temperature 103°, pulse 110, of good volume and force, respirations 30. He vomited excessively.

May 12, herpes labialis appeared with profuse epistaxis. He was troubled with insomnia. The least touch caused pain, and he was in a very restless state. The reflexes were exaggerated.

May 13, pulse 114, respirations 23, temperature 102°. He was delirious and had to be restrained. He complained of headache and pain in the back of the neck; hyperesthesia seemed lessened.

May 14, patellar reflexes were exaggerated. The pulse was full and strong. The tongue was dry like a typhoid tongue and covered with sordes. Temperature 102.4°.

May 15, delirium persisted, with extreme restlessness. The pulse was stronger and slower. Temperature 102°. Raising the head raised the whole body. Paralysis of the upper extremities appeared later.

May 17, marked herpetic eruptions appeared on the mouth, right cheek and nose, exuding a bloody serum. He became delirious at intervals. A large bed-sore of gangrenous type appeared on the sacrum. Subcrepitant rales were present over the chest generally. Profuse perspiration occurred, in lucid intervals he had control of the bladder, but no control in periods of semiconsciousness. Liver and spleen were not enlarged.

May 18, large and small moist rales were present with physical signs of congestion. The patient was bathed in perspiration. Paralysis of the neck muscles occurred. On turning the head to one side, the muscles offered no resistance, the

head falling to one side as if loosened from the body, which with dilated pupils, staring expression and drawn face give a very uncanny aspect. Yet the patient was able to answer questions intelligently, and called for the urinal. This intelligence in very critical cases has been ascribed by Osler to the basilar character of the meningitis.

May 19, he grew suddenly worse, with marked dyspnea, and died from congestion and edema of the lungs.

CASE XI.—J. E. A., aged 19, was admitted May 12. He was taken sick with headache and vomiting, attended with high fever. On the following day the symptoms continued, with pain in the back and back of the neck. Marked retraction of the head existed. The occiput almost touched between the shoulders. The pupils were dilated, some photophobia existed. There was marked hyperesthesia of the skin, pulse 80, temperature 103°.

May 14, the temperature registered 100.8°. The head was still retracted and he had a slight convulsion.

May 15, he seemed much better. The symptoms began to abate and in about 8 days from the onset he was quite restored to health with little pain. Some hyperesthesia and sensitiveness over the spine persisted.

He made an uneventful recovery with only arthritic sequels. The most interesting feature of the case was the short duration of violent symptoms, with speedy recovery.

CASE XII.—J. S., aged 21, was admitted May 13. He complained of nausea, headache, and pain in the back and back of the neck. Slight retraction of the head was particularly apparent when attempts were made to raise the head, reflexes were exaggerated. The pupils were dilated, and the skin was slightly hyperesthetic. Temperature 99.8°. Kernig's sign was present.

May 14, he appeared much better; he had passed a fair night and the pain was not so severe.

May 16, he could sit up, did not complain of so much headache, and had but little pain in the back. Temperature 98°.

All symptoms in a few days abated, and in less than a week from the onset of the disease he had fully recovered.

June 15, he was convalescent, but still complained of insomnia and pain in the legs. No paralysis existed. The patient appeared dull mentally, and very sluggish in his movements; his left ankle and wrist were painful and swollen.

CASE XIII.—J. L. S., aged 19, was admitted May 13, with acute articular rheumatism, having violent pains in the arms and legs. Later he developed hyperesthesia of the skin, with flushed face, and eyes suffused. He had nausea and vomiting, and most obstinate constipation. Severe headache supervened, with retraction of the head. Temperature 101°, pulse 80.

May 16, his temperature was 102°. The pupils were dilated. Kernig's sign was present, and reflexes were present. He showed slight ptosis, and strabismus. Epistaxis occurred. The tongue was dry and coated, and covered with sordes. A few spots appeared on the thigh and chest like typhoid spots, only larger and more petechial.

May 17, the delirium was of a maniacal type, and he had to be restrained. Temperature 101.4°, pulse 80, respirations 25. The spleen was not palpable. No herpes was present. Violent pain in the lower extremities persisted, with some rigidity of the upper extremities. There was hyperesthesia of the skin and deeper structures. The pupils were dilated.

May 18, his temperature was 103.8°, respirations 25, pulse 110. Condition unchanged.

May 19, he appeared mentally brighter, being delirious only at intervals, with less headache. Retraction of the head was not so marked, and there was less soreness.

May 20, delirium disappeared, and he had less pain in the lower extremities and neck.

May 21, he became worse and was delirious all day. He bled from the nose and from the mouth. Temperature 102°. Kernig's sign was marked, knee-jerks were absent and pupils were dilated.

June 9, slight improvement was apparent, temperature 99°, pulse 108. Though he was still delirious he took more food. A bed-sore on the sacrum was probably partly trophic and partly due to extreme restlessness.

June 10, his temperature was 99.4°, pulse 118, and weak. He was very restless and delirious.

June 11, he had a temperature of 100°, with pulse 120 and weak. The pupils were normal, hyperesthesia existed. Kernig's sign was marked, and Babinski's sign was absent. Knee-jerks were present. He was still delirious. Emaciation was extreme.

June 13, he was very delirious.

June 14, though still mentally excited he took nourishment better. The tongue was moist. There was some incontinence of urine.

June 15, he showed improvement, with a temperature of 100°, pulse 102, and a fair appetite. The skin was still hyperesthetic and spine very sensitive to pressure.

On June 20 normal temperature had been recorded for several days. Kernig's sign was still present, with hyperesthesia, and muscles of the back and neck sensitive to deep pressure, with pain and exudation in several joints. He made a good recovery.

CASE XIV.—J. J. L., aged 20, was admitted May 14 with acute bronchitis; he subsequently developed croupous pneumonia with meningeal symptoms. He had headache, pain and stiffness in the neck and hyperesthesia. The pupils reacted to light, the left being smaller than the right. Both pupils were dilated. Severe pain was elicited on bending the head forward. Temperature 102°. He developed the physical signs of acute lobar pneumonia at the base of the right lung, with bloody expectoration, but with little cough and little pain.

May 17, no change had occurred. Temperature 103°, pulse 80, respirations 28.

May 19, he appeared much improved, with a crisis on the fifth day. He was still delirious, with retraction of the head.

May 21, he presented a condition of extreme anemia. Hemic murmurs in the neck were apparent.

May 28, resolution seemed somewhat delayed in the right lung. He complained of dull pain in the side. The pupils were still dilated.

June 2, convalescence was slowly established, the lung gradually clearing up. He lost 11 pounds through the illness.

June 20, polyarthritis existed with mental slowness.

CASE XV.—J. S., aged 18, was admitted May 21. He was seized at 4.30 a. m. with violent headache and pain in the back of the neck, with some retraction of the head, and excessive vomiting. The pupils were slightly dilated. On admission he complained of violent occipital headache, pain in the neck and back and rigidity of the muscles. There existed marked resistance of movements of the head, with some hyperesthesia of the spine and deeper tissues.

He had pain in the lower extremities and in the left hypochondrium. The mind was clear. Kernig's sign was present. Knee-jerks were lost. Temperature 102.6°, pulse 70, respirations 22. Constipation was extreme and he was bathed in perspiration.

May 22, the reflexes were still absent. No delirium existed. Pulse 80, temperature 99.4°. Headache and pain in the back were moderate. There was no herpes and no eruption.

May 23, Kernig's sign was absent and knee-jerks returned. There was no eruption. Temperature 98°. Some tenderness along the spine existed, but no paralysis.

May 24, Kernig's and Babinski's signs were absent.

May 25, convalescence was fairly established, though insomnia and some spinal tenderness persisted and a mild form of arthritis.

CASE XVI.—M. V., aged 18, when first seen had a temperature of 103.8°, pains in the back, frontal headache, and he complained of weakness of the back. On admission, May 21, his temperature was 102.8°. He complained of violent pain in the head, neck, back, and left side. Examination showed acute lobar pneumonia of the left lower lobe, as a complication. Kernig's sign was very pronounced. Babinski's sign was slight. Knee-jerks were absent. The pupils were normal, face was congested, and tongue tremulous. He appeared very drowsy and dull and showed hyperesthesia of both the skin and deeper tissues.

May 22, the patient seemed very ill with severe pain in the left side and constant headache, with tenderness of the back. Knee-jerks were still absent. Temperature 104°, respirations 40, pulse 110. The sputum was still bloody, but no herpes existed. The sputum showed diplococci and other organisms, but no pneumococci.

May 23, he was very restless and delirious. He answered questions slowly. Slight retraction of the head, tenderness of the neck and spine were apparent. Pulse 104, respirations 32, and temperature 104°.

May 24, the crisis occurred with marked improvement. Temperature 100°. No herpes appeared at any time of the attack. Reflexes were absent. Headache and spinal tenderness still persisted.

May 25, convalescence began to be slowly established.

CASE XVII.—O. Z. A., aged 20, when first seen at 9 a.m., May 21, had a temperature of 99.4°, and complained of severe pain in the neck. Retraction of the head existed with marked hyperesthesia and mental hebetude.

On admission to the hospital, May 22, he complained of occipital headache, pain and tenderness in the neck and along the spine. Superficial and deep hyperesthesia existed. Kernig's and Babinski's signs were present. Knee-jerks were absent. The pupils were dilated. The head was drawn toward the right shoulder. He was constipated. Pulse 84, temperature 103°, respirations 22.

May 23, he had less headache and spinal tenderness. He appeared brighter mentally. The head still inclined to the right. Pulse 80, temperature 101.4°. Marked hyperesthesia existed. The reflexes were absent.

May 24, headache and spinal tenderness subsided. Knee-jerks were present, but not marked. Appetite was good. Kernig's sign was present.

May 26, otitis media of the right side with a profuse purulent discharge complicated the case.

June 1, microscopic examination of the pus from the ear showed the presence of *Diplococcus intracellularis*.

June 9, he was allowed to leave the bed.

June 16, he was convalescent and the ear was much improved.

CASE XVIII.—M. J. B., aged 18, colored, was admitted to the hospital with symptoms of acute bronchitis, with considerable expectoration. The head was not retracted, but showed some resistance to flexion. He complained of backache and frontal headache, and pain in the lumbar region. Pulse 72, temperature 98°. He suffered with constant nausea, with occa-

sional vomiting. He complained of pain in the eyes and throbbing in the ears. The pupils were contracted and were sluggish, but reacted alike. Patellar reflexes were absent. Forward movement of the head was impossible. He was quite stuporous. Kernig's and Babinski's signs were both present. Lifting of the head raised the whole body. The body was in a cataleptic state. The arms remained wherever they were put.

June 6, marked dulness existed over the left lung. Bloody sputum appeared. The patient was very drowsy, but had less pain in the back and neck.

On June 12 he was convalescing. Temperature, 98.4°; pulse, 72. He had no pain. Reflexes were present. Insomnia seemed the most troublesome symptom, though the leg, back, and neck muscles were quite stiff, with swelling of some joints.

CASE XIX.—W. A. W., aged 21, was admitted to the hospital May 29 with a rash like measles. On June 8 he first complained of violent headache and stiffness of the neck and back. His temperature was 101°.

June 9, the temperature suddenly rose to 104.2° and characteristic symptoms appeared.

June 10, Kernig's sign was present and Babinski's sign was marked. Knee-jerks were absent. The pupils were dilated. Temperature 98.6°; pulse, 72. Severe pain occurred in the lumbar region.

June 11, pain in the lumbar region was still severe, with marked spots of anesthesia, 6 inches in diameter on the spine and also on the breast. The pupils were dilated. Knee-jerks, Kernig's and Babinski's signs were present.

By June 19 he had normal temperature for the 4 days previous. There was still some pain along the spine, particularly in the lumbar region.

June 22, the patient suffered a violent relapse, with delirium, retracted head and loss of motor power in the left arm. The surface was hyperesthetic. He struggled violently at times.

June 23, the patient was still very ill, with the left arm still powerless. Consciousness returned from time to time.

June 25, he had regained to some extent the use of the left arm. Convalescence was retarded.

CASE XX.—J. W. C., aged 20, was admitted May 31. He felt perfectly well until 10.45 a.m., when he had a chill with temperature of 102°, pulse 120, and vomiting, soreness in the lumbar region, acute frontal headache, coated tongue. At 11.20 the temperature was 103.8°, pulse 126, respirations 28. He vomited profusely a clear green fluid.

June 1, his temperature was 100°, pulse 88. There was pain and local soreness in the back, with frontal headache. The vomiting continued. Patellar reflex was absent. Kernig's sign was well marked. No eruption appeared. The mind was clear. The "crane-like" posture in bed was very characteristic. Babinski's sign was also present.

June 3, he vomited frequently. The sputum was bloody, with consolidation of the left lung, and severe headache. Temperature 103°.

June 4, he seemed worse, being delirious most of the time, and complained of a sense of oppression about the heart. No paralysis existed. Kernig's sign and Babinski's sign were present.

June 8, vomiting continued. He was still delirious. Bloody sputum persisted. The reflexes were absent with slight retraction of the head. Babinski's and Kernig's signs were present.

On June 10 he was convalescent. No sequel existed, and he was allowed to sit up.

CASE XXI.—H. H. S., aged 26, was the oldest of all the patients. He was admitted with a diagnosis of epilepsy on June 6, being delirious, with pains in the head and back. A condition of opisthotonus existed. The pupils were dilated. Kernig's and Babinski's signs were easily elicited. The knee-jerk was exaggerated on the left side. He died the same day. Death seemed due to general paralysis. No eruption nor herpes occurred.

CASE XXII.—G. R. W., was admitted to the hospital with headache, frontal and occipital, dilated pupils, and a temperature of 103°, and pulse 102. He vomited profusely, retching violently, and had diarrhea.

June 7, the headache and vomiting persisted. Pulse was 80 and temperature 102.4°. Kernig's sign was present. Babinski's sign was absent. The reflexes were slightly exaggerated.

June 9, he was doing well. Temperature 98.4°, pulse 72; pupils were still dilated, Kernig's sign was present, Babinski's absent. Knee-jerks were absent; herpes occurred on the left cheek. No headache remained, but he was still tender along the spine. Areas of anesthesia were present over the breast.

June 11, anesthesia of the breast was still observed. Babinski's sign was absent, Kernig's present. Knee-jerks were present.

June 12, he was convalescing; temperature 98.5°, pulse 70. He claimed that he felt well and had an excellent appetite.

June 18, convalescence was slowly established. He showed stiffness in his movements, and had vague pains with troublesome insomnia. The rounded shoulder, protruding chin, "crane-like" posture were still apparent in the patient whether sitting, standing, or walking.

CASE XXIII.—F. W. H., aged 22, was first taken with diarrhea and vomiting. He had pain and tenderness in the lumbar region and back of the neck.

On admission he complained of severe frontal headache, pain and stiffness in the back of the neck, with slight retraction of the head, and tenderness along the spine, most pronounced in the lumbar region. Temperature, 101.6°; pulse, 84. The pupils were dilated. Knee-jerks were present. Kernig's and Babinski's signs were both present. Slight hyperesthesia was apparent. No eruption could be discovered. A scaphoid condition of the abdomen was a marked symptom. Projectile vomiting.

By June 15, the vomiting had ceased and his temperature was 98.4°; pulse 66. Kernig's and Babinski's signs were both present. The knee-jerks were absent.

On September 8 a report from those sent to duty showed that all but 3 proved unable to continue work on account of lack of muscular tone and slow cerebration.

The average age of these patients was between 20 and 21. In reviewing the cases we note that the *period of incubation*, in 1 case at least, was 7 days or less. Case IV, enlisted March 31, and was only 6 days aboard ship when he was stricken with the disease.

In all of the cases the *onset was abrupt*, without any premonitory stage, in many cases the instant of attack could almost be noted. In several instances the ambulance left League Island and found a recall on arriving at the Naval Hospital, another apparently healthy sailor having been stricken down with the disease. In nearly all of the cases *death ensued quickly*, or there was a *speedy recovery*. In some other epidemics, particularly in children, Keating[1] says: "In those who recover, convalescence is protracted and slow." After weeks and months of suffering, and progressive loss of flesh and strength, death occurs in a state of extreme prostration.

Only 1 case of the present series, Case XIII, was prolonged, and this ended in recovery. Cases IV and VI were also somewhat prolonged, but both ended in recovery. Of the 23 patients, seven died, making a mortality of 30.43%.

In a recent epidemic in Boston the mortality was 68.5%. Von Ziemssen gives the range of mortality from 30% to 70%, and Hirsch gives from 20% to 75%.

The *causes of death* may be intense hyperemia of vital nerve centers. The disease often kills the patient before distinct pathologic alterations become evident, and macroscopic appearances are negative, as has been shown in other epidemics. In one instance death was due to congestive edema of the lungs. Pneumonia was a cause in 2 cases.

The *action of a specific toxin* on the heart and respiratory centers, no doubt, accounts for many varied symptoms and early deaths.

SPECIAL SYMPTOMS.

Motor Symptoms.—In Case III there was paralysis of the right side of the body. In Case II there were convulsive movements of the arms before death. In Cases IX, X, XIX, XXI, there was paralysis of the arms, legs, and body. There was a remarkable absence of motor symptoms, and affection of the cranial nerves in the patients who recovered.

Arthritis.—Eight had arthritis, nonpurulent.

Eyes.—Dilation of the pupils occurred, both early and late, in most of the cases; there was no case of blindness. One patient had divergent strabismus, and left-sided ptosis.

Ears.—Pain in the ears, ringing and throbbing of the ears occurred as early symptoms. In one case there was otitis media, resulting in impaired hearing. In 64 instances of recovery from this disease, Moos found 55% of deafness. In 1874, in the Bamberg and Nuremberg Deaf and Dumb Institutions, most of the pupils had become deaf from this disease. (Osler's Practice of Medicine, 1900.)

Psychic Symptoms.—The usual variety of psychic symptoms was present, varying from mental hebetude to stupor and coma, or delirium.

A peculiarity in some instances was *acute maniacal delirium with normal temperature*, and, on the other hand,

[1] Cyclopedia of Diseases of Children, Vol. i, p. 514.

marked constitutional symptoms with fairly clear mind; at least, the patients would be easily roused to answer questions. All complained of insomnia in convalescence, lay awake all night, or were aroused by the slightest noise.

Eruption.—The comparative *absence of any eruption* is noteworthy. Herpes labialis occurred in a few of the cases. One patient had an eruption resembling measles, only darker, another an eruption like that of typhoid.

Alimentary Tract.—All but two of the patients were constipated. In only a few instances were there sordes, and typhoid tongue. Early vomiting was quite generally present, and in one case persisted. The tongue was often moist. Most of the patients were hungry when conscious.

Circulatory.—The pulse averaged slow and full, when it would ordinarily be rapid and excitable, no doubt due to *toxic influence upon the vagus center*. Cyanosis and basic heart murmurs persisted in convalescence. The toxic effect on the vagus center perhaps explains many early deaths, cardiac or respiratory.

Characteristic Posture.—We have noted a characteristic posture in these cases that we have not found mentioned elsewhere—the neck drawn back, tilting the chin forward, "crane-like" quite describes it.



Cerebrospinal meningitis, illustrating the "crane-like" neck.

Even weeks after convalescence had been established this posture would still be evident. Lying in bed on the side, in the early stage, the same "crane-like" posture could be noted, and we believe it to be quite pathognomonic.

All convalescents examined May 25 showed widely dilated pupils, although examined standing in front of a strong light. Several presented hemic murmurs at the base of the heart not transmitted. One convalescent was cyanotic, with bluish hands and nails. In 2 cases psychic phenomena were still appreciable. All convalescents complained of weakness and pain in the legs; they rose from a chair like old men, with joints and muscles stiffened, and shuffled their feet along the floor. All showed hyperesthesia of the spine, with some pain on pressure for a long time.

Respiratory.—All cases, even the mildest, showed symptoms of bronchial congestion. Blood-stained sputum was a common symptom. At one time, of several cases in the wards, all but one might have been enrolled clinically, without close examination, for distinctive signs, as mild or severe cases of influenza, with the extreme muscular soreness and neuralgias incident to that disease.

The rarity of cough, even in some instances the entire absence of cough, in severe pneumonia is no doubt due to toxic depression of the vagi, which likewise explains the paradoxically slow respiration under the same conditions. Three of the cases were complicated by pneumonia.

The question of the relation of pneumonia to this disease was formerly very "perplexing." The 2 diseases are about equally contagious; in each leukocytosis occurs, and also herpes. In each the onset is abrupt, and they occur in the same seasons. Epidemics of pneumonia occur under quite the same conditions as those of cerebrospinal meningitis, in conditions of overcrowding in barracks and asylums. Though logically, such a distinct disease as cerebrospinal meningitis no doubt has a distinct exciting cause, a specific disease caused by a specific microorganism, yet it naturally proved misleading that the pneumococcus has long been recognized as the most important organism in producing meningitis. The exciting cause of one, *Diplococcus intracellularis* (formerly regarded as perhaps a degenerate form of the pneumococcus) is found in cerebrospinal exudate, rarely elsewhere in the body, while the exciting cause of the other, the pneumococcus, is found quite generally, even to the extent of 60%, in all cases of leptomeningitis.

In summarizing we note the marked irregularity of the temperature and pulse and varied clinical pictures. The comparative constancy of Kernig's sign, the marked variability of Babinski's sign. The "crane-like" posture of the head being set back in rounded shoulders, with chin tilted forward, quite pathognomonic. The rarity of paralysis of individual cranial nerves. There was no case of blindness and only one of deafness.

Early death in some cases was most probably due to action of specific toxin on cardiac or respiratory centers.

The chief symptoms were those of meningitis, fever, headache (frontal and occipital or general), tonic contraction of the neck muscles, disturbances of the reflexes, dilated pupils, hyperesthesia and neuralgic pains generally.

One notable feature was the vagueness of symptoms in some instances. One patient complained of rheumatic pains, yet closer examination disclosed some rigidity of the muscles of the neck, and Kernig's sign was present and other wellmarked phenomena. One had symptoms and rash like typhoid. The Widal reaction was negative. Pneumonia masked the symptoms in the first case and some others, and many cases quite resembled influenza. Only in epidemics would these cases have been classified, and this fact leads us to the query, whether sporadic cases are not often overlooked, just as no doubt on the other hand cerebral pneumonias and cerebral typhoids are improperly classified as sporadic cases of cerebrospinal meningitis. Quincke's lumbar puncture, and the finding and culture of *Diplococcus intracellularis* are not always practical procedures in private practice, and in country practice often impossible.

THE GASTROINTESTINAL DISTURBANCES ASSOCIATED WITH MIGRAINE.[1]

BY

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Migraine, paroxysmal headache, or sick headache is an affection characterized by a paroxysmal attack in which the nervous and digestive disturbances are the most prominent and often the only symptoms.

Patients suffering with migraine nearly always have a neurotic temperament. The nervous disturbances have repeatedly been described by most able and careful observers because many scientific men have suffered from it and have recorded their accurate observations. The pain usually begins on one side of the head, back of the eye, or in the temple, or in the back of the neck. From either point it spreads in time over the whole of that side of the head, and often disappears to begin the same program of pain in the opposite side of the head.

Patients often are able to describe very definitely a prodromal symptom. This may be an unusual feeling of well-being and intellectual activity for some hours or during the day before the attack, or a slight "stiffness" or discomfort about one eye as it is turned from side to side, or a peculiar feeling of numbness in the face or even in the extremities of the side on which the headache is about to appear. In others the symptoms appear

[1] Read before the American Gastroenterological Association at Washington, May 14, 1903.

suddenly, unheralded, in the most violent form, severe headache accompanied with disturbances of vision, dimness of sight or entire loss of vision toward one side, and scintillations of light. The patient is most comfortable in a darkened room, and in the upright position. The headache usually begins in the morning upon awaking, and will last for 24 hours, or even for 2 or 3 days. It is accompanied by extreme exhaustion. As in epilepsy, one attack may be followed by another for a number of days and then they may be absent for some weeks or months. In most cases there is a subnormal temperature and a lowering of the pulse-rate.

The digestive disturbances are rarely the first to appear. They are usually loss of appetite, nausea, retching, and vomiting. The vomiting may be followed by a deep sleep from which the patient awakens entirely well. The affection has been called "bilious headache" because bile is often vomited. Patients often look upon their sick-headache as being wholly due to some digestive disturbance to which the nervous symptoms are secondary.

It is generally agreed that the chief cause of migraine is heredity. Of the 73 cases which I have studied 39, or more than 50%, gave a history of migraine of one or both parents, or of a grandparent. In nearly all of the 73 cases there was a definite history of some hereditary neurosis.

Several theories have been advanced to explain the cause and symptoms of migraine. The vasomotor theory advanced by Whytt and Du Bois-Reymond was suggested by the usual pallor or the occasional flush of the face, which accompanies an attack of migraine. This phenomenon is thought to be due to some derangement of the sympathetic system producing vascular spasm or dilation. This position can scarcely be considered tenable, as we are not at all sure that the condition of the surface-vessels is an indication of the condition of the internal organ. Beside, the pallor or flush of the face is bilateral, while the pain in migraine is characterized by being unilateral. It is as easy to conceive that the vasomotor disturbances result from the attack of migraine as it is that they cause the attack.

The theory of the purely nervous origin of migraine was first advocated by Liveing. According to this theory there is thought to be a primary functional disturbance of the nerves themselves. It is held that nerve-cells are susceptible of such disturbances, and that present knowledge does not justify one in going beyond this in search for the primary morbid process. The advocates of this theory have certainly taken a position which is difficult to assail, but it adds little of practical value to our knowledge of migraine.

The uric acid theory of migraine is championed most enthusiastically by Haig. His study of uric acid excretion and its relation to urea are interesting and demand very careful consideration. Haig has called migraine "uric acid headache," because he has found upon examination of the urine during and after the attack that the normal relation of uric acid and urea had been disturbed. During the attack the amount of uric acid excreted relative to the urea is increased, while after the attack it is normal in quantity for a time or diminished. "The greater the relative excess of uric acid, and the greater its absolute excretion per hour, the more severe the headache," is Haig's dictum. He attempts thus to account for the vasomotor disturbances of Du Bois-Reymond and also for the "primary functional disturbances" of nerves themselves, to which Liveing calls attention. But Haig's observations have not been generally confirmed.

In a former communication[1] I gave the results of my observations of the cases of migraine studied with reference to uric acid excretion. I found first that the relation of uric acid to urea in health was not so constant

[1] Jour. of Am. Med. Assoc., September 30, 1899.

Case No.	Sex.	Heredity.	History of digestive disturbance.	Gastric contents.			Ptosis.	Remarks.
				Normal.	Hyperacid.	Hypoacid.		
1	F	No	Yes	Yes			Yes	Headaches began at 23.
2	F	Yes	No	Yes			No	Both father and mother had migraine.
3	F	Yes	Yes			Yes	Yes	Headaches stopped after menopause.
4	M	Yes	Yes			Yes	Yes	Has attacks of hay-fever.
5	F	Yes	Yes				Yes	Gas and heaviness after meals.
6	F	Yes	Yes				Yes	Gas and heaviness some interval after meals.
7	F	No	Yes			Yes	Yes	Migraine began after a double ovariotomy.
8	F	Yes	Yes				Yes	Attacks of mucous colitis.
9	F	Yes	No				No	
10	M	No	Yes		Yes		Yes	Gas and pyrosis.
11	F	Yes	Yes				Yes	Chronic enteritis.
12	F	No	Yes				No	Obstinately constipated.
13	F	Yes	No				No	
14	F		Yes				No	Always constipated.
15	F	Yes	No				Yes	
16	F	Yes	Yes			Yes	Yes	
17	M	No	Yes				No	Sister had migraine. Is constipated.
18	F	No	Yes				No	Bowels constipated.
19	F	Yes	Yes				No	Gas after meals.
20	F	No	Yes				No	Heaviness of stomach. Bowels constipated.
21	F	No	No				No	
22	F	Yes	No				No	
23	F	Yes	Yes				No	Bowels constipated.
24	F	Yes	Yes				No	Gas after meals. Bowels sluggish.
25	F	No	Yes				No	Obstinately constipated.
26	F	No	Yes				No	Bowels constipated.
27	F	No	No				No	
28	F	Yes	Yes			Yes	Yes	
29	F	Yes	Yes			Yes	Yes	
30	M	Yes	No				Yes	
31	F	No	Yes		Yes		Yes	
32	F	Yes	Yes		Yes		Yes	
33	M	No	Yes		Yes		No	
34	M	Yes	No				No	
35	F	No	Yes			Yes	Yes	
36	F	Yes	No				No	
37	F	Yes	Yes			Yes	No	
38	M	No	Yes				No	Pyrosis. Bowels constipated.
39	F	No	Yes			Yes	No	Chronic constipation.
40	F	No	Yes				Yes	Bowels constipated.
41	F	Yes	Yes				Yes	Has attacks of mucous colitis.
42	F	Yes	Yes		Yes		Yes	Has symptoms of chronic enteritis.
43	F	Yes	Yes		Yes		Yes	Chronic constipation.
44	F	No	Yes				Yes	Sudden severe attacks of diarrhea.
45	M	No	Yes			Yes	Yes	
46	F	Yes	Yes				No	Has mucous colitis. Bowels constipated.
47	F	Yes	Yes			Yes	Yes	Has attacks of hay-fever.
48	F	No	Yes				Yes	Is obstinately constipated.
49	M	Yes	Yes			Yes	Yes	Has attacks of renal calculi.
50	M	No	Yes			Yes	Yes	
51	F	Yes	Yes				Yes	Gas after meals. Bowels constipated.
52	F	No	No				No	
53	F	Yes	No				Yes	
54	M	No	No				No	
55	M	Yes	Yes			Yes	No	
56	F	No	Yes			Yes	Yes	Alternate constipation and diarrhea.
57	F	No	Yes				No	Bowels constipated.
58	F	No	Yes				No	Is constipated.
59	F	No	Yes		Yes		Yes	
60	F	No	Yes			Yes	Yes	
61	F	Yes	Yes		Yes		Yes	Alternate diarrhea and constipation.
62	F	Yes	Yes			Yes	Yes	Alternate diarrhea and constipation.
63	F	No	Yes	Yes			No	Has attacks of diarrhea.
64	F	No	Yes			Yes	Yes	
65	F	No	Yes			Yes	Yes	A sister had sick-headaches.
66	F	No	Yes			Yes	Yes	
67	M	Yes	Yes				No	Bowels constipated.
68	F	Yes	Yes				No	Bowels constipated.
69	F	Yes	Yes				Yes	Is obstinately constipated.
70	F	Yes	Yes				No	Bowels constipated.
71	F	No	Yes				No	Heaviness of stomach. Acid eructations. Constipation.
72	F	Yes	Yes				No	Obstinately constipated.
73	M	Yes	Yes				No	Marked intestinal flatus.
		39	60	3	8	20	38	

59 Females.
14 Males.

as Haig reports, and second that the disturbance of this relation was not constant in migraine, nor did the disturbance occur until some time after the paroxysm. It seemed to me that whatever disturbance of urea and uric acid excretion there was might be the result of the headache rather than the cause.

As each theory has been presented, a specific treatment has been suggested. To whom the vasomotor theory seemed plausible, nitroglycerin and the nitrites were considered specific; to whom the neurotic theory, cannabis indica and other nerve sedatives; and to whom the uric acid theory, the salicylates and a uric acid free diet. But every specific treatment which has been attempted thus far has fallen far short of what was expected of it. And after all very little more can be done for these suffering patients than to try to overcome the causes which precipitate an attack, reflex and exciting, and to meet the indications when the attack has once come on.

Among the reflex and exciting causes are those referred to the eyes, the nose and throat, the pelvic organs, and the organs of digestion. Most brilliant results are sometimes experienced when any abnormal condition in these organs is corrected.

The disturbances of digestion vary in different cases, as shown in the cases tabulated. The patient often describes the attack as one of "acid dyspepsia" or of "biliousness," and I believe that with most physicians the opinion prevails that patients suffering from migraine have gastric hyperacidity. Such at least was my opinion before I undertook to study the condition of the digestive system in these cases.

Of the 73 cases tabulated, 60 patients gave a distinct history of some digestive disturbance, such as gas in the stomach or in the bowels, eructation, heaviness or distress and pain after eating, constipation or diarrhea; in fact any or all of the symptoms which can be referred to the stomach and bowels. In these histories the digestive disturbances associated with the attack of migraine were not taken as an evidence of constant derangement of digestion. In 31 of these cases an analysis of the stomach contents was made. Three always had a normal gastric juice, 8 had a hyperacid juice and the remaining 20 had a hypoacidity or anacidity. These results were certainly contrary to my previous ideas of the gastric secretion in these cases. Of the 73 cases 38 had ptosis of one or more of the organs of the abdominal cavity. Of what significance this observation is I shall not now attempt to say.

In the treatment of migraine I have tried the different methods which have been suggested by those who thought they had found the cause of the disturbance. In a number of cases the results were not only negative, but the treatment seemed harmful. In a very few cases were the results at all encouraging. In the past few years I have put aside all ideas of specific treatment and have directed my efforts only to removal of reflex causes and avoidance of exciting causes. A rational consideration of the digestive system has given very satisfactory results. When there is a condition of hyperacidity of the stomach the diet and medicines are prescribed with reference to this condition. When there is a diminution or absence of hydrochloric acid, or when the evidences of a chronic gastritis exists, the treatment is directed along the wellknown lines for such a condition. The same when there is a chronic enteritis, or when there is ptosis of the abdominal organs and the not infrequent accompanying symptoms of nervous dyspepsia.

A few words in reference to sodium salicylate and calomel in migraine. There is no doubt that sodium salicylate, the remedy which Haig pronounces a cure-all for uric acid conditions, has a decidedly beneficial effect in some cases of migraine, but I do not believe that it is due to its supposed action upon the elimination of uric acid so much as it is to its indirect action upon the intestinal canal. These two remedies, sodium salicylate and calomel, have a decided cholagogic effect, and by their direct action as an intestinal antiseptic and indirect action as stimulators of the secretion of the bile, which itself is the physiologic antiseptic of the bowel, they produce a decidedly beneficial effect in some cases of migraine. That the uric acid elimination is influenced by their administration cannot be considered a proof of the uric acid theory of migraine.

By correcting the disturbances of the gastrointestinal tract I have been able to reduce the frequency and severity of the attacks of migraine in a number of cases and in a few cases the attacks have ceased entirely. I shall report one case of the latter class:

Mrs. G. W. P., aged 39, consulted me first, July 30, 1901. She had not been well since her last confinement 13 years ago. Six years ago she had an operation for lacerated perineum and a curetment of the uterus. A year after this operation the patient began to have attacks of sick-headache. The attack began in the evening, with a slight pain back in one or the other eye, which increased until morning or until the patient vomited, and disappeared the following evening. The attacks came about once a week. The parents were free from any such headaches, but an only brother had suffered a long time from migraine. The only digestive disturbance noted by the patient was a feeling of heaviness and eructation of gas after meals. The attacks were not attributed to any error in diet.

The patient was sallow and weighed 103 lbs. Usual weight was 112 lbs. The eyes had been examined soon after the headaches appeared and glasses were adjusted, but no relief was experienced. The tongue was coated heavily. The heart and lungs were normal. The abdomen was flabby, the stomach dilated to the umbilicus, and the right kidney movable. The urine was normal. The blood showed a slight degree of anemia. (Hb. 70.) The stomach content after an Ewald test meal was thick and tenacious and filtered slowly. It was slightly acid. No free HCl. Total acidity, 4. Milk curdling ferment, absent.

I prescribed a diet which included very little meat, an abundance of green vegetables, starchy foods, and milk and butter. Before meals 3 times a day the patient took tincture nux vomica and infusion of condurango. The patient was under observation for 6 weeks, during which time she had 2 slight headaches. February 11, 1902, the patient reported no headache and a gain of 13½ pounds. October 20, 1902, the patient reported no headaches and a gain of 6 additional pounds, this making in all a gain of 19½ pounds.

March 10, 1903, patient has not had any headache, and considers herself perfectly well.

I could report several other cases which show as good results, and a number of cases in which the attacks were rendered more infrequent and decidedly less severe, but I consider that sufficient has been said to show that a rational consideration of the digestive system in cases of migraine is highly necessary.

THE ASSOCIATION OF VALVULAR HEART DISEASE WITH TABES.

BY

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of Philadelphia.

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The occurrence of organic heart disease in association with tabes has been referred to frequently and the cases studied in this paper would seem to justify the varying conclusions that have been reached by writers upon this subject.

That the association of the two conditions is not regarded as of common occurrence or of great importance is evidenced by the failure of certain American authors to recognize endocardial involvement as a complicating factor in cases of tabes. On the other hand, literature on this subject records so many instances of circulatory involvement as a feature of the disease that it would seem to justify a more extensive notice of this complication and more emphasis of its likelihood to demand consideration in the treatment of these cases.

The cases examined in the nervous wards of the Philadelphia Hospital showed a marked involvement not only of the valves of the heart but also pronounced changes in the arteries and presumably in the entire circulatory mechanism. It has not been difficult to find patients of 21 or 30 years with radial arteries as rigid as should be the vessels of men who have lived their three score and ten years.

The frequency with which valvular disease is reported in cases of tabes varies materially in the findings of different examiners. It is a question if the personal equation has not influenced these results. They may have been further affected by the diversity of opinion as to what modification of the heart sounds indicates the existence of valvular disease. The postmortem records herewith submitted lend emphasis to the now generally accepted fact that the presence of murmurs does not invariably indicate structural change of the valves. In my report of cases I have taken the precaution to have the diagnosis of the heart condition verified by a colleague.

Frequency.—Marie observes that in every 4 or 5 cases of sufficiently advanced tabes one more or less well marked case of cardiac change will occur.

Jaubert reports 37 cases of locomotor ataxia associated with cardiac lesion. Of these cases 20 presented valvular lesions and the remainder showed myocardial or aortic change. In contrast with this is the report of the examination of 56 cases by Balacakis, who found 3 instances of valvular disease.

Grasset reported 24 cases of tabes showing various cardiac lesions, while Berger and Rosenbach have reported 7 cases of the disease in which there was aortic insufficiency. Five of these cases were in women and 2 in men.

Angel reports a series of 12 cases in 3 of which there was developed a diastolic murmur after prolonged effort and which disappeared after a night's rest.

Gutman says that in 100 cases of tabes he found only 3 cases of valvular heart disease.

Groedel has examined 153 cases and found 2 cases of aortic insufficiency, 1 of mitral insufficiency and 1 of mitral stenosis.

Friedrich Enslin,[1] in an inaugural dissertation on the occurrence of aortic disease in association with tabes, reports from the Moabiter Hospital, 17 cases, of which number, 7 patients exhibited aortic insufficiency, 7 had endocarditis and 3 had aneurysms.

Vulpin and Charcot have referred to the frequent association of tabes and cardiac disease.

Dr. Pearce Bailey reports the examination of 11 patients, all of whom were in the earlier stages and able to walk to a clinic, and in none of the group were any murmurs discovered. In another series of advanced cases, of men past middle life, he was able to discover only one having cardiac valvular disease. This man was an exception to the rule that the patients were past middle life, he being 33 years old, and he was both syphilitic and alcoholic and had aortic insufficiency.

Causation.—It is an open question whether there is a direct causal relationship between the two diseases. There is a considerable diversity of opinion upon this subject among writers. Leyden regards the coincidence of the diseases as accidental; Berger and Rosenbach do not express an opinion regarding its causation; while Gowers and Oppenheim have expressed the opinion that when the two diseases are associated it is the result of the same cause, namely, syphilis. It would help to determine this point if a sufficient number of cases could be studied to discover whether valvular heart disease existed before the tabes had advanced to the extent of exercising an influence in its causation.

Aortic insufficiency is said to be the most frequent form of valvular disease found in these cases. Indeed, some authors report that they have not seen involvement of any other valves. This is true of the cases reported by Berger and Rosenbach.

Sex.—There is a preponderance of the male sex in the cases reported, excepting those cited by Berger and Rosenbach, in which 5 of the 7 patients were females.

The following patients were examined by me in November, 1898, and comprised all the cases of tabes in the nervous wards of the Philadelphia Hospital at that time. Since then 11 patients have died and the postmortem findings in 7 of the cases are appended:

TABLE I.

Case.	Age.	Aortic area.	Mitral area.	Radial artery.
1	35	2, sound blurred.	2, sound accentuated.	Corded.
2	58	Both sounds very distant; 2, sound scarcely heard.	1, sound murmurish.	Corded.
3	48	1, sound distinct; 2, sound very feeble.	1, sound blurred.	Corded.
4	53	1, sound weak; 2, sound normal.	1, sound weak; 2, sound accentuated.	Normal.
5	59	Faint systolic murmur.	Loud systolic murmur.	Somewhat rigid.
6	36	Systolic murmur.	Systolic murmur.	Corded.
7	63	2, sound blurred.	Normal.	Rigid.
8	81	Both sounds distant and feeble; second sound very feeble.	Normal.	Normal.
9	50	Loud systolic murmur.	Systolic murmur.	Rather rigid.
10	40	Double murmur.	Presystolic (with thrill) murmur; sounds booming.	Corded.
11	50	Systolic murmur; 2 sound weak.	Presystolic murmur, with thrill.	Corded.
12	57	Sounds distant; 2, sound blurred.	1, sound murmurish; b'th sounds blurr'd.	Rigid.
13	60	Faint diastolic murmur.	1, sound blurred.	Rather corded.
14	21	Both sounds accentuated.	Systolic murmur.	Corded.
15	60	2, sound blurred.	Normal.	Rigid.
16	62	Diastolic murmur.	1, sound blurred.	Somewhat corded.
17	48	Normal.	Both sounds booming.	Corded.
18	45	Normal.	Both sounds booming; apex displaced to right.	Somewhat corded.
19	56	Normal.	Presystolic murmur, with thrill.	Rigid.
20	48	Sounds scarcely heard.	Systolic murmur.	Corded.
21	35	Normal.	Normal.	Normal.
22	60	Double murmur (after exertion).	Double murmur.	Rigid.
23	54	Systolic murmur.	Systolic murmur.	Somewhat corded.
24	53	Normal.	Normal.	Normal.

TABLE II.

Case.	Pulse.	Specific history.	Urine.	Duration.	Eyes.
1	98	No.	Albumin, casts.	7 years.	Normal.
2	94	Denied.	Negative.	1 year.	Pupils very small and unequal.
3	96	No.	Transient albuminuria, no casts.	6 years.	Pupils very small and unequal.
4	72	Yes.	Negative.	6 years.	Pupils unequal.
5	62	Yes.	No report.	12 years.	Pupils pin-point.
6	104	Yes.	No report.	1 year.	Normal.
7	98	No.	Albumin, casts.	12 years.	Marked arcus.
8	96	Doubtful.	No report.	Not known.	Marked arcus.
9	88 Irregular.	Yes.	Negative.	6 years.	No arcus.
10	104	Yes.	Negative.	6 years.	No arcus.
11	108	Yes.	Albumin.	3 years.	Pupils unequal and irregular.
12	100	No.	Albumin, no casts.	20 years.	Pupils unequal.
13	94	Yes.	Albumin.	16 years.	No arcus.
14	88	Doubtful.	Albumin.	1 year.	Blind.
15	76 Intermits.	Yes.	Negative.	5 years.	Pupils unequal.
16	104 Intermits.	Doubtful.	Negative.	4 years.	No arcus.
17	106	Yes.	Negative.	6 years.	No arcus.
18	98	Denies.	Trace albumin.	9 years.	No arcus.
19	90	Denies.	Negative.	10 years.	No arcus.
20	89	Yes.	Negative.	7 years.	No arcus.
21	80	No.	Negative.	10 years.	No arcus.
22	94 Irregular.	Yes.	Negative.	6 years.	Arcus.
23	84	Yes.	Negative.	5 years.	Pupils unequal.
24	70	Denies.	No report.	5 years.	Pupils unequal, very small.

[1] Deutsche med. Wochenschrift, April 21, 1898.

SUMMARY.

In this series it will be noticed that the heart sounds at the mitral area are normal in 4 cases; while at the aortic area they are normal in 5 cases.

A mitral systolic murmur occurred in.....6 cases.
A mitral presystolic murmur occurred in.....3 cases.
A double mitral murmur occurred in.....1 case.
An aortic systolic murmur occurred in.....5 cases.
An aortic diastolic murmur occurred in.....2 cases.
An aortic double murmur occurred in.....2 cases.

The radial artery was appreciably affected in all but 3 cases.

The pulse averaged more than 90 in a majority of the cases.

The presence of arcus has been noted because of its relation to senile vascular changes. This sign was present in 3 cases.

In this group of cases 1 female is reported.

Age.—The disease occurred in 19 of these cases during the fourth, fifth, and sixth decades.

Only 2 of the patients had normal heart sounds at all of the areas; 10 had accentuation, weakening or blurring of the sounds; 12 presented clinical evidence of valvular disease.

Twelve patients admitted having syphilis; in 7 cases its existence was probable, but not certain; in 5 cases it was denied.

A striking feature of the cases reported is the pronounced circulatory changes present in almost all of them.

POSTMORTEM FINDINGS IN CASES REPORTED.

CASE IV.—Pericardial cavity and heart are normal.

CASE XII.—Pericardium contains about 150 cc. of slightly clouded, straw-colored fluid, with a few flakes of fibrin. Parietal layer greatly thickened. Serous surface covered with a trabeculated adherent layer of blood-stained fibrin, beneath the fibrin are numerous minute hemorrhages. Visceral layer entirely covered by an adherent layer of shaggy fibrin which in places appears as rugæ. Fibrin somewhat blood-stained, but not to same extent as that on the parietal layer. The accumulation of fibrin is most marked along the right border at the base, and to a less degree along the left border. Heart not open; saved for gross specimen.

CASE XIII.—Heart: A few milk spots on visceral layer of pericardium. On opening the heart the right ventricle and right auricle contained chicken-fat clot. Heart-muscle is fairly firm and shows no marked gross changes. Coronary arteries are slightly sclerosed. Aortic leaflets show few striations. Mitral valve shows decided thickening along its free border; valves on right side of heart show no gross lesions. Arch of the aorta shows marked atheroma. Aorta just above the aortic valves measures 8.5 cm. in circumference. Pericardium is surrounded by very little fat. Sac contains about 5 cm. of a clear-colored fluid.

Case.	Clinical record.		Postmortem record.
	Aortic area.	Mitral area.	
4	1, sound weak; 2, sound normal.	1, sound weak; 2, sound accentuated.	"Heart normal."
12	Sounds distant; 2, sound blurred.	1, sound "murmurish;" both sounds blurred.	Myocarditis and vascular degeneration; heart not opened.
13	Faint diastolic murmur.	1, sound blurred.	Coronary and arch of aorta atheromatous: aortic leaflets striated; mitrals, decided thickening.
16	Diastolic murmur.	1, sound blurred.	Extensive atheroma and calcification of aorta; "heart normal."
18	Normal.	Apex displaced to right; both sounds booming.	"Milk spot over right auricle; otherwise nothing of interest."
20	Sounds scarcely heard.	Systolic murmur.	Myocarditis; patches of thickening and calcification on aortic leaflets.
22	Double murmur.	Double murmur.	Myocarditis; atheroma of coronaries; aortic leaflets calcified at margins; warty excrescences above and in sinuses of Valsalva; mitral leaflets atheromatous.

CASE XVI.—Pericardium normal. Heart normal. Aorta is the seat of extensive atheroma and calcifications.

CASE XVIII.—Pericardium in relation to right auricle was thickened. The heart presented a large milk spot over the right auricle, otherwise nothing of interest. This man died from cellulitis of face and neck, and chronic pleurisy.

CASE XX.—Pericardial cavity negative. Heart: Myocardium pale yellowish-red in color, and slightly decreased in consistency. Aortic valves reveal a few patches of thickening and calcification, otherwise neart negative.

CASE XXII.—Pericardium contains a moderately increased amount of fluid. Both layers of the pericardium are smooth and glistening. Right heart contains currant-jelly clots, and is relaxed. Left ventricle contracted contains small clots. Valves of right side are of normal aperture and valves themselves are smooth. Mitral orifice admits 2 fingers; its anterior leaflet shows spots of atheromatous change. The aortic aperture measures 8 cm. The leaflets are calcified at their attached margin and the corpora arantii are large. The lunula on 2 of the leaflets are fairly well retained; on the third there are some small warty excrescences, immediately above as well as in the sinuses of Valsalva. The aorta presents marked atheromatous changes of calcification. The sinuses are considerably dilated; walls of coronary arteries are slightly thickened. Heart-muscle is of brownish-red color; left ventricle 20 mm. thick; right ventricle 6 mm. thick.

The preceding table contrasts the record of the physical examination with the postmortem findings in those cases in which autopsies were held.

CONCLUSIONS.

1. Disease of some part of the circulatory system is present in nearly all cases of advanced tabes.

2. Valvular heart disease occurs in a large percentage of the cases.

3. The intimate relationship existing between syphilis and tabes and the pronounced circulatory changes induced by the former make it reasonable to regard syphilis as the cause of the large percentage of cases of valvular heart disease which we find associated with tabes.

OPERATION IN HIP-JOINT DISEASE WITHOUT SHORTENING.[1]

BY

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So much has been said and written on the subject of morbus coxæ or tuberculous disease of the hip-joint, that some apology would seem necessary for attempting to produce anything of special interest to surgeons on this important malady, which so frequently develops in our midst.

The treatment of tuberculosis of the lungs and of other organs of the body has attained such satisfactory results within the last few years, that my attention has been particularly drawn to tuberculous disease of the hip-joint, and especially to those cases which, owing to neglect or otherwise, have advanced to the stage known as abscess of the hip-joint. In these cases, as is well known, there may be involved the head of the femur, the great trochanter, the lesser trochanter, and a greater or lesser portion of the shaft of the femur, all more or less degenerated as a result of the destructive process.

The operation to which I desire to call attention can best be illustrated by referring briefly to 2 cases in which I operated recently in the C. C. G. P. Hospital, Ottawa.

CASE I.—A little girl, 4½ years old, whose parents are comparatively healthy. Her father's father and 2 brothers and 1 sister died of tuberculosis of the lungs. The child was asthmatic from babyhood, when she suffered from acute spinal meningitis. She had frequent scrofulous manifestations on the skin, especially about the head, face and ears. About September, 1902, her mother noticed a limp and screaming at night. The usual symptoms made the diagnosis plain.

The patient was given some extension treatment, but an abscess developed rapidly, and when I saw her in January, 1903, the limb had become shortened, flexed, adducted and motionless. A large abscess was fully developed. She was taken to the hospital on January 29, 1903, and I operated on February 3.

The opening was made on the outer side below the great trochanter where the abscess pointed. There was fully a pint of pus, on emptying which, the debris of bone was cleaned away, principally with the fingers aided by the careful use of the curet. The destruction of bone in this case included the head and neck of the femur, and about 3 inches of the shaft and the bony portion of the acetabulum. The pelvic cavity had been protected by a barrier of thickened membrane.

In scraping away the diseased portions of bone and other tissues, I took special care to preserve all the shreds of periosteum, considerable of which was seen to be adherent to the surrounding muscles, and the periosteum was pulled back over the remaining apparently sound portion of bone for about half

[1] Read before the Canadian Medical Association at London, Ont., August, 1903.

an inch, where this further half-inch of bone thus denuded was excised by a chain saw. The debris of bone and other tissues having been thoroughly cleaned away, the leg was then extended and stretched by an assistant full length or more. The next step was to stretch and extend the shreds of periosteum along the space recently occupied by the diseased bone up to the lower part of the acetabulum, where I stitched them to the periosteum raised from the ilium at this point for the purpose. The muscles and fibrous tissue of the deeper portion of the wound, with some adherent periosteum, were then drawn together and stitched with catgut, thereby covering the stretched shreds of periosteum. The remainder of the wound was left open, dressed with aseptic gauze, and allowed to heal by granulation.

While the patient was still under the anesthetic, the leg was strongly extended and about 15 pounds weight applied to maintain the proper length. Great care was required for the first 2 weeks to keep the leg extended full length, as the muscular contraction in these cases is more than ordinary. On the third day I dressed the wound and found it perfectly aseptic. It was washed with sterile water and dressed with aseptic gauze, repeating every 2 or 3 days. The child was allowed to sit up in bed on the twelfth day and frequently afterward. The wound healed almost entirely in 5 weeks, and she was taken home, where a few dressings were afterward done.





Moderate extension was still continued for about 4 months, but she was not allowed to walk until about August 1, about 6 months after the operation. Gentle movements of the leg were kept up daily after the second week, for the purpose of moulding a new joint which, I am pleased to say, has been fully realized in this case. The patient has been walking since, and has almost perfect use of the leg and joint, and no appreciable shortening—actual measurement shows less than an eighth inch. Neither is there any lordosis nor tilting of the pelvis.

I have taken skiagraphs of the bone which seem to prove that nature has reproduced new bone. Possibly part of it may be cartilaginous, but it is almost as serviceable as though none of the bone was lost from disease.

As the upper 3 centers of ossification in the femur were undoubtedly destroyed in this case, I am led to believe that the periosteum may have a greater part in the reproduction of new bone in such cases than has been utilized.

CASE II.—A young lady, aged 17. In general appearance, was of the tuberculous type; general condition fair; no disease of the lungs. She first complained of pain and soreness in the left knee-joint in the autumn of 1900. Soon after, she found pain and soreness in and around the left hip-joint. She was treated by a physician near her home for rheumatism for about 1½ years, and was gradually becoming worse. In the summer of 1901 she was unable to use her leg and went about on crutches. In September, 1902, she came to Ottawa, and was treated every day for a month by a disciple of vitaopathy, by means of the laying on of hands and other charms peculiar to the cult, with the measure of success we might expect.

I was called to see the patient in October, 1902, and made a diagnosis of advanced hip-joint disease. I told her relatives that I considered there was little hope of staying the disease at this stage, but as they were averse to operation, I put her on extension with reconstructive treatment directed to the tuberculous condition, and massage locally. As there was no more progress toward recovery than I had anticipated, I took her to the hospital on March 16, 1903, and on March 30 I operated.

The principal symptoms in this case were local pain and soreness, especially over and below the great trochanter. There was no shortening, but there was slight flexion of the leg and crepitus of the joint. There was slight elevation of temperature.

The incision was made as in Case I. The great trochanter and about 4 inches of the shaft were almost totally degenerated, except a thin shell of bone which was soft and cheesy. The disease had apparently extended to the neck and head above. The capsule was intact, but as the head showed distinct grating on moving the leg, it was decided to open the capsule and examine the head of the femur. It was soft, and showed so many signs of disease, and as the affected area below the trochanters was almost entirely broken down, we decided to remove it.



I took special care to preserve all the periosteum, as in Case I, and proceeded similarly with the remaining steps of the operation. The treatment throughout, and the result, were similar to those in Case I, but the healing took about twice the length of time owing to the necessity of twice cureting a suppurating sinus.

I did not take the precaution to have photographs taken before operation, but I exhibit photographs of both cases taken recently, and also skiagraphs of the bones and joints showing fairly well their present condition. The shortening in both cases is practically nil, and the joint motion is good, as is also the action of the muscles involved.

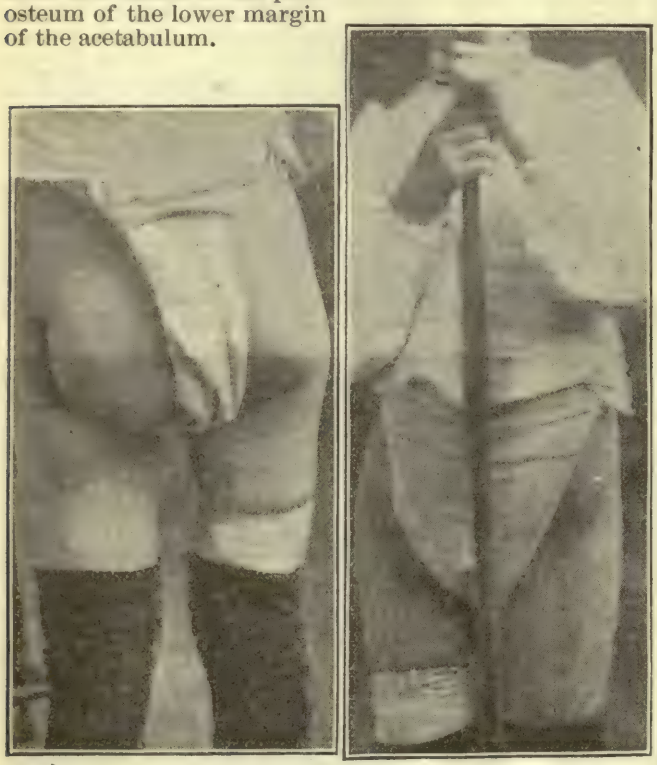
No doubt 2 cases form a limited test for an operation, and the time elapsed is not sufficient criterion as to the permanency of the results obtained. However, I would be pleased to hear from more experienced surgeons on the subject.

The principal points to emphasize are :

1. Thoroughly clear away all diseased bone and debris.

2. Carefully preserve all existing portions of periosteum.

3. Stretch the periosteum along the track of the old bone and attach to the periosteum of the lower margin of the acetabulum.



4. Stitch the muscles and fibrous tissue over the periosteum.

5. Stretch the leg full length and apply 15 to 20 pounds weight for extension.

6. Allow the wound to heal by granulation.

7. Let the patient sit up in bed 2 weeks after operation.

8. Keep the weight on for 4 months, or use a Thomas splint and allow the patient up after 6 weeks.

9. Do not allow the patient to walk for 6 months.

GALLSTONES AND GASTRIC HYPERACIDITY.[1]

BY

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of New York City.

Since operations for gallstones have been performed on a large scale, surgeons have repeatedly told us that nearly all attacks of socalled gastralgia are caused by gallstones. Trousseau's wellknown statement that in half the cases of gastralgia the pains actually occur in the large intestine, has been changed to the more sweeping statement that almost every gastralgic attack means gallstones. Riedel, for instance, to whom we owe much of our knowledge of the true nature of such disturbances, maintains, in the new edition of his article on gallstones, appearing in the handbook of Penzoldt-Stintzing, that of all patients afflicted with socalled gastralgia, 97% suffer from gallstones, about 2% from ulcer of the stomach, and probably 1% from spasm of the pylorus due to neurosis. He further says, that probably the larger proportion of those cases called gastric ulcer, which physicians claim to have cured by the regular treatment for ulcer, were not cases of ulcer at all. All those cases without hemorrhage he considers cases of gallstone, which had been set at rest for a time by the treatment before mentioned. Similar statements have been made by other surgeons. Riedel and others base their conclusions on experience gained from a large number of operations for gallstones.

I am sure that no one who is accustomed to see a great number of patients suffering from gastric ulcer will endorse Riedel's statement.

The differential diagnosis between gallstones and chronic ulcer of the stomach is frequently a difficult matter, and in certain cases it is impossible to distinguish between the two affections. Granting that the diagnosis of ulcer has been made in cases of gallstones, it is equally true that the diagnosis of gallstones has often been made when a gastric ulcer was the cause of the gastralgia.

The surgeon who finds gallstones in operating is inclined to attribute every epigastric pain during the previous history of the patient to this cause, no matter how long a period has existed between the operation and former attacks of pain, and without considering other features of the patient's history. When long intervals have occurred, it should be remembered, that the pains might have been caused by some other condition before the gallstones were formed. We must admit, however, that gallstone attacks may occur at long intervals, although they may become active again at any time. On the other hand, there can be no doubt that patients with gallstones very often suffer from disturbances of the stomach, which are the real cause of their pains.

Gallstones and such disturbances of the stomach as lead to attacks of severe pain may be variously associated. In a certain number of cases the gallstones are formed first and bring on the disturbances of the stomach. In another group both gallstones and painful disturbances of the stomach originate at the same time. In a third group the stomach trouble is the primary disease, causing the formation of gallstones, and also biliary colic. The existence of both may make it difficult to say which is the primary disease.

If, however, we wish to arrive at a proper understanding of these conditions, it is absolutely necessary to avail ourselves of all diagnostic methods, and to take into consideration every symptom which occurs in the history of the case and on direct examination.

It is not my intention to discuss the methods used in the differential diagnosis between gallstones, ulcer, and other disturbances of the stomach. The most important method of obtaining information about the condition of the stomach is certainly a systematic examination of the contents of the stomach. A perusal of the literature shows that this method has been neglected in a most surprising manner. For a number of years I have made it a practice to examine the stomach content in all cases in which gallstones were suspected. In not a small percentage of such cases the findings of the stomach content proved a valuable help in making the diagnosis. In most of these cases no examination of the stomach content had been made, or when stomach analyses were made, the findings were disregarded.

I consider the examination of the stomach content absolutely necessary to arrive at a correct diagnosis in all cases in which pain occurs in the upper part of the abdomen. This is especially important in those cases of gallstones in which pain is the only symptom that presents itself, and these cases are in the majority. Only a small percentage have more characteristic symptoms, as gallbladder tumor, jaundice, fever, etc. In cases of cholecystitis we may find a distended and tender gallbladder with enlargement of the liver, or only the latter when the patient is seen during an attack. In some cases these remain, in others, both gallbladder tumor and enlargement of the liver disappear in a few hours,

[1] Read at the sixth annual meeting of the American Gastroenterological Association, Washington, May 14, 1903.

and then nothing is found on physical examination. Here, pain is the only symptom left to guide us.

Pain, the earliest and most important symptom of gallstones is usually characteristic in a typical case, just as the pain of gastric ulcer, hypersecretion, etc., may be typical. With a typical biliary colic, the pain is as a rule very severe, comes on suddenly, is located in the right hypochondrium, and radiates toward the right shoulder. It generally occurs in single attacks, the patient being free from pain for intervals of months and even years.

Pains with gastric troubles, although often severe, are seldom as excruciating as with gallstones; they are located in the epigastrium and as a rule occur daily for a certain period.

However, we find patients with gallstones complaining of epigastric pains of more or less severe character, coming on daily, and patients suffering from gastric ulcer or hypersecretion having attacks of severe pain occasionally, and locating it to the right of the rectus muscle.

Most writers claim that pains caused by gallstones develop quite regularly, 3 to 4 hours after eating, while gastric pains come on shortly after a meal. Some of the best authorities maintain that pains occurring during the night are particularly characteristic of gallstones, while such nightly attacks occur more seldom in gastric ulcer.

From my own experience I cannot confirm these views. According to my observations, pains in gastric ulcer and hypersecretion generally occur several hours after eating, and in gastrosuccorrhea nothing is more characteristic than severe attacks of pain awakening the patient from his sleep during the early hours.

Gallstone pains are typical only in a certain percentage of cases; in others they cannot be distinguished from gastric pains, either by location, time of appearance, or frequency.

In all those cases in which the physical examination of the patient reveals no positive signs, no matter whether the pain is typical for gallstones or not, the examination of the stomach content may prove very helpful. Whenever we find normal motor and secretory activity of the stomach it is not likely that the pain originates there, and the presence of gallstones becomes more probable. In quite a number of the cases under my observation the normal finding of the stomach content cleared up the diagnosis.

The diagnosis is more difficult when the history of the case or the nature of the pain arouses the suspicion of gallstones, and we find neither tumor nor tenderness of the gallbladder but do find disturbances of the stomach, such as hyperacidity, hypersecretion, stagnation, etc. We must remember that both gallbladder and stomach may be diseased at the same time. Analysis of such cases will show us that gallstones is the primary disease, which causes the changes in the stomach; or that both develop at the same time, being brought on by the same general disturbance; or that the disturbances of the stomach have existed for some time, leading to the formation of gallstones as well as to gallstone attacks. It may also happen that the gallbladder and stomach are diseased independently of each other.

Regarding the first group of cases, in which the gallstones cause pronounced disturbances in the stomach, I wish to mention briefly that firm adhesions may form between the gallbladder or gallducts and pylorus or duodenum, causing a stenosis at the outlet of the stomach and gastrectasis. These cases are usually mistaken for gastric ulcer with stenosis of the pylorus. In some, the gallstones perforated into the stomach and were removed by lavage or vomiting and thus the diagnosis was cleared up. Other cases were reported in which severe hematemesis brought on by perforating stones led to the diagnosis of peptic ulcer.

Again, we may have neither stenosis nor hematemesis and yet the whole picture may resemble that of gastric ulcer and its sequels. I refer to cases in which the gallbladder or the cystic duct is firmly connected by adhesions to the lesser curvature or the posterior wall of the stomach at some distance from the pylorus. As a rule the only symptom here is pain, coming on several hours after eating, when the peristalsis of the stomach becomes greatest and pulls at the adhesions. Exactly the same symptoms are present when the adhesions at those places are caused by gastric ulcer. The perigastritis following gastric ulcer frequently manifests itself after the ulcer is healed. Here the secretory disturbances (hyperacidity and hypersecretion) which we are accustomed to find with an open ulcer, may be missing. Under such conditions, when neither the examination of the gallbladder nor the result of the examination of the stomach content gives any positive data, it may be impossible to decide whether gallstones or gastric ulcer is to blame for the adhesions.

Sometimes the physical examination will enable us to diagnose the presence of adhesions. I have seen cases in which adhesions between the stomach and liver kept the stomach high up, while the left lobe of the liver was drawn downward. A high position of the stomach with the left lobe of the liver drawn downward and covering the greater part of the stomach, is very suggestive of perigastritis, whenever we have a patient suffering from severe pains coming on regularly several hours after meals.

In all those cases, in which adhesions lead to such attacks of pains or to stenosis of the pylorus and gastrectasis, we must resort to surgical interference. It is the mechanical disturbance which makes operation necessary, whether it is the result of gallstones or gastric ulcer. In operating, the surgeon should bear in mind that either or both of these conditions may be present, and if possible he should search for both.

Gallbladder and stomach disturbances are also associated in more recent cases. Particularly interesting is that form of cholecystitis in which during an attack, the gallbladder is greatly distended by secretion, becoming smaller after the attack is over. As a rule this fluid is found free from bacteria. Various explanations have been given for the sterility. Riedel thinks that the secretion is aseptic because it is simply due to irritation from the stone. Others believe that the bacteria causing the secretion die off quickly. According to Neusser,[1] the secretion of this clear, sterile serum is neither due to mechanical irritation nor to an infection. He considers it a secretory neurosis, comparing it with bronchial asthma, the stone in the gallbladder playing the same role in bringing on an attack as the nasal polypus does with asthma.

Neusser's theory seems perfectly plausible, particularly for cases in which the attacks are brought on suddenly by excitement. Of the patients whom I have seen suffering from attacks of cholecystitis with acute swelling of the gallbladder, the majority were highly neurasthenic young men. In some the stomach findings were normal. Others showed all the symptoms of pronounced gastric hypersecretion. Sometimes it almost seemed as if attacks of cholecystitis and of gastric hypersecretion alternated. Such cases may be very obscure when the gallbladder tumor has not been felt.

There is another fact which supports Neusser's theory. In a certain percentage of cases, in operating for cholecystitis there have been found adhesions and cholecystitis, but no gallstones. In those cases in which I have seen operation performed and in those reported in literature there was no proof that gallstones had ever existed.

It is claimed that in these cases the nonsuccess of internal treatment for gastric ulcer or hypersecretion shows that there is cholecystitis with or without gallstones. I lay but little value on this as a diagnostic factor. Chole-

[1] Deutsche Klinik, 1901, Vol. v, p. 265.

cystitis is often benefited by such treatment and on the other hand it does not always benefit hypersecretion. Further we must remember that both conditions may exist at the same time. The attacks of cholecystitis and gastric hypersecretion may both be the result of a neurotic disposition.

However, hyperacidity and hypersecretion of the stomach play a more important rôle in gallstone disturbances than is generally conceded. In going over the history of gallstone cases, I often find that the patients have for years before the first severe gallstone attack occurred, complained of milder disturbances such as we attribute to gastric hyperacidity.

Since Naunyn's researches we have known that catarrh of the gallbladder mucosa lays the foundation for the stones. This catarrh may be caused by a great many different disturbances of the abdominal organs. It stands to reason that hyperacidity of the stomach is particularly liable to lead to catarrh of the gallducts and then of the gallbladder. The highly acid stomach contents must irritate the mucous membrane of the duodenum in the same manner in which they irritate the mucous membrane of the stomach. Experiments, especially those made by Russian investigators, have demonstrated, that highly acid stomach contents upon reaching the duodenum may cause spasm of the pylorus. It may therefore be assumed, that spasm of the opening of the choledochus is brought about by the same cause. Both the constant irritation to the mucous membrane of the duodenum and frequent spasms of the opening of the choledochus may lead to chronic catarrh of the gallducts and thus to the formation of gallstones. When gallstones are already present, the irritation to the duodenum by the acid stomach contents may bring on a gallstone attack. In the interval between gallstone attacks I have frequently seen symptoms of hyperacidity develop, which gradually increased in intensity and were followed by a gallstone attack.

The relationship between gastric hyperacidity and gallstones is of more than theoretic interest. A correct interpretation of the conditions present is absolutely necessary in order to carry out the proper treatment. Not all patients suffering from gallstones must undergo an operation. When operation is not indicated the internal treatment tends to set the stones at rest. As a rule this is accomplished by the Carlsbad treatment, either in Carlsbad itself or at home by Naunyn's method (drinking of hot Carlsbad water and applications of hot poultices for two or three hours several times a day), which I find very effectual. In order to prevent further attacks we must correct all disturbances of the digestive tract. This must be done according to the special indications in each case.

When hyperacidity and hypersecretion make it probable that the mucous membrane of the stomach and of the duodenum is chronically inflamed, we obtain the best results by lavage. Aside from the proper diet and the judicious use of alkalies, nothing acts better on the inflamed mucosa than the same agents which we are accustomed to apply to the inflamed mucous membranes of other organs—solutions of zinc and silver salts. From a wide experience I can testify to the beneficial effects of these solutions, if properly applied. By improving the chronic gastritis associated with hyperacidity and hypersecretion, we may be able to prevent the formation of stones and to set those already present at rest.

Health of the Japanese.—Health officers say that the deathrate for children is lower in Japan than it is in Europe and America. This is as it should be in a country where the houses are off the ground a foot or two, and have no cellars, and the air inside is as fresh as it is out; where, too, in such places at least as Tokio, everyone bathes and has a good scrubbing every day. From 800,000 to 1,000,000 persons go to the public baths of the capital daily, and there are tens of thousands of private baths besides. That is a good showing for a city with a population of less than 2,000,000.

SPECIAL ARTICLES

HUMAN TERATA.

BY

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Teratology (*τέρας*, a monster), is a part of biology that treats of deviation from a normal development in man and the lower animals. The name was adopted in 1822 by the elder Saint-Hilaire, who then attempted to separate the results of modern exact methods of research from the myths and loose descriptions of monsters found in the writings of old authors. Cicero[1] derives the term *monster* from the popular preternatural signification looked for in the occurrence of these abnormal beings: "*Monstra, ostenta, portenta, prodigia appellantur, quoniam monstrant, ostendunt, portendunt et predicunt.*"

Human terata occur in certain definite types of erroneous development, and the classification of Hirst and Piersol,[2] which is a combination and change of the classifications of Geoffrey Saint-Hilaire, Klebs, and Förster, is the most satisfactory. There are 4 great groups of abnormally developed human beings: (1) Hemiteratic; (2) heterotaxic; (3) hermaphroditic; (4) monstrous.

Hemiterata are giants, dwarfs, persons showing anomalies in shape, in color, in closure of embryonic clefts, in absence or excess of digits, or having other defects. The heterotaxic group comprises persons whose left or right visceral organs are reversed in position through abnormal embryonic development, the liver is on the left side, and so on.

Of the next group, the hermaphroditic, it may be said that the biologists have never yet found a true hermaphrodite, and they probably never will find one, despite reports made by unskilled observers. Forms of apparent doubling of this kind, more or less complete, are common, and in cases of doubt as to sex the probability leans toward the masculine side. As to marriage in such cases, questions may arise that are to be settled by the anatomist. In dealing with double monsters it is sometimes difficult or impossible to determine whether we have to do with 1 or 2 individuals, but it is extremely improbable that there is a doubling of personality in hermaphrodites. A striking characteristic of compound terata is that the individuals are always of the same sex; moreover, the embryonal development of reproductive organs in general is such as almost to preclude a question of duality of sex in socalled hermaphrodites, much less of personality.

Terata, more properly socalled, are divided into single, double, and triple monsters. Single monsters may be autositic or independent of another embryo or fetus; or they may be omphalositic, that is, dependent upon another embryo or fetus, which is commonly well developed, and which supplies blood for both through the umbilical vessels. When an omphalosite exists, the other fetus is called, in this case also, the autosite.

The first order of autositic single monsters contains 4 genera with 8 species, and under these species are 34 varieties. They may have imperfect limbs, no limbs, one eye in the middle of the forehead (cyclops), fused lower limbs (siren) and so on. Some of these monsters show a strong resemblance to lower animals, but there is no record that is in any degree scientific of a hybrid between a human being and a lower animal.

There are 2 genera of the omphalositic single monsters, with 4 species. One of the twins, the autosite, is commonly a normal child, the other, the omphalosite, may be as small as a child's fist, and be very much deformed. Of these omphalosites the paracephalus has an imperfect head, commonly no heart, and the lungs are absent or rudimentary. The acephalus has no head, and commonly no arms; the asomata is a head more or less developed, with a sac below containing rudiments of the trunk organs. The acephalus is very rare—the rarest of all monsters. There is a fourth kind—the fetus anideus. This is a shapeless mass of flesh covered with skin. There may be a slight prominence with a tuft of hair on it at one end of the mass to indicate the head. In the mass are more traces of bodily

organs than might be expected. These 4 kinds of omphalosites are either dead when born, or they die as soon as the placental circulation is cut off.

Nothing satisfactory is known concerning the etiology of single monsters. Landau, and other authorities as great as he is, reject the theory that maternal impressions from fright or exposure to the sight of hideous deformity or grave accident are the cause of terata. By agitating the eggs of hens and serpents in the very early stages of embryonal development, terata have been produced. Whether or not a similar agency is effective in the human subject is not known. Barnes, an English physician, and others claim they find that terata are very frequently observed in consanguineous marriages. Nothing, however, is determined in this phase of the subject.

There are 3 theories concerning the origin of omphalositic terata. Ahlfeld[3] holds that the autosite is stronger than the omphalosite, and as a consequence the fetal circulation in the omphalosite is reversed, and development is thus checked. Dareste,[4] Perls,[5] and Breus[6] maintain that there is an inherent original defect in the omphalositic child which prevents development of the bloodvessels, and that Ahlfeld's theory of an indirect umbilical connection of the omphalosite to the placenta is not probable; if it were, omphalosites would be very common, because one of twins is nearly always stronger than the other. Hirst and Piersol[7] combine these theories. This kind of monster is certainly an imperfectly developed human individual.

The next group comprises the composite monsters. Normal twins may arise from the fertilization of one ovum and of two distinct ova. In 506 cases examined by Ahlfeld he found that 66 twin births came from single ova. Twins from a single ovum are always of the same sex, and they are not easily distinguished. Triplets may arise from one, two, or three ova. The elder Saint-Hilaire thought that composite monsters arise from the fusion of two impregnated ova, but this opinion is now generally rejected. Composite terata in every instance arise from a single ovum.

There is a divergence of opinion, however, as to the origin of a composite monster in the single ovum. Some authorities maintain that these monsters arise from the union of two originally separate primitive traces. This supposes primitive duality followed by fusion (*Verwachsungstheorie*). Other writers hold that there is originally one primitive trace, and that composite terata are the product of a more or less extensive cleavage of this single blastoderm. This supposes primitive unity followed by fission (*Spaltungstheorie*). Here, as in the case of normal development, the argument is founded on analogy. The earliest stage in the development of a human double monster observed was at the fourth week after fertilization—Ahlfeld's case.

B. Schultze[8] and Panum and Dareste[9] hold the fusion theory—the fusion of two separate blastoderms in one ovum. Panum and Dareste have seen two separate normal blastoderms on one ovum. Allen Thompson[10] in 1844; Wolff, von Baer and Reichert also observed two embryos in one ovum. Dareste is of the opinion that the fusion of two separate ova is impossible. The fission theory—the fission of a single blastoderm to make a composite monster—is supported by Wolff, J. F. Meckel, von Baer, J. Müller, Valentine, Bishoff, and others, especially by Ahlfeld. Ahlfeld says that this single blastoderm is split by pressure.

Gerlach[11] also admits fission, but he contends that it is not so simple a process as Ahlfeld thinks it is. It is not a passive cleavage, but the result of a force in the cell-mass existing before differentiation. Gerlach calls fission at the anterior or head-end of the single blastoderm—the fission that is the origin of a composite monster—*bifurcation*, and he has actually observed such bifurcation in a chick embryo of 16 hours.[12] In this case the first change noticed was a broadening of the anterior end of the primitive streak; next a forked divergence appeared, and this became more pronounced, until by the twenty-sixth-hour the bifurcation was half as long as the undivided posterior part. From each anterior end of the diverging branches a distinct head-process extended. Allen Thompson,[13] in 1844, saw a goose egg, which had been incubated for 5 days, in which was a double monster divided to the neck.

Beyond this observation by Gerlach we have the fact, which seems to make for the fission theory, that no matter how unequally nourished or how variable in extent, the union between the halves of double monsters is always symmetric—exactly the same parts of each twin are joined. This seems to exclude a fortuitous growing together of dissimilar areas or cell-masses, for nonparasitic double terata at the least. Born,[14] in a study of fish ova, found that ova which produce double monsters begin with a segmentation like that of the single normal ovum.

If fission is complete, homogeneous twins are the result; these twins are of the same sex and very similar in appearance. Incomplete fission, as has been said, gives rise to double or triple terata. If one of the teratic twin embryos is stronger than the other the various combinations of "enclosure" and parasitism may result, although the origin of parasitic double terata is not convincingly clear. A triple monster, according to the fission theory, arises from a double incomplete cleavage of the primitive trace.

There are 3 orders of the double autositic monsters: *Terata katadidyma*, in which the embryonal fission was at the cerebral end; the *Terata anadidyma*, divided below; and *Terata anakatadidyma*, divided above and below, but joined at the middle of the body. There are 4 genera of the terata katadidyma with many species. The first genus is *Diprosopus, i. e.*, the double-faced. The doubling varies from the finding of 2 complete faces to a slight trace of duplex formation in one head. Förster in 500 human monsters observed 29 cases of diprosopi.

There are 6 species of diprosopi: 1. *D. diophthalmus*, which has only 2 eyes, but there is a doubling of the nose. 2. *D. distomus*, which has 2 mouths, 2 lower jaws, 2 tongues, 1 pharynx, and 1 esophagus. 3. *D. triophthalmus*, which has 3 eyes, and the doubling of the face is more complete. There are only 2 ears. 4. *D. tetrophthalmus*, which has 4 eyes and 2 well-separated faces. 5. *D. triotus* is like the last, but it has 3 ears. 6. *D. tetrotus* has 4 ears, 4 eyes, and there is some doubling at the pharynx. Two esophaguses enter one stomach in this species commonly. *D. tetrotus* is rare—only one example in man is known. In all diprosopi there is only 1 trunk, 1 pair of arms and 1 pair of legs. Sir James Paget had a photograph, made in 1856, of a living diprosopus, the second face of which had a mouth, nose, eye, part of an ear, and a brain (?) of its own. The 2 faces acted simultaneously, suckled, sneezed, yawned together.

Are diprosopi twins? An answer to this question will be clearer after a description of other composite terata.

The second genus of *Terata katadidyma* is the dicephalus. This genus comprises 5 species, which have in each case 2 heads, with separate necks commonly. There are 2 vertebral columns, which usually are separate down to the sacrum, and they converge at the lower end. In the interior organs doubling will be found corresponding to the degree of separation of the trunks. In all the species of this genus there is an umbilicus and a cord.

The first species of dicephalus is *Dicephalus dibrachius*—a two-armed, double-headed monster. In this species most of the viscera are single, but the right and left halves of each viscus is supplied by the respective fetuses, and the entrail does not become indistinguishably single until near the lower end of the ileum. There may be two ordinary kidneys and a third smaller one, 2 pancreatic glands, and 2 gallbladders. Such a monster may be monauchenous or diauchenous.

The next species is *Dicephalus tribrachius dipus*—2 heads, 3 arms and 2 legs. There is also *D. tribrachius tripus* (3 arms and 3 legs), *D. tetrabrachius dipus* (4 arms and 2 legs), and *D. tetrabrachius tripus* (4 arms and 3 legs). In all these cases there is no doubt of the presence of twins, unless there might be some doubt as to dual personality in *Dicephalus dibrachius*. In *D. tetrabrachius dipus* and *tripus* there is almost complete duplication of the internal organs, and the 2 halves of the composite body belong evidently to individuals distinct in thought, volition and character. Each brain controls only its own half of the body. There are 4 lungs, 2 hearts (sometimes in 1 pericardium), 2 stomachs, 2 intestinal canals down to the colon or lower, 2 livers (sometimes joined), 4 kidneys (or 3, 1 of which

is small), 2 bladders emptied at different times through a common urethra.

Dicephali are somewhat common. Förster found 140 among 500 specimens of monsters. They are rarely born alive. The best known cases of dicephali that lived for any length of time are:[15]

1. Peter and Paul, of Florence, born in 1316, lived 30 days.
2. The Scotch Brothers, born in 1490, lived 28 years. They were at the court of James III. Above the point of union the twins were independent in sensation and action, but below the point all sensation and action were common. One died before the other, and the second "succumbed to infection from putrescence" a few days later.
3. The Würtemberg Sisters, born in 1498.
4. The twins, Justina-Dorothea, born in 1627, lived 6 weeks.
5. Boy twins at Padua, born in 1691, lived to be baptized.
6. Rita-Cristina, born at Sassari in Sardinia in 1829. They lived 8 months. These children had a common trunk below the breast, 1 pelvis, and 1 pair of legs. Rita was feeble and quiet, Cristina vigorous and lively. They suckled at different times, and sensation in the heads and arms was individual, but below the juncture it was common. Rita died of bronchitis, and during Rita's final illness Cristina was healthy; but when Rita died, Cristina, who was suckling at the time, suddenly expired. They had 2 hearts in 1 pericardium, the digestive tracts did not fuse until the lowest third of the ileum was reached. The livers were fused, the vertebral columns were distinct throughout. These twins were baptized separately.
7. Marie-Rose Drouin, born in Montreal in 1878. They lived 7 months. Marie died of cholera infantum, and Rose then died although she had not been affected directly by the disease. These twins were like Rita-Cristina, except that they had no legs. The respirations and heart pulsations differed, and one child slept while the other cried.
8. The Tocci boys, born in Turin in 1877. In 1882 they were strong and healthy, and they may be living still. They resembled Rita-Cristina anatomically in every respect. Each boy had control of the leg on his own side, but not of the other leg, consequently they could not walk. Their sensations above the juncture were distinct, and their thought and emotions differed.

In the Paris *L'Union Médicale* there is an account of a bicephalic stillborn monster, born at Alexandria in 1848, which, according to the report, had on one side a typical negro head, and on the other side a typical Egyptian Fellah head. This report is most probably not authentic; but if it is, it would not be possible to reconcile it with the fission theory. Separate twins of apparently different races have been born. In New Kent county, Virginia, in 1867, a mulatto woman, married to a negro, and a servant in a white man's house, gave birth to twins, one of which was a negro much blacker than the mother, and the other a white child with long, light, silky hair, and a "brilliant complexion." The white child's nose was shaped like the mother's, but there was no other resemblance. The supposition that this was a case of superfetation does not explain the extreme whiteness of one child and the extreme blackness of the other.

The third genus of terata katadidyma is the ischiopagus. These twins are divided so much from above downward that the heads are at almost opposite ends of the double body. They are joined at the coccyges and sacra, and the spinal columns have nearly the same axis. The trunk organs are complete and separate, except that they are commonly fused in the pelvis. There may be 2, 3 or 4 legs, given off at right angles to the pelvis. This kind of monster is not rare. Förster collected 20 cases, and 9 new examples were reported in the *Index Medicus* between 1879 and 1893. Ischiopagic twins were born in Roscommon, Ireland, in 1827, and baptized separately. The Jones Twins, born in Typhon county, Indiana, in 1889, lived for about 2 years; they were ischiopagi, and they had the very unusual quality, it is said, that they differed in complexion and color of eyes and hair. A case was reported in *American Medicine* September 5, 1903.

Classed with the katadidyma is the genus pygopagus, although it has 4 legs. This form is very rare. The twins are joined only by the lateroposterior aspects of the sacra and coccyges, so that the 2 individuals are placed almost back to back. The trunk organs are independent, except for some fusion near the point of juncture. Examples of this class are the Hungarian Sisters, born at Szony in 1701, who lived to womanhood; the negresses Millie-Christine, born in 1851, and who were recently living in North Carolina; and the Blazek Sisters, of Bohemia. The negresses had common sensation in the legs, but Millie could not localize what part of Christine's legs was touched, and *vice versa*.

The second group of the double autositic monsters are terata anadidyma—terata divided from below upward. The first genus is the dipygus. This has a single body above, but a double pelvis with double lower extremities in the typical cases. There is an exact description of a double monster of this kind in the Gaelic "Annals of the Four Masters" as early as the year 727 of this era. The chronicler says in that year on Dalkey island, near Dublin, "There was a cow seen which had 1 head and 1 body as far as her shoulders, 2 bodies from her shoulders hindward, and 2 tails. She had 6 legs, and she was milked 3 times a day."

A perfect human dipygus, with 2 equally developed pairs of legs, is not known. Catharine Kaufmann, who was born in 1876, and who died in 1878, had a double pelvis with double pelvic organs in part, but she had only 1 pair of legs. There is a similar anomaly said to be living in Philadelphia at present. Blanche Dumas, born in 1860, had a double pelvis, double pelvic organs, and 3 legs. Mrs. B., born in 1868, had 4 legs—the two inner legs were smaller than the outer pair. Her spinal column was divided up to the third lumbar vertebra. Her double pelvic organs acted independently. There are living male examples of this form of monster.

The next genus is the syncephalus, called also Janus and Janiceps. Its lower body is double up to the umbilicus, the trunk single above that point, the head shows signs of doubling, and there are 4 legs and 4 arms; the bodies grow front to front. The head is usually large, therefore this monster is born dead.

Another genus is the craniopagus—twins joined only by the skull or scalp. There are 3 species, named from the place of union—*Craniopagus frontalis*, *C. parietalis*, and *C. occipitalis*.

A third group of double autositic monsters are *Terata anakatadidyma*, which are separated above and below, but joined from the navel to the head. There are 3 genera. The first, the prosopothoracopagus, is joined at the upper abdomen, the chest, and the faces; the spinal columns are separate. The faces are imperfect, the jaws are united; there is a broad neck with 1 esophagus, and there is 1 stomach and 1 duodenum. This is a rare form and it can not exist out of the uterus.

A second genus, the thoracopagus, has a thorax in common, and the inner legs may be united, It is, as a rule, stillborn.

The next genus is the omphalopagus, in which the twins are joined from the navel to the bottom of the chest. This double monster has the slightest union of all and it is very rare. The Siamese Twins were omphalopagi. They quarrelled; one became a drunkard and the other remained temperate. They married 2 women, and Chang had 10 children, and Eng 12. Chang died while Eng was asleep, and the latter died 2 hours after he had awoke and learned of his brother's death.

There is a genus, the rachipagus, the examples of which are joined behind like the class terata anakatadidyma that are joined in front.

Four known attempts have been made to separate double monsters surgically, but all failed owing to crude surgery; modern methods might be successful in a number of cases.

The second order of double monsters comprises the parasitic cases. There are 3 genera of these terata, with 5 species and 17 varieties. The chief of these may be mentioned here. The heterotypus is a parasitic child which hangs from the abdominal wall of the principal subject; varieties of this species are the heteropagus, which is a parasite with head and arms; the heterodelphus, which has no head; the heterodymus, which has a head, neck and thorax. The heteralius is a second species, in which the parasite is inserted at a distance from the navel of the autosite. The epicomus is the only example, and it consists of a parasitic supernumerary head. The polygnathus is a parasite attached to the jaw of the autosite. When fastened to the upper jaw it is an epignathus; on the lower jaw it is an hypognathus. Another group is made up of terata having parasitic legs which are attached to different parts of the autosite—to the pelvis, the head, the abdomen, and so on. Finally, there is the endocyma, which is a parasite enclosed within the body of an autosite.

Parasites are nourished through the blood supply of the

autosite, and the parasites usually are incapable of motion. The autosite can feel when the parasite is touched, and in some cases the autosite can localize the touch. In India in 1783 a child was born which lived 4 years, and it had a supernumerary head attached to the autositic head, crown to crown. The parasite's eyes were always partly open, but they appeared to be incapable of intelligent vision. They contracted under strong light, and when the autosite was suddenly awakened both sets of eyes moved.

Gould and Pyle[17] give an account of an Italian boy, aged 8, that had a small parasitic head protruding from near the left third rib. Sensibility was common. Each of the heads received baptism (one was called John and the other Matthew), and there was question as to whether extreme unction should be administered to the parasitic head. A similar case occurred in England in 1880,[18] and the parasitic head could be pinched without attracting the attention of the autosite.

Teratologists now exclude dermoid cysts from the list of terata; the hair, teeth, and bone particles found in these cysts are looked upon as the development of abnormal ectodermic and endodermic cells, rather than evidence of a separate personality.

There is only one well authenticated case of a triple monster, and this happened in Italy in 1831. The monster had a single broad body with three distinct heads and necks. It was killed in delivery.

In katadidyma (terata divided from above downward), when we have dicephali, ischiopagi or pygopagi, there are evidently two individuals present. However, is the diprosopus, the two-faced monster, possessed of one or two souls? The cases vary from examples with two distinct faces and four ears to cases that have merely two noses. What portion of a human body is required to contain a new soul? That is an interesting question for the psychologist and moralist. The presence of a brain seems not to be essential, because acephalous monsters develop without brain, and they are born alive; they have a "vital principle," which is identical with the soul.

Among the terata anadidyma (divided from below upward) the syncephalus and the craniopagus are unquestionably two persons. Is the dipygus (single down to the navel, double below) one or two persons? Mrs. B., the example already mentioned, was as double below the navel as any dicephalus is above that point. She had features so well ordered in unity that she was a pretty woman, but this unity ceased at her waist. Was her husband a bigamist? After a consideration of the fission of terata, and the nonessential quality of the brain, why should fission that started at the feet differ from fission that started at the head?

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Army Canteen Favored.—At the recent session of the American Public Health Association, in Washington, D. C., the question of the army canteen in relation to its effect on the health and morals of soldiers was the principal subject of discussion. The committee appointed to consider the matter reported in favor of the canteen, and submitted a resolution for presentation to Congress deploring the action of Congress in curtailing the operation of the canteen, and recommending "in the interest of general and military sanitation," its reestablishment at the earliest possible date. The delegates present declared themselves as all for it, but as a matter of form the resolution was referred to the committee.

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2.—See *American Medicine*, Vol. V, No. 27, p. 1022.

3.—See *American Medicine*, Vol. V, No. 24, p. 944.

4.—See *American Medicine*, Vol. VI, No. 1, p. 11.

5.—Conservative Surgery of the Sclerotic Ovary.—H. O. Pantzer reports a case in which he removed 1 cystic ovary and resected the other which was densely sclerotic, revealing no normal stroma. Six months later the patient became pregnant giving birth to a fine 9-pound infant. The real risk to life in the early period of peritoneal surgery justified radical measures. Today the utmost conservatism should prevail. Efforts along this line show eminent successes, and one case like the above offsets many disappointments. [H.M.]

Boston Medical and Surgical Journal.

November 5, 1903. [Vol. CXLIX, No. 19.]

1. On Gastric Tetany. B. G. A. MOYNIHAN.
2. A Study of Pathologic Fermentation in the Stomach. HENRY F. HEWES.
3. Internal Medicine, to What Extent Required or Elective in the Medical Course? S. G. BONNEY.
4. Observations on the Iodin Reaction in Children. CHARLES HUNTER DUNN.

1.—Gastric Tetany.—B. G. A. Moynihan says that while an attempt has been made to limit gastric tetany to cases in which there are increased mechanical excitability of the muscles, increased electric irritability of the motor and sensory nerves, and profound constitutional disturbances with even a fatal termination, he believes it must be considered in the future that the term shall also include all cases of tetanoid spasm associated with and directly due to diseases of the stomach, since these milder cases differ only in degree from the severer ones. A lengthy enumeration of the various signs and symptoms of this disease is given. There have been several theories as to its causation. Kussmaul, who first described the disease, attributed it to a general desiccation of the tissues of the body from loss of fluid, by vomiting and otherwise; this theory he later abandoned. Berlizheimer and others have suggested that gastric tetany is due to a reflex action aroused by stimulation of the sensory nerves of the stomach. The usually accepted theory is that of autointoxication; Moynihan suggests that the true etiology may lie in a combination of the last 2 theories suggested. Dilation of the stomach has been a pronounced feature in almost all reported cases. This is usually due to stenosis at the pylorus associated with thickening and muscular hypertrophy of the stomach walls. Mayo Robson has observed that the exacerbations of the tetanic site are always associated with painful contractions of the stomach, and when the wave of contraction reaches the pylorus, the latter, which is incapable of being felt, now forms a distinct tumor. Medical treatment consists in frequent and thorough lavage, rigid dieting, and the administration of sedatives. The records, as given, show that gastric tetany is extremely serious and even fatal. In 11 cases reported by Frankl-Hochwart as genuine, 10 died; Bouveret and Devic record 18 deaths in 40 cases; Riegel, 16 deaths in 27 cases. The writer holds that by treating all such cases surgically, and there is no other rational treatment, gastric tetany of the lethal type will soon be a forgotten disease. [A.B.C.]

2.—Pathologic Fermentation of the Stomach.—Henry F. Hewes reports that a man of 46 was well until a year ago; he then began to be troubled with eructations of gas, occurring most frequently at 10 or 11 o'clock at night. The trouble gradually increased; later there was pain in the epigastrium, regurgitation, and vomiting. The symptoms of perforating gastric ulcer appeared, the patient was operated upon, and died

a few hours later. Autopsy confirmed the presence of duodenal ulcer. Evidences of fermentation were found in the symptoms and as the result of physical and chemic examination. There was present in the gastric contents certain chemic substances not found in the normal stomach, such as alcohol, lactic, butyric and acetic acids; there was also present an excessive number of bacteria. The author made a study of certain cultures and four distinct types were found, three of which were capable of producing in food-mixtures decomposing products similar to the abnormal ones found in the fermenting contents of the stomach, from which the bacteria were isolated. [A.B.C.]

3.—Internal Medicine, Required or Elective?—S. G. Bonney discusses the advantages of the elective system in university medical departments, but holds that the relation of internal medicine to this system is radically different from that of other branches. The teaching faculty is the best judge as to what constitutes a comprehensive course in this department. Didactic, recitational, and bedside instruction, with original conference work is the best that can be afforded. If more than the prescribed work be attempted it must be by a sacrifice of the socalled specialties, and the educated physician in internal medicine should possess at least a general knowledge of these. The prospective specialist should take this course because expert knowledge presupposes familiarity with the theory and practice of medicine, and because the field for the attainment of a sufficient degree of special knowledge is not in the regular course, but in postgraduate work. The demand for original research among undergraduates is more fancied than real. In view of the earlier attainment of success by the specialist and the greater ease of living, the law of compensation requires a longer period of preparation, and the overcrowding of the profession necessitates the highest possible degree of proficiency. [H.M.]

4.—The Iodin Reaction in Children.—C. H. Dunn reports the results obtained in the Children's Hospital, where for 3 months a test was made on each case as admitted and again when any fresh disease developed. An attempt was made to estimate the number of leukocytes showing the reaction, and the reactions were classified according to their intensities in each individual leukocyte. The general summary though imperfect from the small number of cases examined may be of use for comparison with future observations. It is as follows: The reaction is always present, usually of average and often of marked intensity. A high percentage of cells being affected in lobar and bronchopneumonia, cerebrospinal meningitis, influenza, empyema, and suppuration (nontuberculous). It was found in single cases of appendicitis, diphtheria and starvation. It is usually present but may be absent in typhoid fever and miliary tuberculosis. It may be absent or present in anemia. It is usually absent but may be present in nephritis, cardiac valvular disease, and tuberculosis. The results are confirmatory of the theory that the reaction is a measure of the degree of toxemia. [H.M.]

Medical Record.

November 7, 1903. [Vol. 64, No. 19.]

1. Surgical Interference in Hypertrophic Biliary Cirrhosis of the Liver. JULIUS ROSENSTIRN.
2. Filariasis in Porto Rico. BAILEY K. ASHFORD.
3. Treatment of Cancer of the Uterus. I. L. WATKINS.
4. Investigation of Rinderpest. J. A. GUTHRIE.
5. Some Practical Points Taught by the Discovery of B. Dysenteriæ in the Stools of Infants Suffering from Summer Diarrhea. LOUIS M. WARFIELD.
6. Hemospermia, with Report of a Case. ARTHUR L. CHUTE.

1.—Surgical Interference in Hypertrophic Biliary Cirrhosis of the Liver.—Julius Rosenstirn reports that a salesman of 39 presented the symptoms of chronic appendicitis, and in addition, enlargement of the liver and chronic jaundice. He was operated upon and the diseased appendix removed. Exploration of the biliary apparatus was prevented by the serious condition of the patient. He recovered and the biliary symptoms not abating laparotomy was again performed under the supposition that hepatic adenoma existed; instead hypertrophic cirrhosis of the liver was found. The omentum was brought into the lower part of the wound and sutured to the extent of 5 cm. (2 in.) to the parietal peritoneum so that the latter could close over it. In the further course of the sutures the gallbladder and the liver surfaces were taken in. The patient recovered. Two months later all jaundice and tenderness had disappeared and the liver was reduced to its normal size. A second case is reported. The patient was a man of 36 a moderate drinker of beer and whisky, who for several years, had suffered from vague symptoms of ptomain poisoning, with frequent attacks of vomiting, loss of appetite, and a dull heavy sensation on the right side. The veins of the right leg became swollen, jaundice came on, and the urine was dark. Examination showed an enlarged liver; laparotomy was performed and the omentum, hepatic surface and gallbladder sutured to the parietal peritoneum with catgut. Four and a half months after operation the patient was in apparent good health, all symptoms having disappeared, and the liver reduced to almost its normal size. [A.B.C.]

2.—Filariasis in Porto Rico.—Bailey K. Ashford had exceptional opportunity for studying the natives of Porto Rico in his army service. He examined the blood of 250 native soldiers microscopically, and holds that the filaria is one of the easiest parasites to find. He reports, in some detail, 29 cases and from his extensive experience in connection with the disease he draws the following conclusions: 1. Twelve percent of the mounted batallion of the Porto Rican Provisional Regiment of Infantry present circulating embryos of filaria nocturna. 2. Presumably there is approximately a similar percentage among the people of Porto Rico at large. 3. All but three of these soldiers have presumptive history of filarial disease before entering the service. 4. In 5 cases there is strong presumptive proof of the disease in the families of these men. 5. All were thoroughly exposed to mosquitos in closely crowded towns before infection. 6. All are young men. 7. Most have been 3 years in the service without serious illness. 8. They come from all parts of the island. 9. All, save four, have had attacks of inguinal or femoral adenitis with chill, fever, pain, and a red line on the inner aspect of leg and thigh at varying intervals. 10. Six have had chyluria. [A.B.C.]

3.—Cancer of the Uterus.—I. L. Watkins says that he is not unjust when he asserts that general practitioners, as family physicians and medical advisers, are in a large measure blamable for the high deathrate in cancer of the uterus; since, as a rule, the woman first applies to that individual when she detects trouble. It is urged most emphatically that he at once make such investigation as will positively determine whether she has cancer. If he is unable to do this, he should at once refer the case to some competent specialist before it is too late. As the surgeon or specialist is not consulted primarily, the large majority of cases come to him when it is too late for any really hopeful treatment. The condition is inoperable when there is a perceptible deposit outside, and the organ fixed or immovable. Several methods of operating are discussed, and the technic of hysterectomy by the electrocautery method is described. The prognosis in these cases is always doubtful, and the recoveries not more than 3% to 5%. The only chance for improvement in this lies with the general practitioner. When he sufficiently appreciates this fact and examines every woman who complains of a bloody discharge, a much smaller number of inoperable cases will be presented. [W.K.]

4.—Rinderpest.—J. A. Guthrie describes the immunizing yards at Shanghai. The cattle in various stages are kept apart, those having the severest form being placed in a covered yard containing stalls. The most scrupulous cleanliness is observed, and all waste is burned. After convalescence, when flesh and fat have been restored, they are ready for shipment to the Philippines. From 10% to 15% die during inoculation. The complaint corresponds almost exactly with acute dysentery in the human being. None but cloven footed animals contract the disease, and in China none of the sheep take it, but goats are not immune; 10 cc. (2½ dr.) of virulent blood with 50 cc. (1⅔ oz.) of serum from an immune animal are injected subcutaneously in the abdomen, just behind the forelegs. This dose is repeated in 5 days, sometimes less, and occasionally extra injections are needed. It is hoped that a breed of cattle immune from birth may be developed, thus removing one of the greatest curses the Filipinos have to contend with. [H.M.]

5.—B. Dysenteriæ in Infants' Stools.—L. M. Warfield

briefly reviews the literature of the subject. No one remedy can be specific, owing to the chances of secondary infection being so numerous. Antidysenteric serum could not control a secondary streptococcic invasion. Much can be done in prophylaxis. There should be no segregation of babies in one large ward. Not more than 3 or 4 should be put in one large, well-ventilated room. Dysentery is contagious. Special metal receptacles with covers are necessary for soiled napkins. These receptacles should be frequently sterilized and all napkins should be boiled. Infection may be carried from baby to baby by careless attendants, by bottles and by flies. Unboiled drinking water and raw milk may possibly convey the organism. [H.M.]

6.—Hemospermia.—Arthur L. Chute reports a case. The patient was a man of 50, who at 25 had suffered from gonorrhea complicated by cystitis. Since then he had been apparently well until the present trouble. He presented himself complaining that his seminal emissions were of a chocolate color. Chute found on examination that the case was one of hemospermia. No pathologic condition could be discovered except an enlarged prostate, which was tender and boggy, and a small amount of sugar in the urine. Under appropriate treatment the hemospermia gradually lessened, and for a time disappeared, but it recurred when unfortunately the patient was lost sight of. The writer quotes from a number of authorities with regard to this rather exceptional condition, and states that from our present knowledge of this condition we may conclude that a transient hemospermia may be due to excessive coitus, to a lesion of the prostatic urethra, and, perhaps, rarely to an acute seminal vesiculitis; that the persistent type is usually due to a chronic prostatitis, less frequently to a seminal vesiculitis; that rarely we may have hemospermia due to cancer or hypertrophy of the prostate; that it has occurred in the hemorrhagic diathesis. Most of the reported cases have been in young adults, the extremes of age have been 16 and 50. [A.B.C.]

New York Medical Journal.

October 31, 1903. [Vol. LXXVIII, No. 18.]

1. Conservative Gynecologic Surgery: Its Practical Results. HENRY C. COE.
2. The Diagnosis of Head Injuries. CLINTON B. HERRICK.
3. The Treatment of Diseased Faucial Tonsils in the Adult. EUGENE W. DAVIS.
4. The Present Status of Spinal Subarachnoid Cocainization. ERNEST G. MARK.
5. A Consideration of the Pathology and Treatment of Cancer. LEONARD WEBER.

1.—Conservative Gynecologic Surgery.—H. C. Coe believes that true conservatism is what is for the best interests of the patient. He fully believes in the propriety of preserving the ovaries, even if some risk of a second operation is run. He states that in over 5% of his conservative operations he has been obliged to reopen the abdomen in order to effect a cure of the patient. From his observation of the similar work of other surgeons this represents fairly well their common experience. Those who employ the vaginal route report better results. The chances of a recurrence of the original pathologic conditions vary according to the character of the adhesions and exudates found at the first operation, and the extent of the denuded surfaces left within the pelvis. If pus is present and foci of infection are left, the result is even more doubtful, in spite of the gauze tampon. [C.A.O.]

2.—Head Injuries.—C. B. Herrick reviews the subject and says that in any and all conditions of brain injury other than those which recover within a short period subsequent to the receipt of the injury, there are a certain train of symptoms which, when fully manifested, mark the case as one of severity and fatality. These are summarized as follows: Persistence of stupor; increase in stertorous breathing, with the advent of the Cheyne-Stokes type; and continuous unremitting rise in temperature to a high degree. The alleviation of any of these 3 symptoms or the continued state of any of the three, marks, to the exclusion of all other symptoms or signs, on the one hand return to a favorable state, on the other, to positive disaster. [C.A.O.]

3.—Diseased Faucial Tonsils.—E. W. Davis calls attention to diseased submerged tonsils, a condition found only in adults. In appearance the tonsils are normal in color, surface comparatively smooth, with scattered here and there a few small nodules, but these may and do usually have a hard indurated base. The crypts are large and deep and the tonsil will be adherent to the pillars, one or both, more often the anterior; and in many cases the adhesions are so extensive that you find the pillars and tonsil forming one solid agglutinated mass. These adhesions alone are sufficient to give the patient a great amount of suffering, as anything like a free action of the muscles, either in swallowing, talking, or singing, is interfered with. Others complain of a pain, more or less constant, which extends up the side of the neck and is often referred to the ear. Some of the most frequent symptoms accompanying diseased tonsils of this variety are hawking, cough, pain in deglutition (at times), impaired hearing, change in voice, otitis, neuralgia, etc. The treatment is to proceed at once to remove the diseased tissue, separate adhesions and endeavor to restore the parts to a normal healthy condition as speedily as possible. [C.A.O.]

4.—Spinal Subarachnoid Cocainization.—E. G. Mark reviews the literature of this subject, gives the technic in detail, and reports several cases. Mark believes that the method is as safe as general anesthesia; that shock, when present, is decidedly less than that of general anesthesia; and that it is attended with less danger of annoying sequels and symptoms. On account of the variability in the length of its analgetic action, it is contraindicated in prolonged operative procedures. It is shown that we may safely employ up to $\frac{4}{100}$ of a grain of cocain without fear of toxic effects. [C.A.O.]

5.—Pathology and Treatment of Carcinoma.—Leonard Weber shows that most wellknown investigators are opposed to the parasitic origin of malignant tumors. They believe the growth of these tumors out of proliferating elements of the grown organism point to a particular disposition; and that external causes in the way of acute trauma, or chronic irritation by ulceration, etc., serve as exciting cause only so far as they excite cellular productiveness. Treatment should be removal by the knife as early and radically as possible. By pretty rapid and dextrous operating, and the avoidance of all unnecessary bruising of and pressing into the affected parts, by which carcinoma cells may be driven and dispersed into neighboring tissues, the prospects of smooth healing and nonoccurrence of relapses are greatly improved. Röntgen ray after-treatment should be instituted as early as possible, in order to prevent or postpone relapses as much as may be. [C.A.O.]

Medical News.

November 7, 1903. [Vol. 83, No. 19.]

1. Mastoid Disease and Extradural Abscess. SEYMOUR OPPENHEIMER.
2. Precipitins and their Medicolegal Use. JAMES EWING, and ISRAEL STRAUSS.
3. A Study of Immunity: Ehrlich's Side-chain Theory. F. M. POTTENGER.
4. Report of a Case of Acute Glaucoma Incited by the Use of Euphthalmin for Diagnostic Purposes. HENRY W. RING.
5. Circular Laceration of the Cervix Uteri. HUGH CROUSE.

1.—Mastoid Disease and Extradural Abscess.—Seymour Oppenheimer says that extradural abscess caused by mastoid disease is usually limited in extent, inflammatory adhesions formed in advance of the purulent accumulation. Grunert found in 20 cases that twelve were from acute and eight from chronic aural disease; Picque and Ferrier claim that more than one-half of all extradural abscesses originate from mastoid disease. Grunert found pus on the surfaces of the dura 26 times in 176 acute cases of mastoid he had operated upon, while it occurred but 39 times in 573 chronic cases. Jansen reports 148 cases of intracranial suppuration, of which 108 were extradural abscesses. The 2 most common sites for the purulent accumulation, in the order of their frequency, are the posterior fossa near the vertical portion of the groove for the lateral sinus, and in the middle fossa on the superior surface of the roof of the antrum. Pus in close relation to the sinus is apt to complicate the picture by producing inflammatory thrombosis. Pus may vary from a few drops to several ounces. The 2 most conspicuous signs are severe and continuous headache, frequently localized over the affected area, and a moderate elevation of temperature. The diagnosis of extradural abscess is always indefinite and obscure, since there are no distinct symptoms by which

the surgeon can recognize pus collection before operation. Several cases are reported by the author. Surgical treatment is the only one which should be considered when extradural abscess is suspected. [A.B.C.]

3.—Immunity.—F. M. Pottenger presents the modern theory in a simple form. Ehrlich conceives of the cell as consisting of a central nucleus and a number of side-chains or receptors with affinities for side-chains of cells, which are introduced from without the organism. Protoplasm, when injured, tends to restore itself by hypercompensation. A superabundance of side-chains is produced and cast off into the blood stream with the same affinity for the poison thus preventing the latter from uniting with the side-chain still fastened to the cell. In natural immunity the animal possesses no side-chains with which those of the poisonous molecule can combine. Active immunity is that in which the organism produces its own antitoxin; passive immunity is that brought about by an antitoxin already formed. Different organisms produce their effects in different ways, some chemically, and others mechanically. In septicemia the cause of the symptoms is the germ itself. When the hope of obtaining an antitoxin for all infectious diseases was by this fact destroyed Pfeiffer discovered bacteriolysis, leading ultimately to the knowledge that the body can be immunized against any cells by inoculation, cytolosis occurring from the specific serum developed. For the lysis 2 bodies are necessary, one destroyed by a heat of 56° and the other unaffected by it. The first has been named by different authors addiment, alepine, complement, and cytase; the second, immune body, intermediary body, amboceptor, fixitive, sensitizer, preparative, and desmon. These cytolytic sera deteriorate with age, owing to the unstable complement, but can be reactivated by fresh serum from a nonimmune animal. [H.M.]

4.—See *American Medicine*, Vol. V, No. 22, p. 858.

CLINICAL MEDICINE

DAVID RIESMAN A. O. J. KELLY

REVIEW OF LITERATURE

Thymus Enlargement in an Infant: Sudden Death.—E. C. Jones[1] reports this case, the patient being a male of 3½ months, pale, and showing malnutrition, although he was brought to the hospital simply because his mother was being operated upon for gallstones. Dyspnea and slight cyanosis was noted at 6 p. m., and at 3 a. m. the child was found dead. Autopsy showed evidences of beginning rickets and a greatly enlarged thyroid, 7 cm. by 3.5 cm. by 2 cm. (3 in. by 1½ in. by ⅘ in.) that reached to the apex of the heart. The bronchial, inguinal, and mesenteric lymph-nodes, the spleen, and the liver were enlarged. The family history of the infant was extremely bad. The writer classes the case (after Paltauf) as one of "status lymphaticus," and believes that death was due to heart paralysis rather than direct pressure on the esophagus. [A.G.E.]

Analysis of the Vaccination Statistics of the Metropolitan Asylums Board.—J. E. Sandilands[2] has analyzed a total of 9,659 cases of smallpox. The age incidence and mortality of the unvaccinated cases follow the general rules that are already well known. The incidence of vaccinated cases is small in early life, and reaches its maximum in the third decade; while the mortality increases with each decade, reaching its maximum in the fifth. In regard to the character of the scars a number of tables have been compiled, leading to the following conclusions: (1) Scars combining the qualities of area, number, and foveation are associated with a lower mortality at all ages, and a lower case incidence in old age than scars which lack these qualities; (2) foveation is not essential; (3) foveation is, however, not negligible; (4) number is not essential; (5) area is not negligible. [B.K.]

Nutrient Value of Alcohol.—M. Kassowitz's[3] article is in answer to one by Caspari, who insists upon the great value of alcohol as a food. The fact that alcohol is burned up to the greater part in the animal economy is not sufficient proof that its calories serve to build this up and that it must be considered a food. Kassowitz quotes a large number of animal experiments, which go to prove exactly the opposite and considers that our experiences with man are the same. He clings to the dicta, which he has expressed at different times, that alcohol, being a protoplasm destroying poison, cannot at the same time fulfil protoplasm sustaining and upbuilding functions. [E.L.]

The Influence of Music on Muscular Work.—After passing in short review the chief results obtained by his predecessors, T. Spirtow[1] details his own experiments with music in its effect on muscular labor. The right hand was subjected to the test by means of Mosso's eryograph, as modified by Kraepelin. At first the work of the hand was noted without music, then the same test was made during the production of some musical piece on the piano. Various selections were played, some classic, others of a lighter character. The number of persons experimented upon was 6, including 2 women. The net results of the tests may be thus summed up: In some persons the quantity of work bears a direct ratio to the character of the music, *i. e.*, a lively piece gives more work than a melancholy composition (noticed in the case of men), or *vice versa* (in the case of the 2 women). In other persons, however, the character of the music has no direct bearing on work, but indirectly, through the altered conditions of work, music still exercises its influence in such a manner that either simplified conditions of work result in more actual quantities of work under the influence of music than without it, or else more difficult conditions give less work with music than without it. [L.J.]

Protection of Water Supply.—C. O'Donovan[2] believes that every modern, expanding city should make extensive purchases of land throughout its watershed. The cost is apparently heavy, but each city expects to grow and the water supply will be increasingly important. Land purchases need not all be made at once and that to be acquired first, hillsides of little farming value, will cost least. Level land from which there is little washing of soil need not be included. That acquired should be converted into forest or pasture or both. This would afford sustenance to herds of cattle from which a large part of the city's milk supply could be obtained. City inspection and control of this supply could then be easily managed. The scheme outlined would thus accomplish much toward the solution of both the water and milk supply questions. [A.G.E.]

[1] Archives of Pediatrics, August, 1903.
[2] Lancet, August, 8, 1903, p. 377.
[3] Fortschritte der Medicin, 1903, xxi, 105.

GENERAL SURGERY

MARTIN B. TINKER
A. B. CRAIG C. A. ORR

REVIEW OF LITERATURE

Idiopathic Dilation of the Esophagus.—C. B. Lockwood[3] reports the case. A woman of 27 had suffered for 4 years from a dilated condition of the esophagus which rendered life almost unbearable, since she was unable to swallow food or the mucous secretions of the mouth. The etiology of the dilation was obscure and interesting. The patient sustained a fall in which the right kidney was dislodged and thereafter remained distinctly movable. After this accident she began to experience difficulty in swallowing her food, it apparently lodged in the esophagus and after a time was regurgitated. A careful examination excluded malignant disease and the dilated condition of the esophagus was found. The author is of the opinion that the accident causing a dislodgment of the kidney was indirectly the cause of the dilated condition of the esophagus. He holds that the intimate nervous relationship between the kidney, the solar plexus, the splanchnic nerves and the vagus nerves, is sufficient to warrant the condition. He believes that this nervous communication caused a constriction at the cardiac end of the esophagus in the form of a spasm which would not relax and the accumulation of food and the effort of the upper part of the esophagus to force this into the stomach caused the dilation. The patient was brought to him in the belief that gastrostomy should be performed. His view was that while

[1] Obosrenie Psychiatrii, June, 1903.
[2] Maryland Medical Journal, September, 1903.
[3] British Medical Journal, June 13, 1903.

gastrostomy would enable the patient to be readily fed it could not dispose of the accumulations of mucus which were constantly being swallowed and therefore he devised an apparatus to dilate the cardiac end of the esophagus without operation. This apparatus consisted of an ordinary esophagus tube with a distensible rubber bag around the last 4 inches of its stomach end. This bag could be distended with air by means of an ordinary hand pump, air being transmitted by means of a small tube which ran down the inside of the esophagus tube. Since the patient had become an adept in passing her esophagus tube there was no difficulty with this instrument. Its immediate effect was excellent and soon led to a permanent cure. [A.B.C.]

A New Radical Operation for Hernia.—All operations for the radical cure of hernia aim at obliterating the hernial sac and closing the hernial opening. This opening is formed by the divergence of the abdominal muscles from the inguinal ligament, and the various operations, therefore, attempt to fasten the muscles permanently to the ligament. In this A. P. Krimoff[1] sees the weak point of the current methods, since muscle must unite with connective tissue, and such union is unstable, as the frequent relapses prove. He proposes to remedy the defect by utilizing the hernial sac for the purpose of uniting the muscles with the ligaments, it being well known that the peritoneum rapidly forms very stable adhesions. The details are thus described: After incising the anterior wall of the inguinal canal as far as possible from the ligament, the neck of the hernial sac is isolated, opened for inspection, and doubly ligated. Resection is then performed, and the stump pushed into the abdominal cavity. The remaining hernial sac is split lengthwise, 2 sutures are passed through its inner serous layer at both ends, the sac everted, raised and stretched, thus becoming transformed into a longitudinal fold covered with peritoneum. This fold is placed between the muscles on one side and the inguinal ligament on the other. Finally, sutures are inserted, uniting the muscles with the ligament, and passing through the hernial sac between the two. In this manner the hernial sac is made to unite muscle and ligament. The union is very firm and resisting, as shown by several animal experiments. Three human subjects were operated upon by the new method, thus far with good results. [L.J.]

Successful Removal of a Large Enchondroma of the Chest Wall.—J. C. Reeve[2] reports the case. The patient was a man of 66. A tumor of the chest wall had been gradually growing for 11 years, and it now measured 36 inches in circumference, and sagged over the pelvis. It was lobulated and of stony hardness, with thick skin and large superficial veins, there were no enlarged glands. Operation was performed by lifting a large skin flap, dividing the ribs, and it was then found that fully one-third of the growth was inside the pleural cavity, and attached to the diaphragm. The lung completely retracted. The whole mass, including 3 ribs, was removed, and the remains of the diaphragm and some fascia were brought together in one layer and the skin in another, and all spaces, including the pleural cavity, were drained. The removed tumor weighed 15 pounds, and was found to be enchondroma. Recovery of the patient was uneventful. [A.B.C.]

TREATMENT

SOLOMON SOLIS COHEN
H. C. WOOD, JR. L. F. APPLEMAN

REVIEW OF LITERATURE

High Pressure Douches in Nervous Affections.—M. Stephanoff[3] states that high pressure douches constitute the best form of hydrotherapy in the treatment of nervous affections. They cause an afflux of blood to the external surfaces and thus provoke decongestion of the internal organs. The cutaneous hyperemia thus caused stimulates the peripheral nervous system. The best results are obtained in neurasthenia, whatever the cause. The effects produced by cold douches persist for several hours after the application. They are indicated whenever the pharmaceutic agents do not produce the desired result. In these cases the douches always render the medicative agents more effective. [L.F.A.]

Theocin and Its Action.—K. W. Hess[1] reports the case of a man of 67 with symptoms of disturbed cardiac compensation, among which was very marked edema. A number of diuretics were tried without success. Theocin in doses of from 0.3 gm. to 0.9 gm. (4½ gr. to 14 gr.) was given with the best results. The urine increased from 150 cc. to 3,000 cc. and all the edema disappeared; since then the patient has been comparatively well, the urine remaining about 1,500 cc. No unpleasant by-effects were noted. [E.L.] [Nevertheless theocin must be given with caution. The preliminary diuresis may be followed by suppression. S.S.C.]

Antistreptococcic Serum in Streptococcus Infection.—W. A. Britnew[2] reports a case of severe general infection with the streptococcus following empyema in a girl of 16. Streptococci were found in the blood of guineapigs which were inoculated with the pus from the pleural exudate. In all, 6 injections of serum were made, one daily—the total quantity being 530 cc. (18 oz.) serum. After each injection the temperature, after some fluctuation, fell gradually to normal, while the pulse became stronger and less frequent. The respiration remained unaffected by the injections. The patient recovered, apparently as a result of the specific treatment, for it was shown that after the injections the pleural pus, which had been so virulent as to kill guineapigs within 20 hours, became so weak as to produce in these animals only a transient rise of temperature; in other words, the pus no longer contained pathogenic cocci. [L.J.]

Treatment of Epilepsy.—U. Alessi[3] reports 4 cases of epilepsy in which 20 doses of the following prescription were given:

Sodium arsenate	0.001 gm.	($\frac{1}{60}$ gr.)
Zinc phosphid	0.005 gm.	($\frac{1}{12}$ gr.)
Calcium phosphate	0.08 gm.	(1¼ gr.)
Sodium benzoate, Pancreatin, of each	0.2 gm.	(3 gr.)

This was given either daily or 3 times daily before meals. The author says that the arsenic and zinc preparations are nerve tonics, the latter being also a nerve sedative, inducing considerable stability of the nervous system; and that the former aids the exhalation of nitrogen. The calcium phosphate, he says reduces cerebral excitability. The pancreatin and sodium benzoate, he further asserts, aid digestion and overcome intestinal fermentation, the latter being also combated by an occasional dose of rhubarb. In the 4 cases he reports, material improvement ensued on this method of treatment. [E.L.]

FOR INVESTIGATION.

Brief reports of results of the use of drugs mentioned in this section are invited, for the Editor's information and for publication. (See editorial article in issue of January 4, p. 42.)

Treatment of Sporadic Dysentery by Aplopappus Baylahnen.—W. Fingland[4] has used the fluid extract of this plant, which is indigenous to South America, and is called locally "hysteronica." The fluid extract is a dark green, gummy fluid, not miscible with water. The dose is 1 cc. (20 minims) thrice daily, suspended in a tablespoonful of cream, milk, or almond emulsion. Fingland tried the drug in 3 cases of sporadic dysentery, with marked success in cases in which other lines of treatment had failed. The diet must be carefully regulated to prohibit all vegetables and fruits. [B.K.]

THE PUBLIC SERVICE

Health Reports.—The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended November 6, 1903:

SMALLPOX—UNITED STATES.		Cases	Deaths
Alabama:	Mobile, Oct. 25-31	7	
California:	San Francisco, Oct. 19-25	2	
Colorado:	Denver, Sept. 27-Oct. 17	14	
Illinois:	Belleville, Oct. 25-31	7	
	Chicago, Oct. 25-31	1	
Indiana:	Evansville, Oct. 18-24	1	
		Imported.	

[1] Chirurgia, May, 1903.
[2] Annals of Surgery, May, 1903.
[3] Thérapeutique moderne Russe, No. 1, 1903.

[1] Therapeutische Monatshefte, 1903, xvii, 196.
[2] Russki Vratch, July 12, 1903.
[3] Riforma Medica, 1903, xix, 426.
[4] Lancet, August 15, 1903, p. 456.

Louisiana:	New Orleans	Oct. 25-31	1	
Maryland:	Cumberland	Oct. 1-31	1	
Massachusetts:	Boston	Oct. 25-31	1	
New Hampshire:	Manchester	Oct. 25-31	7	
New York:	New York	Oct. 25-31	1	
Ohio:	Cincinnati	Oct. 24-30	4	
	Cleveland	Oct. 25-31	2	
Pennsylvania:	Erie	Oct. 25-31	1	
	Johnstown	Oct. 25-31	6	2
	Philadelphia	Oct. 25-31	13	8
	Pittsburg	Oct. 18-31	96	12

1 case imported.

SMALLPOX—INSULAR.

Hawaiian Islands:	Honolulu	Sept. 1-30	3	2

SMALLPOX—FOREIGN.

Argentina:	Buenos Ayres	Aug. 1-31		12
Belgium:	Antwerp	Oct. 4-10	2	
Brazil:	Rio de Janeiro	Sept. 28-Oct. 11	117	64
Colombia:	Barranquilla	Oct. 5-18		3
France:	Paris	Oct. 12-17	1	1
	Rouen	Sept. 1-30	5	
Great Britain:	Birmingham	Oct. 11-17	1	
	Glasgow	Oct. 17-23		1
	Liverpool	Oct. 11-17	4	
	London	Oct. 11-17	11	
	Manchester	Oct. 11-17	5	
	Newcastle-on-Tyne	Oct. 11-17	6	
Greece,	Athens	Oct. 4-10	1	
Guiana:	Demerara	Aug. 29-Sept. 26	326	1
India:	Bombay	Sept. 30-Oct. 6		2
Japan:	Yokohama	Jan. 1-Sept. 19	2	
Malta:		Oct. 13-19	1	
Mexico:	Mexico	Oct. 12-18	2	2
Russia:	Moscow	Oct. 4-10	4	
	St. Petersburg	Oct. 4-10	19	
	Warsaw	Sept. 20-26		3
Spain:	Barcelona	Oct. 11-17		5
Turkey:	Smyrna	Oct. 5-11		59
Uruguay:	Montevideo	June 5-Sept. 5	10	

YELLOW FEVER—UNITED STATES.

Texas:	Connel	Nov. 3	1	
	Dewitt County	To Nov. 4	5	1
	Laredo	Oct. 28-Nov. 4	81	20
	Minera	Oct. 30	1	
	San Antonio	Oct. 27-Nov. 2	4	3

YELLOW FEVER—FOREIGN.

Brazil:	Rio de Janeiro	Sept. 28-Oct. 11	4	3
Costa Rica:	Limon	Oct 22	1	
Jamaica:	Port Royal	Oct. 11-17	4	
Mexico:	Tampico	Oct. 11-24		4
	Vera Cruz	Oct. 19-24	41	12

CHOLERA—FOREIGN.

India:	Madras	Sept. 19-Oct. 2		4
Japan:	Kobe	Sept. 27-Oct. 3	2	1
	Nagasaki	Oct. 26	Present.	
Turkey:	Arghani-Maaden	Oct. 6	2	
	Gerger	Oct. 6	4	
	Syria	Sept. 28-Oct. 5	743	635

PLAGUE—FOREIGN.

Brazil:	Rio de Janeiro	Sept. 28-Oct. 11	80	31
Egypt:	Alexandria	Oct. 3-10	7	2
India:	Bombay	Sept. 30-Oct. 6		76
Japan:	Yokohama	Sept. 18-26	2	2
Mauritius:		Sept. 18-Oct. 1	104	76
South Africa:	East London	Sept. 6-19	1	1
	Port Elizabeth	Sept. 6-19	1	
Turkey—Syria:	Damascus	Oct. 19	Present.	
	Hama	Oct. 19	Present.	
	Homs	Oct. 19	Present.	
	Tripoli	Oct. 19	Present.	

Changes in the Medical Corps of the U. S. Army for the week ended November 7, 1903:

HOGAN, DAVID D., contract surgeon, leave granted is extended one month.

HALE, ROBERT E., sergeant first class, No. 2928 Lawton avenue, St. Louis, Mo., on or before expiration of furlough granted him from Fort Preble, will proceed to Camp George H. Thomas, Ga., for duty.

WALLS, HENRY J., sergeant first class, Fort Columbus, is transferred to Fort Preble to relieve Sergeant First Class Ralph E. Gregg. Sergeant Gregg will proceed to New York, N. Y., and report for duty aboard the Army transport Kilpatrick.

BROOKS, First Lieutenant WILLIAM H., assistant surgeon, is granted leave for one month.

GREENLEAF, First Lieutenant HENRY S., assistant surgeon is relieved from duty at the Presidio and will proceed to Fort Moultrie, to relieve Contract Surgeon Francis A. Halliday. Contract Surgeon Halliday will proceed to Fort McPherson for duty.

WALL, FRANCIS M., contract surgeon, is relieved from duty at Columbus Barracks and will proceed to Camp George H. Thomas, Ga., for duty, to relieve Contract Surgeon Herbert I. Harris. Contract Surgeon Harris will proceed to Columbus Barracks for assignment to duty with the Second Battalion, Twentieth Infantry, until its arrival at Manila, P. I., whereupon he will report to the commanding general, division of the Philippines, for duty

ASHBURN, JAMES K., contract surgeon, is relieved from duty at Fort Crook and will proceed to Fort Lincoln for duty, to relieve Contract Surgeon Samuel S. Turner. Contract Surgeon Turner will proceed to his home at Chicago, Ill., for annulment of contract.

HODSON, FREDERICK A., contract surgeon, is relieved from further duty at Fort Mackenzie and will proceed to San Francisco, Cal., and report for assignment to duty with the Twentieth Infantry, en route to the division of the Philippines, and upon arrival at Manila, P. I., will report to the commanding general, division of the Philippines, for assignment to duty.

MCANDREW, First Lieutenant PATRICK H., assistant surgeon, will proceed to Fort Des Moines for temporary duty.

HART, JAMES W., contract surgeon, is relieved from duty at Fort Washington and will proceed to Fort Hunt for duty, to relieve Contract Surgeon Alfred Richards. Contract Surgeon Richards will proceed to Fort Sheridan for assignment to duty with the Twentieth Infantry until its arrival at Manila, P. I., whereupon he will report to the commanding general, division of the Philippines, for assignment to duty.

GILCHRIST, First Lieutenant HARRY L., is granted leave for ten days.

HENDERSON, First Lieutenant ALBERT B., assistant surgeon, will report to Brigadier General Frank D. Baldwin, president of the Army retiring board at Denver, Colo., for examination by the board.

AMES, ROGER P., contract surgeon, now supposed to be at Fort Sam Houston, is relieved from further duty at Fort Barrancas and will proceed to Fort McIntosh for duty.

STONEY, R. C., contract surgeon, is relieved from temporary duty at Fort DuPont to take effect upon the arrival of First Lieutenant George W. Mathews, assistant surgeon, at that post, and will then proceed to Fort Revere for temporary duty to relieve Contract Surgeon R. A. Amador.

HOWARD, Captain DEANE C., assistant surgeon, will upon his arrival in New York City, proceed to Washington Barracks and report at the U. S. General Hospital for duty.

ROBERTS, First Lieutenant WILLIAM, assistant surgeon, is granted leave for three months on account of sickness.

Changes in the Medical Corps of the U. S. Navy for the week ended November 7, 1903:

ELLIOTT, M. S., surgeon, to the Naval Hospital, Norfolk, Va.—October 30.

EVANS, S. G., surgeon, detached from Naval Hospital, Norfolk, Va., and to the U. S. S. Cleveland—October 30.

WHEELER, W. M., surgeon, detached from the Naval Hospital, Newport, R. I., and granted leave for thirty days—October 30.

BLACKWELL, E. M., passed assistant surgeon, detached from the U. S. R. S. Hancock and to the U. S. S. Castine—October 30.

SPEAR, R., passed assistant surgeon, detached from the U. S. S. Wheeling and to home and await orders—October 30.

ODELL, H. E., passed assistant surgeon, detached from the Naval Hospital, Norfolk, Va., and to the U. S. S. Wheeling—October 30.

MURPHY, J. A., assistant surgeon, to the Navy Yard, Washington, D. C.—October 30.

RICHARDSON, F. A., acting assistant surgeon, to the Naval Hospital, Newport, R. I.—October 30.

SCHWERIN, L. H., acting assistant surgeon, detached from the U. S. S. Yankton and to the U. S. S. Southery.

ELMER, M. K., assistant surgeon, detached from the U. S. R. S. Independence, and to the U. S. T. S. Pensacola—October 31.

DABNEY, V., acting assistant surgeon, detached from the U. S. T. S. Pensacola, and to duty with Recruiting Party No. 4—October 31.

CHAPMAN, R. B., acting assistant surgeon, detached from duty with Recruiting Party No. 4, and to the Navy Yard, Mare Island, Cal.—October 31.

TAYLOR, E. C., and REEVES, I. S. R., assistant surgeons, to the Naval Museum of Hygiene and Medical School, Washington, D. C.—November 2.

MARSTELLER, E. H., surgeon, to the U. S. S. Columbia—November 3.

KENNEDY, J. T., passed assistant surgeon, commissioned passed assistant surgeon, with rank of lieutenant—November 4

OHNESORG, K., passed assistant surgeon, commissioned passed assistant surgeon, with rank of lieutenant, from March 3, 1903—November 4.

MILLER, J., and CAMPBELL, F. E., assistant surgeons, ordered to Naval Museum of Hygiene and Medical School, Washington, D. C.—November 4.

HIGH, W. E. G., assistant surgeon, to the U. S. T. S. Constellation—November 4.

Changes in the Public Health and Marine-Hospital Service for the week ended November 5, 1903:

VAUGHAN, G. T., assistant surgeon-general, appointed as member of committee to consider and report upon the matter of uniforms and insignia for officers and employes of the Customs Service—November 3, 1903.

CARTER, H. R., surgeon, leave of absence for one day, October 29, 1903, under paragraph 189 of the regulations.

BILLINGS, W. C., assistant surgeon, relieved from duty at Quebec, Canada, and assigned to duty in office of the United States Commissioner of Immigration at St. Johns, N. B.—November 5, 1903.

KERR, J. W., assistant sureeon, granted leave of absence for two days from October 18, 1903, under paragraph 191 of the regulations. Relieved from duty at the Immigration Depot, New York, N. Y., and directed to proceed to Duluth, Minn., for temporary duty as medical inspector of aliens—October 28, 1903.

STANSFIELD, H. A., assistant surgeon, granted leave of absence for ten days—November 2, 1903. Upon expiration of leave to report at Bureau, Washington, D. C.—November 2, 1903.

WILLE, C. W., assistant surgeon, relieved from duty at Philadelphia, Pa., and directed to proceed to Baltimore, Md , and report to medical officer in command for duty and assignment to quarters—November 2, 1903.

BOGGESS, J. S., assistant surgeon, granted leave of absence for three days from November 3—November 2, 1903.

CLARKE, F. M., acting assistant surgeon, granted leave of absence for twenty days from November 8—October 29, 1903.

ECHEMENDIA, D. M., acting assistant surgeon, granted leave of absence, on account of sickness, for thirty days from October 5—October 16, 1903.

TAPPAN, J. W., acting assistant surgeon, granted leave of absence for seven days from November 2, 1903, under paragraph 191 of the regulations.

ACHENBACH, JOHN, pharmacist, granted leave of absence for six days from October 26, 1903, under paragraph 210 of the regulations.

Board Convened.

Board convened to meet at Baltimore, Md., November 2, 1903, for the physical examination of an officer of the revenue cutter service. Detail for the board: Surgeon H. R. Carter, chairman; Assistant Surgeon M. W. Glover, recorder.

American Medicine

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PUBLISHED WEEKLY AT 1321 WALNUT STREET PHILADELPHIA BY THE AMERICAN-MEDICINE PUBLISHING COMPANY

VOL. VI, No. 21. NOVEMBER 21, 1903. $5.00 YEARLY.

Commercialism and Ignorance in Charge of Physical Training.—For years astonishment has grown to amazement at the presumption of ignoramuses to teach, and the willingness of people to be taught concerning physical exercises. Prize-fighters, wrestlers, and quacks termed "professors of physical culture" have filled the land—and the advertising pages of cheap magazines. The "systems" that are in vogue, if one may suppose their advertising bills are paid, are incredibly numerous. And judging from the literature and the typewritten letters of the managers, physical training might be defined as an unknown remedy ordered by an unknown person for an unknown defect of an unknown patient, the prescriber being fully as ignorant of physiology and hygiene as the patient. All this quackery has arisen because there has been no advice that could be called scientific to supply these far-away people, who could not consult nor find competent advisers, and who vaguely felt that they needed muscular exercise and bodily development. For cash in advance, to devise a score or two of "form-letters" to be ground out by a hundred typewriters and fired off to thousands of people, each an individual with distinct and ever varying needs, this has been allowed to run riot by educators and educated. If physical training is needed it must be for a peculiar and individual need; it must be based upon a correct diagnosis of the personal wants, defects, conditions, circumstances, etc., of the applicant, and specifically adapted to meet and overcome them, and all on scientific lines and guided by educated and trained minds. At last an attempt is to be made to supply such diagnosis and therapeutics.

The American Institute of Physical Culture.—A Correspondence School of Health-Exercise, is the title of an institution that has been too long in coming. It is already endowed, its director is Dr. Jay W. Seaver, who, as is well known, has for 20 years been a director of the Yale gymnasium; he will be personally responsible for the instruction that is given and for all matter issued in the name of the school. In the first place, it is plain from the preliminary announcements that the pupil is to be looked upon as a patient, and is to be treated from the standpoint of scientific medicine and hygiene—not to be exploited for the purpose of money-making. As clearly it is made evident that the family physician is not to be supplanted, but if thought best is to be the local adviser and helper, who will call in the services of the specialist, in this case the institute, to aid him in scientific diagnosis and treatment of the patient. The institute is to have a regular faculty, each member an expert and specialist in physical culture, and is to be a composite university experiment, founded on the work of the laboratory and gymnasium. Dr. Seaver, during his time of service at Yale College, has examined and prescribed exercises for some 20,000 persons. No single form or kind of exercise is to be made a supposed panacea for the physical and mental ills of life, nor is it proposed to make the teaching replace the medical adviser. "If you are sick consult your physician." We have not room to give the details of this most excellent scheme; they may be obtained by application to Dr. Jay W. Seaver, Yale University, New Haven, Conn. To illustrate how little commercialism is the animating motive, we may add that the fee for a complete course of six lessons, including everything, and special medical examination by the local physician, if thought advisable, is only $10.00. This is made possible by the endowment of the institute. The institute will undoubtedly be warmly welcomed by the medical profession.

The Barbarity of Quarantine.—At the International Congress of Hygiene, held at Brussels last September, Dr. Calmette said that today, owing to the present state of knowledge of the pest bacillus, one can look calmly on the possibility of the importation of bubonic plague into Europe. The moment has come, the speaker said, to suppress the employment of draconic measures invented as a defense against its importation. Quarantine, which has undergone successive attenuations at each international sanitary conference during the past half century, must disappear. Henceforth, it will no longer be justified either against yellow fever, cholera, or pest. Within two months after this scientific pronunciamento was made a condition of things has occurred at Laredo, Texas, which, if correctly reported, is a disgrace to our civilization. The trouble seems to arise from a sorry mixture of county and State supervision. It is said that nearly 900 deaths have taken place in Texas from yellow fever—over 700 cases having been reported in Laredo. The city was at one time threatened with starvation. San Antonio may

have been infected from Laredo, and the Governor has closed the city to the world. The consequent suffering must be great, and a few recurring years of quarantine will almost kill a city in a commercial sense. It is, of course, time that more modern and scientific methods should supplant the lingering medievalism of quarantine. General sanitation, detention camps, better methods of caring in hospitals, immunization, organization of corps of immunes, fumigation and disinfection, are needed, but the absolute control by the Federal Government will constitute the only and final solution of the problem.

The Diabetes Flour Swindle.—In England the profits on socalled diabetes flour are so great that a company openly offers $1.25 for every address sent them of persons suffering from diabetes. The State Board of Health of New Hampshire merits the gratitude of the profession and the public for an exposure made in the October issue of the *New Hampshire Sanitary Bulletin* of the analyses made by its chemists of the various gluten flours advertised in this country. The table epitomizing the work is as follows:

No.	Moisture.	Ash.	Proteids.	Soluble Carbohydrates.	Starch.	Fat.	Crude fiber.	Acidity, as lactic acid.	Total.	Dry gluten.	Total Carbohydrates.	Carbohydrates by difference.
I	12.66	.42	10.60	2.27	72 33	.68	.29	.22	99.47	8.13	74.60	75.13
II	12.68	.69	9.02	3.19	67.86	1.28	1.28	.47	96.47	9.83	71.05	74.58
III	12.52	.41	11.38	2.92	72.33	.77	.54	.29	101.16	11.70	75.25	74.09
IV	12.68	1.46	11.63	4.10	63.36	2.47	1.81	1.04	97.55	8.81	67.46	69.91
V	12.47	.92	11.52	1.72	68.45	1.94	.86	.29	98.17	10.47	70.17	72.00
VI	9.43	.51	33.44	1.60	47.62	2.00	1.17	.55	96.32	28.66	49.22	52.90
VII	7.62	.58	75.44	.....	7.81	1.33	.75	.79	94.32	.....	7.81	13.39
VIII	9.47	1.58	29.08	4.26	47.92	3.10	1.52	.97	97.90	27.05	52.18	54.23
IX	7.45	.48	75.52	.....	9.73	1.83	.77	1.15	96.93	.....	9.73	12.80
X	8.73	.68	43.82	1.92	39.10	1.77	.80	.54	97.36	40.80	41.02	43.66
XI	7.80	.56	51.24	1.42	30.67	1.42	.79	.18	94.08	34.00	32.09	38.01
XII	11.15	.38	10.08	1.42	72.33	1.18	2.36	.22	99 12	8.81	73.75	74.63
XIII	9.28	.91	35.43	12.17	14.74	18.98	4.24	2.75	98.50	.....	26.91	28.41
XIV	.....	.....	.....	.81	51.81	.....	.....	.....	.....	.....	52.62	.....

The numbers refer to the following flours made by:

1. Gluten Flour, Farwell and Rhines.
2. Whole Wheat Flour, Farwell and Rhines.
3. Ordinary Spring Wheat Flour, Farwell and Rhines.
4. Special Diabetic Flour, Farwell and Rhines.
5. Gluten Grits, Farwell and Rhines.
6. Glen Mills Unsurpassed Gluten Flour, The Johnson Educator Food Stores.
7. Washed Gluten, The Johnson Educator Food Stores.
8. Gluten (Glutosac), Health Food Company.
9. Pure Gluten, Health Food Company.
10. Gum Gluten Ground, Pure Gluten Food Company.
11. Gum Gluten Breakfast Food, Pure Gluten Food Company.
12. Pure Vegetable Gluten, Theodore Metcalf Company.
13. Soja Bean Meal, Theodore Metcalf Company.
14. Gluten Flour, Sanitarium Food Company.

To the existing doubt if starchy foods in limited and judicious amounts are injurious in diabetes is added the certainty that pure gluten, instead of starch, would hasten the patient's ending. And now comes the revelation which we have in these columns prophesied, that there is no pure gluten flour to be had, and that most of that so advertised is nothing more or less than common wheat flour. What a disgusting fraud!

The Role of Rats and Fleas in the Propagation of Plague.—It may be accepted as a demonstration that, although direct infection from man to man occurs, the chief factors in the transfer of the plague are rats and the fleas that infest them. According to Dr. Calmette, in Public Health Reports, the superficial disinfection of baggage and the cargoes of vessels such as now practised at quarantine stations is altogether insufficient and inefficacious. On board ships it is the rat that is most frequently responsible for the spread of pest. The fact of having touched the cadavers of rats is a particularly frequent cause of infection. In cities, pest finds special lodgment in dirty quarters of the town and in houses in the neighborhood of collections of filth, sewers, docks, and storehouses for grain—places where rats abound. Among the sick cared for in hospitals one can often find the trace of recent wounds by parasitic insects, such as fleas and bedbugs, the point of departure of a lymphatic vessel leading to a bubo. Finally, laboratory experiments demonstrate that to infect healthy rats it suffices sometimes merely to place them in a case or jar in which there are fleas that have deserted the cadaver of a rat dead of pest. International sanitary prophylaxis against pest must henceforth be based almost entirely on the adoption of defense against the importation of exotic rats and on the methodic destruction of indigenous rats, because no serious epidemic focus can be created if the disease is not disseminated by these animals. It will always be easy, in fact, by means of isolation and disinfection, to hinder the direct contamination of man by man. The preventive effect of the antipest serum is sufficiently sure to protect against infection those persons brought in contact with the sick. At the Brussels meeting of the International Congress of Hygiene, the following desiderata were formulated:

1. The limitation, in the largest sense of liberalism, of isolation in lazarettos and replacement, whenever the sanitary authorities judge it possible, by a simple observation of ten days at the port of arrival, this observation being reduced to five days for passengers who consent to submit to a preventive inoculation of antipest serum, even when these passengers come from a ship having cases aboard during the passage.

2. Limitation for vessels and cargo of the duration of quarantine to the time strictly necessary for the destruction of rats and insects, and the complete disinfection of all parts of the vessels and cargo.

3. Organization in all ports, open to international commerce, of a methodic destruction of rats, as well ashore as aboard, and of disinfection, strictly and scientifically controlled, in such a manner that the efficiency of measures taken to destroy rats, insects, and pest bacilli can be officially guaranteed.

4. Obligation for all vessels that put into Mediterranean ports of the Levant or in those of the Red Sea, of the Persian Gulf, of India, of Indo-China, or of other suspected or contaminated countries, to be provided with a sufficient quantity of antipest serum to vaccinate the passengers and all the crew if a case of pest should appear during the voyage.

5. To invite the attention of interested governments to the necessity of appointing sanitary physicians specially instructed

with a view to the mission they are to fulfil, commissioned by the controlling power, and independent of companies of navigation.

Discretionary Power in Licensing Boards.—In the *Denver Medical Times*, that veteran worker in the cause, Dr. S. D. VanMeter, argues convincingly against exclusiveness as to methods of remedying the evils which reciprocity would allay. He is especially severe against "reciprocity with a big R," as a single remedy for these evils, and chiefly upon the ground of impracticability. No board, he says, could possibly determine the exact values of licenses of all the other licensing bodies for each year of their past; and even if possible, there could be no certainty that the rating of this year will be of any value whatever next year. We incline to think this is putting an absoluteness into the criticism it will not bear, and need not necessarily bear. With a better will to bring about practical reciprocity it might be actualized without endangering the profession and throwing down the necessary bars to entrance. But with the chief contention of the paper one must heartily concur, and that is the plea for perfect discretionary power to be lodged with the State Board whereby it shall be its own judge as to the conditions which shall in each individual case be imposed upon candidates. Whether by examination, the possession of a diploma, or by reciprocity, or by two or all three of these methods, let the Board, in any given case, be empowered to act according to its judgment. This allows a freedom, an adjustment to circumstance, and an adaptation in the individual instance which is highly desirable. It also, we may add, holds the local Board responsible, and moreover brings it under the control of the profession of the State, both much-needed rules.

The revocation of the license is a recommendation of Dr. VanMeter with which one must express thoroughgoing sympathy. Not only should revocation be a right of the State Board, conferred by law, but when justified it should be demanded by the law, and by the profession through the action of its medical societies and individual members. At present the two bars that prevent the unworthy from entering are ignorance and incompetency, and once in there is little or no power or desire to be rid of those who should not be in, or who have turned renegades since admission. What use one makes of his knowledge and ability is of as far-reaching significance—character is of as great importance as knowledge—yet it is not at present in the count. When the possessor of a diploma and of a license to practise turns traitor to the profession and by his conduct outrages its most sacred principles, as in the case of the quack, the criminal, the abortionist, the seller of his medical knowledge and ability to commercial schemes and fraudulent enemies of science and medicine—then should the licensing bodies be held accountable for continuing his right to practise. Our medical societies, national, State, and local, should seek to have this provision incorporated in the laws, and when it is there they should exercise the watchfulness requisite to its administration.

The Drug Habit, the "Interdenominational Committee," the "Old German Scientist," and His "Tonic."—Even newspapers which cannot be suspected of selling their reading columns to the advertiser are telling us of the efficacy of "the tonic discovered by an old German scientist, and left by him to the Rev. Dr. W. N. Richie, who carried the secret to the late Rev. John Hall, the organizer of the "Interdenominational Committee." The mythical "old German scientist" has been the favorite of the wonder-mongers since newspapers have had advertisers. He is a very amusing old gentleman, slightly less so, possibly, than the reverend gentlemen and Doctors of Divinity who have preserved for us the sacred secret. Reverend John Hall is dead, and we cannot question him, but the Reverend Doctor Richie being alive, we would like to ask him, why he keeps the "tonic" a secret, that tonic which is being prayed for "from France, England, the Philippines, and other countries." Is that the way his Master treated the heathens in His time? If it is of such transcendent value to humanity is it either religious or moral, or even anything less than brutal, to keep the "secret" from the world, at least from the poor ignorant medical profession? How soon will the "secret" be the property of a cunningly promoted, several million-dollar corporation, with plenty of stock to sell or to give away for the use of great names and newspaper stories? A most reputable New York newspaper gives its columns to aiding this decayed nonsense, adding in the old time style:

> The committee has made an appeal to the public for aid in the curing of the drug habit a woman of more than ordinary standing. She acquired the habit during sickness, the drug being administered by her family physician. Their home has been sold, and her husband was so discouraged that he has taken to drinking. Her friends have exhausted their resources and this woman will have to be sent to some institution where she can receive special treatment. The treasurer of the committee is W. W. Westervelt, No. 33 Pine street.

We suggest that the public do not contribute in answer to any such appeals without the assent of the Charity Organization Society, and without first asking the Academy of Medicine as to any remote probability that the "Old German Scientist" and the Reverends can be possessed of any secret tonic beyond the knowledge of reputable medical men.

Hydrocyanic Acid Gas against Household Insects.—In Public Health Reports, L. O. Howard, United States Entomologist, describes the methods to be used, and illustrates the successful results in killing household insects by means of hydrocyanic acid gas. The great care and ingenuity necessary on account of the deadliness of the fumes to human beings are clearly set forth with these precautions. The method has been used thousands of times for the fumigation of nursery stock, in specially constructed houses, and without fatal result. But no experiment in human habitations should be made without the most painstaking attention to the details set forth by Dr. Howard. With such observance the plan is cheap, and, from the illustration given, most effective. The ingredients used were the 98% potassium cyanid, costing about 40 cents a pound. The sulfuric acid was the thick, almost sirupy

commercial brand, costing about four cents a pound, the total cost of the materials used being, approximately, $12. The results of the fumigation were eminently satisfactory; no living insects could be found in the house. The roaches, by thousands, had come out from their hiding-places in a vain effort to escape, and had rushed to the cracks under doors and windows, and had there perished. Sometimes they had the appearance of being alive and about to run, and a touch was necessary to demonstrate that they were dead, having been arrested instantly while in motion, their limbs extended in the normal position for running. Flies, roaches, and bedbugs, and without doubt all the other household pests, were killed. The bedbugs, against which the fumigation was especially directed, were found dead in numbers under trunks and about the beds.

The New Thoughtists' Political "War on the Doctors."—According to the founder, the "Bishop of the Evangelical Christian Science Church" in Washington, the object of the International New Thought Convention in Chicago is to go into politics. The "iniquitous legislation" and the "persecution" is to be effectually met by these "old lawyers, old politicians, and men of character and standing" as "the bishop" describes himself and his colleagues. It is hard for the "old politicians" to get out of politics, as all reformers know, and now "these medical societies which have combined all over the United States for the purpose of preventing persons from being healed by divine methods shall be destroyed and stamped out.

In what way is this to be done? We propose to form a confederation or union, each of us proposing to stand by the other. This must be carried through the ballot at the polls.

We have power amply sufficient today to elect or defeat any candidate for the presidency who may run on the ticket of either party, because we have enough votes to hold the balance of power. If the parties will let us alone, we will go on voting as Democrats or Republicans, or in whatever way our predilections have led us heretofore; not intending by any means to found a new political party, but if our rights are not threatened, to treat all parties as we as individuals have heretofore treated them.

The profession has long been urged to set about its organization in a thoroughly effective business manner. Good reason seems to exist for the advice. New Thoughtists of a feather flock together, and in one form or another, and not very far off, there is to be a common warfare of all the forms of ignorance and greed against all medical practice acts, and against rational medicine itself. In combination they already outnumber us.

"Unionism" in Medicine.—A press dispatch reports that in Chicago an accident to a trolley car resulted in the injury of the gripman. A physician called to attend him is said to have inquired if he had a union button. On receiving a negative reply, he said: "Take him to the barns, they will attend to him there," and refused to examine the man's injuries. We do not believe the newspaper is accurate. It would be a strange physician who would act in this way, and a stranger unionism that would justify such unprofessional conduct, which can be called only disunionism. It would be a flagrant dereliction of duty, and most harmful to the laboring man if any such spirit should actuate medical men.

AMERICAN NEWS AND NOTES.

GENERAL.

Oldest Woman Physician.—The oldest woman college graduate in Massachusetts, if not in New England, is believed to be Dr. Sophronia Fletcher of Cambridge, who recently celebrated her ninety-fifth birthday.

Plague at Rio de Janeiro.—Under date of November 11 comes the news that there were 23 deaths from bubonic plague and 66 fresh cases of the disease during the past week. There are now 130 plague cases under treatment.

Car Sanitation.—In a paper on "Car Sanitation," read before the thirteenth annual meeting of the New York State Association of Railway Surgeons, Dr. James A. Exton of Arlington, N. J., declared that the modern train should be so constructed that it could be flushed with water after each trip. Draperies should be done away with. Seat coverings should be made dustproof. Systems of ventilation should be introduced, of such character as to supply sufficient air for each passenger. The vitiated atmosphere of some day coaches, he said, overheated, was worse than that of the smoking car, with its multitudinous results. He particularly scored the overheated car as a fruitful cause of pneumonia. Dr. Exton mentioned the vast improvement in railway cars as shown by the modern vestibuled trains; but there was, he declared, still great chance for improvement in sanitation, ventilation and heating.

Ventilation of Sleeping Cars.—Concerning the late discussions with reference to the proper cleansing and ventilation of sleeping cars, the *Philadelphia Ledger*, in commenting upon a letter received and printed, explaining how the cars are cleansed, says: It is right that the traveling public should know that precautions are taken, for the inconveniences of a sleeping car are a sufficient annoyance without the added suspicion of uncleanness. Some day a sleeping car may be invented which will admit of a decent degree of privacy, an occasional renewal of the atmosphere in transit, without a superfluity of dust, and a few other essential desideratums. Inventive genius may even compass a blanket without the peculiar property of warmth in summer and cold in winter. It is at least gratifying to be assured that the Pullman Company is working on these problems, and that in the meanwhile it is not extending unnecessary hospitality to bacilli.

Miscellaneous.—Dr. A. P. PECK, who has worked so efficiently for many years under the American Board in China, has been appointed by the Chinese Government, medical officer in charge of the quarantine station at Taku. In addition to this it is his intention to take up the private practice of medicine at Tien-Tsin.—Dr. EDWIN GEER, of Baltimore has been appointed surgeon to the fire department, vice Dr. Alexander Hill resigned. The latter has been in the department for 17 years, and became physically incapacitated for the continuance of his work.—LAREDO, TEXAS: It is reported that Dr. R. D. Murray, formerly of Philadelphia, and now of the Marine Hospital Service, acting as expert in the yellow fever epidemic, was recently injured, perhaps seriously, in a runaway accident.—COLLEGE OF PHYSICIANS AND SURGEONS, COLUMBIA UNIVERSITY: The following appointments have been made: Dr. Samuel W. Lambert, professor of applied therapeutics; Dr. Joseph A. Blake, professor of surgery; Dr. George E. Brewer, professor of clinical surgery; Dr. John S. Thacher, professor of clinical medicine; Dr. Frederick Peterson, clinical professor of psychiatry.—ILLINOIS WESLEYAN UNIVERSITY: Dr. J. K. P. Hawks has been appointed instructor in bacteriology; Dr. J. Whitefield Smith, instructor in biology, and Mr. Bartgis McGlone, instructor in botany.—PHILADELPHIA POLYCLINIC AND COLLEGE FOR GRADUATES IN MEDICINE: Joseph Sailer has been transferred to a chair of clinical medicine, to fill an existing vacancy. R. Max Goepp has been elected to the chair of diseases of the stomach and intestine, to succeed Dr. Sailer. Judson Daland has resigned as a professor of clinical medicine.

EASTERN STATES.

The Warren Triennial Prize was founded by the late Dr. J. Mason Warren in memory of his father, and his will provides that the accumulated interest of the fund shall be awarded every 3 years to the best dissertation, considered worthy of a premium, on some subject in physiology, surgery, or pathologic anatomy, the arbitrators being the physicians and surgeons of the Massachusetts General Hospital. The subject for competition for the year 1904 is on some special subject in physiology, surgery, or pathology. The amount of the prize for the year 1904 will be $500. Dissertations must be legibly written, and the name of the writer must be enclosed in a sealed envelope, on which must be written a motto corresponding with one on the accompanying dissertation. A high value will be placed on original work. Contributions will be received until April 14, 1904. For particulars apply to Herbert B. Howard, resident physician, Massachusetts General Hospital.

NEW YORK.

Convention of Railway Surgeons.—The thirteenth annual convention of the New York State Association of Railway Surgeons was held at the New York Academy of Medicine, with Dr. Henry Flood, of Elmira, president of the Association, as chairman.

Lower Deathrate and Increased Birthrate in New York.—The city's deathrate for the quarter ended September 30, as just compiled by the Department of Health, was 17.69 per 1,000, figuring on an estimated population of 3,732,903. The average deathrate for the corresponding quarter of the preceding 5 years was 21.14. The deathrate for the same period last year was 18.96. The deathrate, not including nonresidents and infants under 1 week old, was 16.85. The deaths for the quarter were 16,637, against 17,353 for the corresponding quarter last year. During the quarter there were 24,818 births, against 22,274 for the same quarter last year.

PHILADELPHIA, PENNSYLVANIA, ETC.

Infected Milk Causes Typhoid.—Dr. Alexander C. Abbott, chief of the Health Bureau, has announced the result of an investigation, in which the officials have traced the source of the typhoid fever epidemic in the southwestern section of Philadelphia to an infected milk supply.

The new Allegheny General Hospital is rapidly nearing completion. Mr. P. K. Bechtel has been appointed superintendent, and will assume his duties April 1, 1904. The new building will be ready for occupancy June 1, 1904, and will have a capacity of 270 ward beds and 95 private rooms.

Contagious Diseases.—Contagious diseases in Philadelphia showed increase during the last week over the record for the previous week, with the exception of smallpox. Of diphtheria there were 106 cases, an increase of 23; there were 133 new cases of typhoid fever, an increase of 37, and of smallpox 34 cases were reported, a decrease of 8.

Diphtheria in New Brunswick, N. J.—It is reported that a diphtheria epidemic prevails in New Brunswick, and that the health authorities have exhausted all funds set apart for combating contagious diseases without any diminution in the number of cases, and with no prospect of a successful control of the epidemic. Already this month 35 new cases have been reported.

School Pencils Quarantined.—To lessen the spread of contagious diseases, the superintendent of the Easton public schools has adopted the plan of numbering the lead pencils used by the scholars, thus insuring pupils getting the same pencils they previously had. He believes that the habit of scholars placing the pencils in their mouths before using them may have much to do with the spreading of diphtheria.

Infectious Diseases in Pittsburg.—The following infectious diseases were reported to the Pittsburg Bureau of Health for the week ended November 7: Smallpox, 30 cases; diphtheria, 53 cases; scarlet fever, 20 cases; typhoid fever, 71 cases. The following deaths from infectious diseases during the same week occurred: Smallpox, 14; diphtheria, 6; scarlet fever, 1; typhoid fever, 7; cerebrospinal fever, 2; pulmonary tuberculosis, 9.

Charitable Bequests.—Miss Jeanes, the last surviving member of an old Quaker family of Philadelphia, has just had completed a new home for aged members of the Society of Friends, in Germantown, at a cost of $300,000. Among other recent contributions of Miss Jeanes to the Society of Friends was a sum of $200,000 in the name of her brother Samuel, the income to be used for aged Friends' homes of other quarters of the Philadelphia Yearly Meeting, and a similar amount in the name of her brother Joseph, to be devoted to the cause of education.

War against Adulterations.—A monthly bulletin, issued from the Department of Agriculture of this State, is giving the results of hundreds of cases in which the agents of the Dairy and Food Division have purchased samples of food and drink in all parts of the State. The details given in this Bulletin are of importance as well as of unusual interest, as they show in succinct, comprehensive tables the name and address of the dealer selling, what the goods were sold for, what marks or claims are made by the manufacturer (if any), and the result of the State's chemic analysis. It is pleasant to note that in scores and scores of these cases the verdict is "pure," "not adulterated," "satisfactory," or "within the limit of the law," as to dozens of articles of food and drink. The reports are for the samples examined each month, and it should be a matter of satisfaction to the public to find that a very large proportion of the goods subjected to chemic test is of honest production. For every instance in which milk, for example, is reported watered, "preserved" (with acids), or deficient in nutrients, there appear to be three or four in which the fluid was pure. As the name and address is given in every case, the moral effect of a campaign like this must in a short time prove extremely beneficial to public interests.—[*City and State.*]

SOUTHERN STATES.

Railroad Casualties.—The Interstate Commerce Commission has issued a bulletin showing a large increase in the number of railroad casualties during the fiscal year closed June 30 last, as compared with the previous fiscal year. There were 3,553 persons killed and 45,997 injured during the year, against 2,819 killed and 39,800 injured the year before. The large increase is partially attributed to the gain in railroad traffic during the year and the increase of 12% in the number of men employed in train service. It also is pointed out that accidents are now being much more fully reported.

To Regulate Spitting.—It is reported that a bill has been introduced in City Council of Baltimore, providing for the repeal of the measure approved March 3, 1898. It forbids any person to spit on any paved sidewalk or footpath of any public street, avenue, or public square in the city, or in or upon any part of any public building under the control of the Mayor and City Council, or upon the floor, platform, or steps of any street railway car or other public vehicle carrying passengers for hire, or upon the floor of any depot or station, or upon the station platform or stairs of any elevated railroad or other common carrier, or upon the floor or steps of any theater, store, factory, or any building which is used in common by the public, or upon the floor or hall or office in any hotel or lodging house which is used in common by the guests thereof. The bill also makes it obligatory upon all corporations or persons having control of street cars, public conveyances, public buildings, factories, etc., to post notices in compliance with the ordinance. An appropriate fine is to be imposed for violation of the ordinance.

Exposition on Tuberculous Disease.—At a recent meeting of the State Board of Health of Maryland it was decided to hold a tuberculosis exposition in Baltimore during January, under the combined auspices of the Tuberculosis Commission, the Maryland Public Health Association, and the State Board of Health. A list of about 250 persons has been selected from prominent professional men and laymen to act as a general advisory committee. A series of popular lectures will be given in connection with the exposition by persons who are prominent in this work. The object is to present to the people of Maryland in a striking manner the extent and effects of tuberculosis in their own and other communities. The prevalence of the disease, its incidence on certain occupations and trades, and the various hygienic and personal factors which influence its spread will be shown. The pathologic exhibit will be arranged to show the effects of the disease on the various organs. Tuberculosis in the lower animals will also be fully illustrated. This exposition will be the first of its kind ever held, and already has aroused considerable interest among physicians in this country and abroad. Among the sanatoriums exhibited will figure about 75 American institutions and about thirty from abroad.

WESTERN STATES.

Pneumonia in Chicago.—The Bulletin of the Chicago Health Department for the week ended November 7, says: The only noteworthy feature of the weekly mortality statement is the increase of deaths from pneumonia. The 67 reported form 14% of the total deaths, and are 81% in excess of the deaths from pulmonary tuberculosis. The general deathrate from all causes is very slightly higher than that of the previous week, but 2% lower than for the corresponding week of last year.

Number of Insane in Illinois.—The State Board of Charities has made public its quarterly report for the period ended September 30 last. The bulletin shows there were 10,648 inmates in the State institutions during that period, and that 403 were on parole at the beginning of the quarter, 11,579 at the end of the quarter. Among other things, the bulletin shows 944 new admissions, 393 former inmates readmitted, 1,174 absentees returned, 501 discharged, 242 discharged while on parole, 109 deaths, and 173 temporarily absent. The best record for the quarter was made by the Kankakee Asylum for the Insane, where the net per capita cost for the quarter was $29.21. The gross per capita cost for the quarter was $40.42, and the net per capita cost of maintenance to the State was $34.58.

Mortality of Michigan.—During October there were 2,624 deaths reported to the Department of State, or 98 less than the number returned for the preceding month. The deathrate was 12.5 per 1,000 population. Deaths by ages were as follows: Under 1 year, 489; 1 to 4 years, inclusive, 185; 65 years and over, 766. There was a considerable decrease in deaths of infants and children, and a slight increase in deaths of elderly persons as compared with September. Important causes of death were as follows: Tuberculosis of the lungs, 190; other forms of tuberculosis, 35; typhoid fever, 90; diphtheria and croup, 78; scarlet fever, 7; measles, 3; whoopingcough, 16; pneumonia, 143; diarrhea and enteritis, under 2 years, 173; cancer, 129; accidents and violence, 202. There was 1 death from smallpox. Somewhat increased mortality was shown from tuberculosis, diphtheria and croup and pneumonia. Typhoid fever caused 90 deaths as compared with 74 during the preceding month. There was a very large decrease in deaths reported from diarrheal diseases of children and also a considerable diminution in the number of deaths from cancer.

FOREIGN NEWS AND NOTES

GENERAL.

Irish Insane.—The number of lunatics under control in Ireland is 22,000, an increase of 1,000 in 2 years.

Still Being Emancipated.—According to an exchange a new vocation for women has been found in Germany—the treatment of hospital patients with Röntgen rays, which requires much delicacy and care. Special courses for instruction in this art are to be begun soon in Berlin.

Favors a New Law.—A French physician, Dr. Marechal, advocates the passing of a law making the wearing of a corset by any woman under 30 an offense, punishable by 3 months' imprisonment if she be of age, and a fine of $20 to $200 imposed on her parents or guardians if she be under age.

Smoking of Opium in Formosa.—It is reported that last year the importation of opium to northern Formosa fell to £153,822 from £240,669 in the previous year. Mr. Layard, the British Consul in Tamsui, says in his last report that the Japanese authorities assert that the consumption of the drug is decreasing in Formosa. They express their intention of gradually stamping out the practice of opium smoking, and the stringent regulations enforced for the licensing of smokers and for the prevention of smuggling, assisted also by moral suasion, which at one moment took the form of a regular crusade against the habit on the part of the Buddhist missionaries from Japan, all tend toward bringing about this consummatian.

Reputed Cure for Rinderpest in India.—The *Straits Echo* says: An announcement made recently by Mr. Mukerji, M.A., deputy magistrate of Dumka, Santal Parganas, that the ignorant ryots of his district used quinin for the cure of rinderpest in cattle with excellent results, created somewhat of a sensation in agricultural and veterinary circles in India and Ceylon. Mr. Mukerji claimed no merit of the discovery, which, like most important events, was the result of an accident. A santal of Dumka, who had been in the habit of buying quinin for fever from the local postmaster, wished to know if the medicine was good for cattle. The postmaster could not enlighten him, but the peasant was determined to try, arguing with strong primal knowledge that what was good for man was good for beast. He bought 40 grains and gave it to his cow. A few days afterward he reported a cure.

French and Their Vitality.—The official statistics respecting the births, marriages, and deaths registered in France during the year 1902 have just been published in Paris. The excess of births over deaths is shown to have been 83,944, an increase of 11,546 when compared with the previous year. This increase, however, is not due to an increase in the number of births, but to a decrease in the number of deaths, as there were 11,896 births and 23,443 deaths less in 1902 than in 1901. The figures, therefore, are only apparently favorable, and the increase of the population of France continues to be very slow. As an example, the statistics for the 5 years from 1896 to 1900 show that when the population of this country increases by 13 inhabitants, in Germany it increases by 147, in Belgium by 109, in Great Britain by 116, and in Italy by 110. The number of marriages showed a decrease of 8,683, but divorces increased by 690. The births numbered 845,378 (431,246 boys and 414,132 girls), 74,071 of the total being illegitimate. The number of deaths was 761,434 (395,534 males and 365,900 females).

Disease in Mines.—An exchange says the profuse use of water spraying in mines has unfortunately assisted in the introduction of a most serious disease into collieries, viz., "ankylostomiasis," which is at present mostly confined to Austrian, German and Hungarian mines, but has been discovered in some mines in Cornwall, and also in Australia, where those suffering from the disease are called "earth eaters." The higher the temperature and the greater the point of saturation the more easily is the parasite propagated, and therefore its favorite habitat is in the damp and badly-ventilated places. The larvæ can exist in any temperature above 48° F., and have been found on the higher parts of props and bars, but not near the floor. Fortunately, the first accounts are believed to have exaggerated the danger, and were incorrect in stating that the infection could be carried through the air; but later investigation seemed to point out that it can only be taken in through the mouth, and, therefore, clean hands and clean water, when partaking of foods, are the principal safeguards.—[*Mines and Minerals.*]

OBITUARIES.

George J. Engelmann, of Boston, Mass., aged 55, one of the best known gynecologists in the country, died suddenly November 17, while visiting in Nashua, N. H. He was graduated in medicine from the Washington University in 1869, and from the University of Berlin in 1871. He was master obstetrician in Vienna in 1872; late professor of diseases of women in the Missouri Medical College, of St. Louis; ex-president of the American Gynecological Society; ex-president of the Southern Surgical and Gynecological Association and of the St. Louis Obstetric and Gynecological Society; vice-president of the International Gynecological Congress; Fellow of the British Gynecological and London Obstetric Societies. He was president of the Boston Obstetrical Society and a member of the American Medical Association. He was widely known as a contributor to medical literature in his specialty.

James McFadden Gaston, at his home in Atlanta, Ga., November 15, aged 79. He was a graduate of the Medical College of the State of South Carolina, in 1846, and a medical officer in the Confederate Army during the Civil War. After the war, from 1865 to 1883, he made his home in Brazil, attaining distinction in his profession there. Since 1883 he had been at the head of the department of surgery in the Southern Medical College in Atlanta. In 1895 he was president of the American Academy of Medicine, and in 1896 he was president of the Southern Surgical and Gynecological Association. He was an authority widely quoted in this country and Europe on intestinal surgery.

J. R. Rainey, at his home in St. Augustine, Fla., November 9; a graduate of the St. Louis Medical College, in 1859; surgeon to the Federal Army during the Civil war, and member of General Fitzhugh Lee's corps during the war with Spain. He was department commander of the G. A. R., and one of the most prominent physicians of the State.

Lorenzo Traver, at his home in Providence, R. I., October 24, aged 69; a graduate of the Albany (N. Y.) Medical College, in 1857; surgeon of the United States Navy until 1868; member of the American Medical Association, Rhode Island Association, and Providence Medical Association.

Otto J. F. Nasse, at Freiburg, October 20; professor of pharmacology and physiologic chemistry at Rostock, from 1880 to 1889; contributor to *Pflüger's Archiv* and publisher of works on the psychology of peristalsis and striped muscle substance.

Leon deChesne, at the Presbyterian Hospital, Chicago, October 28, of cancer of the tongue, aged 51; a graduate of the University of Louvain, Belgium, in 1869; a member of the American Medical Association and the Wisconsin Medical Society.

Robert John Garden, who died recently, had been surgeon to the Royal Infirmary, Aberdeen, since 1880. In recent years he had become totally blind. The most important of his public works is that on diseases of the skin.

Charles Marshall, of Huntingdon, Quebec, suddenly in New York, November 13, aged 54; a graduate of the New York University, and a member of the medical board of examiners of the Province of Quebec.

Stephen L. Blachly, at his home in Wilkinsburg, Pa., October 28, aged 87; a graduate of Jefferson Medical College, Philadelphia, in 1870, and for a number of years president of Washington County Medical Society.

A. D. Binkerd, at his home in Miller's Eddy, Pa., October 27, aged 78; a graduate of the Long Island College Hospital, Brooklyn, in 1864, and one time assistant surgeon Third Company, U. S. Artillery.

W. E. C. Swan, at his home in Stoughton, Mass., from heart failure, November 11, aged 65; a graduate of Harvard Medical School, in 1865, and a wellknown physician in southeast Massachusetts.

Robert C. Downey, at his home in Caldwell, Ohio, October 22, aged 69; a graduate of Starling Medical College, Columbus, in 1864. One time surgeon of the 13th Ohio Volunteer Cavalry.

Thomas J. Davis, at Sheepshead Bay, N. Y., November 5; a graduate of the University of Vermont, Burlington, in 1888, and superintendent of the Charity Hospital, Savannah, Ga.

Nathaniel Jewett, at his home in Ashburnham, Mass., November 3; a graduate of the New York Eclectic College, in 1871, and an authority in his particular school of medicine.

D. Tibone, at his home in Rome, Italy, October 7, aged 70. He was a prominent gynecologist and had been professor of obstetrics and gynecology at Turin for 38 years.

Frank Russell, one of the most promising of the younger American anthropologists, recently of Harvard University, died of tuberculosis in Arizona on November 7.

Benjamin E. Kell, at his home in Ardreys, N. C., October 30, after a lingering illness; a graduate of Bellevue Hospital Medical College, New York, in 1890.

Daniel J. Turner, at his home in Front Royal, Va., November 10, aged 38; a graduate of the University of Maryland Medical School, in 1894.

J. B. Morton, at his home in Elizabeth, N. J., November 2, aged 77; a graduate of the College of Physicians and Surgeons, New York, in 1849.

John B. Weaver, suddenly, in Lansing, Mich., October 31, aged 50; a graduate of the Michigan College of Medicine, Detroit, in 1881.

Frederick Betz, at Heilbrun, October 19, aged 84; founder of the medical journal, *Memorabilien,* in 1856.

CLINICAL NOTES AND CORRESPONDENCE

[Communications are invited for this Department. The Editor is not responsible for the views advanced by any contributor.]

A WARD LIFT.

BY

J. PACKARD LAIRD, M.D.,

of Philadelphia.

We are frequently impressed with the fact that the very valuable procedure of tubbing for reducing temperature, used so largely in typhoid fever, has, in this particular disease, most marked disadvantages, to overcome which, numerous contrivances have been invented.

The period of the disease when the ulceration is at its height is the time when, as a rule, the temperature runs highest, the nervous symptoms are most prominent, and the danger of perforation and hemorrhage is greatest. Anything which causes the patient to tighten the abdominal walls, thereby compressing the viscera, of course, adds greatly to the liability of these complications, especially when the intestines are distended; aside from causing more or less physical exertion and mental excitement, which materially impair the benefit derived from the treatment.

This is particularly noticeable when tubbing, or any lifting of the patient is done by hand, and it is frequently difficult to

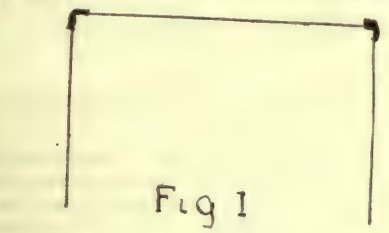


Fig 1



Fig 2.

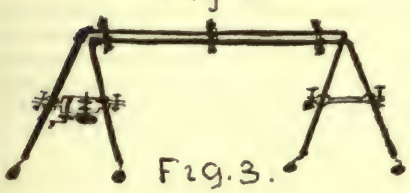


Fig. 3.

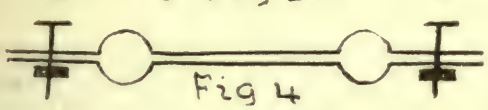


Fig 4

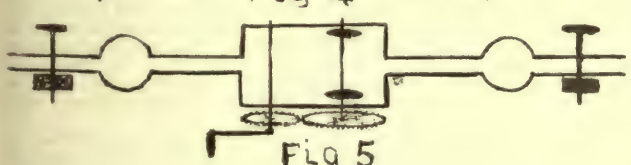


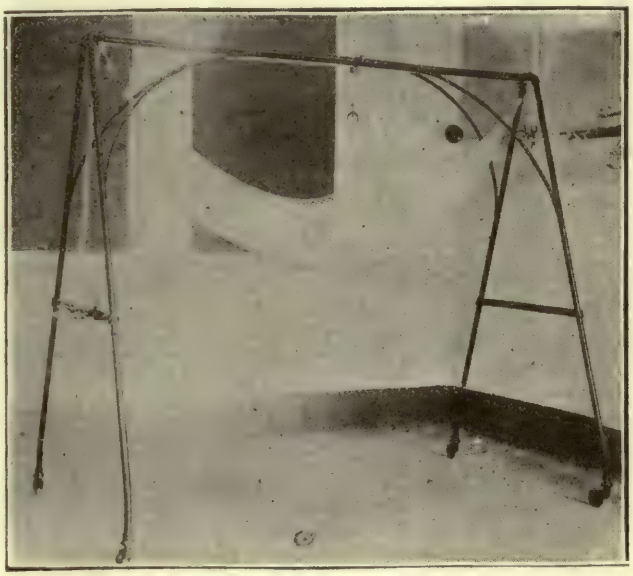
Fig 5

obtain the able-bodied help which is required. Tubbing at the bedside is perhaps the most common method, and any improvement on the present appliances should be of value to both patients and nurses. With these points in view, the following apparatus was constructed.

Four sections of ordinary iron piping 1 inch in diameter (outside measurement) are cut 6¼ feet long, and 2 sections 7 feet long. These 6¼-foot sections are threaded at one end, while the 7-foot sections are threaded at both ends.

To each end of a 7-foot section, by means of an ordinary L-joint, is attached one of the 6¼-foot sections, thus making a right-angle frame open at one side (Fig. 1). These 2 right-angle frames are then placed side by side, the two 7-foot sections being bound together at each end, and in the middle, by braces made of 2 pieces of flat iron, bent so as to fit around the pipes (Fig. 2), held together by screws. To the bottom half of each of these top braces a frame is attached, the first holding one pulley wheel, the second two, and the third three, so that a rope going over the first wheel of the first would come over the second wheel of the second, and the third wheel of the third in order, as will be shown later.

The bottom ends of the 6¼-foot sections, that is, the free ends, not attached to anything, are then separated, giving the appearance of a pair of horizontal bars supported on triangular legs of similar material (Fig. 3), and braced apart by flat iron braces similar in construction to those at the top (Fig. 4), and made



Showing lift with hammock.

long enough to allow the bottoms of the legs to stand about 3½ feet apart when the braces are screwed on about the same distance from the floor. By moving these braces up or down the feet stand further apart or closer together. Rubber-covered castors are put on the 4 legs. One of these leg braces is made as above, while the other contains a rectangular space between its sides (Fig. 4), about 4 inches wide and 12 inches long, in one end of which is placed a spool of iron, with side 3 inches wide, the axle going through the sides of the braces (Fig. 5). On the outside of the brace attached to the axle of the spool is a cogwheel, while to a shaft going through the other end of the space is a cogwheel one-third the size of the former, and to the end of the shaft, just beyond this small cog is an ordinary crank and handle 6 inches long. A brake is arranged in the cogs.

The remainder of the apparatus consists of 3 ropes and a hammock-like net, which is to be supported in the middle, as well as at both ends. The ropes are of the strongest window cord, one running from the head, over the single pulley, over the second wheel of the second, and the third wheel of the third, and attached to the shaft of the spool. A second running over the first wheel of the second pulley (from the middle of the frame), over the second wheel of the third and attached as the first to the spool; a third to run over the first wheel of the third pulley (at the foot of the frame) and attached, as the other two, to the shaft of the spool. Each rope has a hook at its free end. A net is necessary, it is about 6 feet long, with a ring in each end, and one on each side about the middle. The frame put together is shown in the accompanying photograph, and, being longer than the bed, stands directly over it, the tub being by the side of the bed.

The hammock is then put under the patient in the same manner as a clean sheet would be, the rubber air cushion being placed under the back or shoulders and the 3 ropes being attached to the head, middle, and foot of the net, respectively, the crank is turned, and the patient raised off the bed.

The whole frame is then rolled easily over the tub and the patient let gently down into it, left in the net, and raised again at the end of the bath (the water dripping from the net into the tub), rolled back over the bed and gently deposited in the blanket awaiting him.

The middle rope is of great importance, as it supports the middle of the patient, keeps his body from sagging down, and obviates his having to tighten his abdominal muscles. It is evident that this can be used from bed to bed in the ward. It is secure and one nurse can operate the whole bath, moving the patient and all, though he weigh 200 pounds.

It can be run into a room, put on an elevator, and moved conveniently; there is nothing to get lost, and it can, by undoing a few bolts, be taken entirely apart for packing and shipment, its weight being something less than 150 pounds.

It is also very convenient to have in a ward to lift a patient out of the way while the bed is being changed, or in transferring him from one bed to another, without any exertion on his and very little on the nurse's part.

It has been used with the greatest comfort to both patients and nurses in the Polyclinic Hospital in Philadelphia.



Showing patient in hammock over tub, lift having been wheeled over from bed to tub, ready to be let down into tub.

Any information concerning this lift may be had by applying to the Bernstein Manufacturing Company of Philadelphia, who have the specifications and (temporary) right to make it.

PARTIAL PERIPHERAL PARALYSIS OF THE FACIAL NERVE, WITH SWELLING OF THE LIPS.

BY

THEODORE H. WEISENBURG, M.D.,

of Philadelphia.

Instructor in Nervous Diseases in the University of Pennsylvania; Assistant Neurologist to the Philadelphia Hospital.

Swelling of the face in paresis or paralysis of the facial nerve is rare. Bernhardt,[1] in his latest work on the peripheral nerves, mentions swelling of the face in seventh nerve paralysis, but has not observed it himself. Mills, Oppenheim, and Gowers also quote others. Other textbooks consulted, as Strumpell and Starr, make no mention of such an occurrence.

Frankl-Hochwart[2] found in 5 cases of peripheral facial palsy besides some changes in the sensibility, a swelling of the affected side of the face. This came on early in the disease, was more marked under the lower eyelid; the skin was pale, looking like porcelain, the tissues were enlarged, and the temperature was heightened. As a result of these clinical observations, Frankl-Hochwart came to the conclusion that the seventh nerve contains—at least in some persons—also sensory and vasomotor fibers. Similar observations were recorded by Hübschman,[3] who reported 2 cases, 1 being a double facial palsy in which the swelling alternated from the right to the left side, and disappeared as in Frankl-Hochwart's cases, very early. Hübschman refers to other similar cases reported by Fritze, Härtel, Haase and Adler. Biehl[4] reported a very interesting case of a partial left traumatic facial palsy in which there was a slight swelling of the affected side of the face, and in which chewing brought forth a secretion of sweat on the cheek of the same side.

In all these cases referred to, the swelling involved the whole distribution of the seventh nerve. In the case detailed below, the swelling was confined only to the upper and lower lips, this being perhaps a little more marked on the affected side.

S., aged 38, family and past history negative. No history of rheumatism. On awaking one morning (June 3, 1903) the patient felt that his lips were swollen and heavy, and he also experienced a "drawing" feeling in them. Examination a few days afterward showed a peripheral paresis of the right facial nerve, the lower distribution being more affected. The upper and lower lips were distinctly swollen. Sensation was normal, the patient did not complain of numbness or pain. Taste was normal. Both masseter and temporal muscles contracted well on either side. In the electric examination a slightly increased faradic current was necessary to produce contraction on the right side, and to the galvanic current there was a little better response, especially in the lower distribution, but there were no quantitative or qualitative changes.

There was one feature of the swelling of the lips that was noticeable: At times it was much more marked, especially at the approach of inclement weather. It gradually subsided until 3 months after its onset it had completely disappeared. It is noteworthy that the paresis of the face was more marked in its lower distribution, coincident with the swelling of the lips, and that the swelling diminished as the paresis improved.

REFERENCES.

[1] Bernhardt, M., Die Erkrankungen der Peripherischen Nerven. Alfred Holder, Wien, 1902.

[2] V. Frankl-Hochwart, Neurologisches Centralblatt, No. 10, 1891, S. 290.

[3] Hübschman, P., Neurologisches Centralblatt, 1894, No. 23, und 24, S. 858.

[4] Biehl, C., Wiener klin. Wochenschrift, 1900, No. 6, S. 131.

THE McGRAW ELASTIC LIGATURE FOR GASTRO-INTESTINAL ANASTOMOSIS.[1]

BY

S. EDWARD SANDERSON, M.D.,

of Detroit, Mich.

With the advancement of surgery, operations upon the upper part of the abdominal cavity are gaining in frequency. The increased success attending operations upon the stomach is drawing more attention to that organ. The conditions most commonly met requiring surgical intervention are those in which an opening is demanded between the stomach and intestine. Hence the increasing importance of a good method for gastroenterostomy. Of the many methods devised, I will speak in this paper only of that invented and first introduced by McGraw.

While this method is simple in technic, yet it is thoroughly efficient, requiring no special apparatus other than the ligature and accomplishing the desired result in reasonable time, fulfilling all the requirements of such an operation under almost all conditions. The wider education of operators and surgeons in the technic of this operation will result, I firmly believe, in its widened and widening use.

The following subdivision into steps is arbitrary, and done only for ease in describing the technic.

The first step is the abdominal opening. It was done originally by McGraw by making an incision beginning 1½ inches above the umbilicus in the median line, carrying it transversely to the left about 4 inches. This gives most easy access to the stomach, but as it severs the left rectus muscle it thereby increases the chances for hernia. The median incision answers every purpose, and can be used in every case. It should be ample in length to permit of free access to the stomach, and to permit of free handling of both stomach and intestine.

The second step is the finding of the stomach and the selection of the point in it for the anastomosis. This is the same as in any operation for gastroenterostomy. Formerly operators chose the anterior wall. Later the posterior wall was chosen, reaching it through a slit in the mesocolon. At present both the anterior and the posterior wall are chosen, though the preference seems to lie with the posterior wall, reaching it through the gastrocolic omentum.

The third step is the finding of the small intestine and the selection in it of the point for anastomosis. The point to select is the jejunum, about 4 hands' breadth from the duodenum. This point is not always easily to locate. The following method will avoid difficulty. Draw out the transverse colon, putting its mesocolon on the stretch, then by passing the finger from left to right (of the patient) the intestine will be found passing under the ligament of Treitz which will be jejunum at its beginning. Select a point about 4 hands' breadth lower. It was

[1] Read before the Surgical Section of the Michigan State Medical Society in Detroit, June 12, 1903.

formerly advocated by McGraw that the peristaltic action of stomach and intestine should be in the same direction. For that reason he always made a turn in the intestine. He has since abandoned the idea and likewise the practice.

Having the points for union selected, the fourth step can be taken, which is to place the first part of the running suture of silk. This is best done by having the assistant hold the two viscera with serous surfaces approximated in lines parallel to the point where it is desired to have the opening made, when a running Lembert suture of silk, catgut, or celluloid silk is placed to unite them firmly for a distance of from 2½ to 4

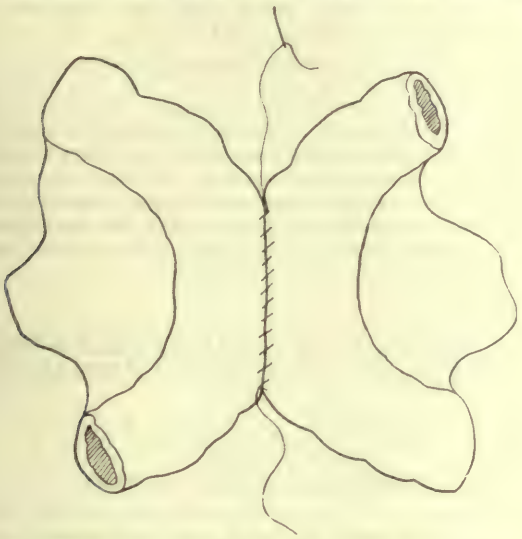


Fig. 1.—(Semidiagrammatic.) Step 4.—First running suture of silk uniting serous surfaces. (From drawing by author.)

inches, depending upon the length of the opening desired. I speak of the three kinds of suture material—catgut, silk, and celluloid silk, because all three kinds have been used. Catgut had been abandoned because a permanent suture is needed. Of the other two, either can be used. This running suture should be secured at the beginning, and also at other points to prevent pursestring contraction. In the stomach this first suture should be near the great vessels at the great curvature; in the intestine it should be near the mesentery so

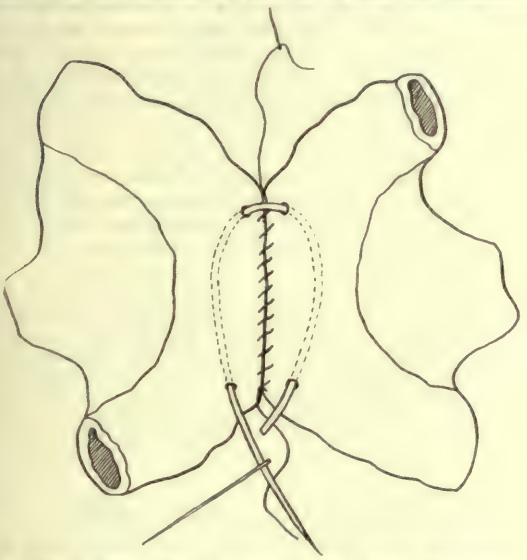


Fig. 2.—(Semidiagrammatic.) Part of Step 5, showing elastic ligature introduced, ready to tie. (From drawing by author.)

that the elastic ligature may come at the freest point in the gut that is opposite to the mesentery.

The fifth step is the placing and tying of the elastic ligature and is the characteristic and all-essential feature of the method. A cambric needle, armed with 6 inches of ligature, round, and larger in diameter than the needle itself, is passed into the lumen of the gut in its long axis, at a point opposite the beginning of the running suture, and made to emerge just opposite the end of the same, including in its grasp from 2 to 4 inches of tissue. By making strong traction on the ligature it can be made so small that it easily passes through the tissues, again resuming its full caliber when traction is removed, completely filling the opening it made in passing, thus preventing the escape of fecal matter in the further manipulations. The same procedure is followed in passing through the stomach wall. The 2 ends of the ligature are now brought together and tied in a square knot with the additional security of a strong thread of silk tied around the elastic knot to prevent its slipping. In most cases the first tie of the square knot alone is found sufficient. It should, however, have the silk thread tied around it.

In this connection several points arise for consideration. The choice of ligature is a matter of the greatest importance for the result of the whole procedure is dependent upon its work. The one found to be most satisfactory is the one ordinarily used for the ligation of piles. It has the necessary qualities of smoothness, elasticity and great tenacity, beside being kept in stock by most instrument dealers. It can be thoroughly sterilized by boiling and not injured thereby; it will however deteriorate with age. By cutting to the desired length and making a taper end, it can easily be passed through the eye of the needle to be used. Before a ligature is used its tensile strength should be fully tested. A ligature should be almost strong enough to resist the full strength of one's hands. In tying the knot after passing the ligature it should be pulled just as tight as possible. Should the ligature break another can easily be used; it is much better to have one break at this time than to have it so laxly tied that it will not cut through.

The common cambric needle is the one of choice though others can and have been used.

In tying the knot the wall of the intestine as well as the wall of the stomach is thrown into deep folds; but in the course of a few hours these begin to smooth out and soon disappear so that

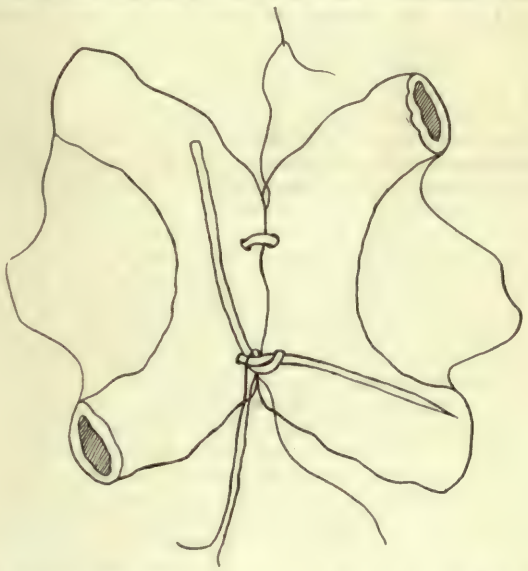


Fig. 3.—(Semidiagrammatic.) Continuing Step 5, showing tie in ligature begun, with strong silk thread surrounding. (From drawing by author.)

when the opening is completed at the end of 3 days or more it is flat as normal.

With the ligature tied and secured the sixth step can be taken which is to complete the running suture of silk to surround and bury the elastic knot to cut its way through the tissues included in its grasp.

The seventh and last step now remains, viz., to close the abdominal opening, the selection of a method resting with the operator.

The shock following this operation is no greater than in other operations of like gravity, yet several cases have been reported in which the patients died within 60 hours following operation without any assignable cause being found at the autopsy.

I will not here speak of vicious circle further than to say that the possibility of its occurrence exists in every case, and that this possibility should ever be in the mind of the operator and that everything in his power should be done to forestall it. To avoid this grave condition some have advocated the making of a second opening between intestine and intestine. This gives free drainage to the portion of intestine entering into the formation of the vicious circle.

SUMMARY.

The steps of the operation are:

1. Opening the abdomen.
2. Selection of point in the stomach for anastomosis.

3. Selection of point in the intestine for anastomosis.
4. First running suture of silk.
5. Passing the elastic ligature, tying and securing the knot.
6. Completing the running suture of silk.
7. Closing the abdomen.

I wish to emphasize: 1. The need of a strong ligature. 2. The necessity of a tight knot. 3. The necessity of a large opening.

When one has gained a familiarity with this method it proves to be one most simply and quickly done. In the hands of the operators who have given it a thorough trial it has proved thoroughly efficient.

A NEW WAY OF TREATING TUBERCULOSIS.

BY

CHAS. F. MANSON, M.D.,

of Philadelphia.

Scientists for years have been working assiduously in the fight with tuberculosis, but its ravages continue; it is therefore only right and proper that any suggestions based on actual successful experimentation, though at present somewhat limited in number, should be made public, particularly when in spite of the limited number there was sufficient development to justify the assertion that we have through the agency of early diluted human tuberculosis sputum, hypodermically, a therapeutic means of considerable merit, which very likely will prove to be the basis for the solution of an effective force antagonistic to tuberculosis in its various forms and stages. As there has been noticeable action pursuant to a hypodermic injection of cultures, and more profoundly so from human bacillus, I endeavored to enhance this action by carrying with it its environments, fibrin and mucus, its soil, which no doubt contains a harmonizing vital principle. Having followed this line of investigation for a while with unsatisfactory result, it occurred to me that the body of the bacillus, as well as the material substance of the sputal mass, would become a foreign element, producing pathologic action rather than therapeutic, as a splinter of wood, hence the unfavorable symptoms after its use. I then resorted to agitating the mass while diluting it in distilled water, in order gradually to eliminate all material substance, and leave a perfectly limpid fluid, holding in capacity, I believe, its vital force. This preparation acted miraculously and restored to health 3 patients with pronounced cases during the past year. These cases had been practically abandoned as hopeless by physicians of acknowledged ability. The sputum from a subject with laryngeal tuberculosis had no action on a pulmonary case, and vice versa. A solution only slightly turbid, produced increased temperature and rapid dissolution. I believe cultures, or the crude or diluted mass from a lower animal, will never be the desideratum.

PREVENTION OF TUBERCULOSIS.

BY

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of Clarinda, Iowa.

To the Editor of American Medicine:—At the thirty-first annual meeting of the American Public Health Association, recently held in Washington, considerable interest was manifested in the question of the prevention of tuberculosis, and attention was called to the danger attending the use of infected milk; the riding of tuberculous patients in street cars and other public conveyances, and to the fact that blankets used in sleeping cars were cleaned but once in 6 months. To me, however, there seems to be equal peril in another direction, though I have seen no reference made to it. I refer to the public telephone. The transmitter of a public telephone would be an ideal location for the reception of particles of sputum containing the bacilli, deposited there by tuberculous individuals while using the phone. When this sputum becomes dry it would be readily inhaled by others using the phone, especially when it is necessary to place the mouth close to the transmitter in order to be heard at the other end of the line. Anyone who has stood for 5 or 10 minutes with his mouth glued to the transmitter, in a frantic effort to make the man at the other end understand what is said, has only to consider the matter a moment to realize the danger of the situation. It may not always be necessary to place the mouth so close to the phone, but observation demonstrates that the majority of people do so, whether needful or not.

The question has lately been brought rather forcibly to my mind. In this institution all the wards are supplied with telephones, with a central office in the main building. About 6 months ago a young lady was employed in the office whose duty, among other things, was to attend the telephone, though all the officers and clerks used it frequently. Her health was not good at any time, and after she had been here some 5 months the matter of her health was looked into more closely and her sputum was found to be full of tubercle bacilli. Another lady stenographer, who also attended the same phone, and who resigned just before the above disclosure was made, is now reported as having tuberculosis. Whether the connection between these 2 cases is as direct as it seems to be, and whether the infection was carried by means of the telephone cannot be known positively, but it is so very probable that I believe a note of warning would not be amiss.

A SIMPLE METHOD OF ENHANCING THE EFFECT OF TENOTOMY FOR CORRECTION OF STRABISMUS.

BY

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of Philadelphia.

Ophthalmologist to St. Christopher's Hospital for children.

The operation of simple tenotomy of the recti muscles, especially of the internal rectus is often found to be insufficient to correct the strabismus for the relief of which the operation is done. To enhance this effect, the various operations of advancement upon the opponent muscle or capsule are performed. Sutures have been introduced in such a manner as to pull the eye temporarily in the opposite direction, after a tenotomy. All of these measures are valuable in suitable instances.

I have employed for several years a very simple method which has given me much satisfaction in every case. After a tenotomy, more or less complete, according to the effect desired, the patient is placed in bed for 24 hours with a bandage occluding the operated eye. The bed is placed in a *corner* of the room in such a position that the natural tendency of the patient is to turn the eyes in the direction desired by the operator.

In the case of the older and intelligent patients, I place an object of interest upon the opposite side of the room, and ask them to fix their eyes upon it as much as possible, or at least to look in that direction. In younger children in whom an operation may occasionally be desirable, I place the bed in the ward so that of their own free will they look in the desired direction in order to see the phenomena of hospital life. To illustrate this, I will cite a case:

Girl, aged 10. Operation: Tenotomy of the internal rectus of the left eye on account of continued squint of high degree unrelieved by glasses. Eye was amblyopic. A complete division was made of the tendon and stray muscular fibers—allowing internal squint of about 15° to 20°. No advancement was made. Patient was placed in a bed in the corner of the ward so that her head and right side of body were nearest the blank walls. Curiosity made the patient endeavor to look to the left, and an excellent cosmetic result was obtained.

THE PHILADELPHIA LANCET.

To the Editor of American Medicine:—I seek for information which perhaps some of the older readers of *American Medicine* can supply.

We have a medical journal which is not included in the Index Catalogue of the library of the Surgeon-General's office, entitled *The Philadelphia Lancet*, edited by Thomas Dunn English, M.D., semimonthly, Vol. 1, Nos. 1-8, Philadelphia, January 1, 1851-April 15, 1851.

This is an independent medical journal, in no way connected with or representing *The Lancet* published in London. I would like to know if more than 8 numbers were issued.

LIBRARIAN, COLLEGE OF PHYSICIANS OF PHILADELPHIA.

ORIGINAL ARTICLES

THE TREATMENT OF SURGICAL SHOCK BY ADRENALIN.

BY

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AND

M. E. PENNINGTON, PH.D.,

Director Philadelphia Clinical Laboratory.

Reichert has shown that adrenalin intravenously injected is a direct stimulant to the heart and to both the centric and peripheral vasomotor systems. He also notes that it is a stimulant to the respiratory center, and that it increases general metabolism and body temperature. The brilliant experiments of Crile and others corroborate these findings, and point even more forcibly toward adrenalin as a potent medication in the treatment of shock or collapse. It is evident, moreover, that, in so far as its immediate lethal effects are concerned, the drug is not markedly toxic—at least in the doses which would ordinarily be administered—since while 0.0005 dram will increase markedly the blood-pressure, this dose repeated a hundredfold simply accentuates this increase, nor is there subsequently a compensating drop. These, however, are laboratory findings. There are some others of great importance, the first in regard to the toxicity of the drug.

While investigators along this line were compelled to use extracts of the gland itself—these extracts being made and purified in various ways, yielding products of varying strength and purity—it is only reasonable to suppose that there would be among them marked differences in the results obtained. To such causes may be due the contradictory statements regarding the lethal dose, its action on the central or peripheral nervous system, the final cause of death.

More recently, however, several preparations of the active blood-pressure raising constituent of the suprarenal gland have been available. These, if not exact chemic counterparts, are approximately so, and have enabled us to determine more accurately and broadly the effect of the substance when introduced, either directly or indirectly, into the blood supply of an animal.

In spite of certain contradictions, some facts would seem to be fairly well established. For example, for rabbits and guineapigs the lethal dose of adrenalin hydrochlorid, by way of the jugular, is 0.0002 gram per kilo. When injected into the femoral artery of a rabbit the dose is 0.0006 gram per kilo; subcutaneously the dose is 0.010 gram per kilo. Death generally ensues within the hour, rarely after 6 or 7 hours. Frogs require 0.010 gram per kilo, and death is due to a paralysis of the nerve centers. These results suggest that the dosage of adrenalin employed in medicine may be increased a hundredfold with safety.

Rabbits killed by adrenalin hydrochlorid show at autopsy an acute pulmonary edema,[1] if death is prompt. If the animals survive more than 15 hours, they die not of a direct adrenalin action, but of an infection which is manifested in the form of a wet gangrene at the seat of inoculation.

The production of a bacterial gangrene in rabbits, when adrenalin is injected subcutaneously just prior to an infection with streptococcus, is mentioned by Garnier.[2] Death follows in 5 to 8 days. If, however, the adrenalin is injected after the streptococcus infection is established, gangrene is not produced. The presence of gangrene would readily be explained by the pronounced ischemia of the tissues, but why the administration of adrenalin after the infection, should result negatively is somewhat obscure.

According to Battelli,[3] adrenalin treated with an alkali in the presence of oxygen is transformed into oxyadrenalin—a substance which is without action on blood-pressure. In a later experiment,[4] by establishing an artificial circulation through the liver with blood containing 1–500,000 adrenalin, he finds the issuing blood without pressure-raising properties. The active agent in this change would appear to be the red blood corpuscles. Hence he believes it to be essentially a process of oxidation, and calls attention to the fact that after the blood-pressure has returned to normal, or even below it, following the injection of adrenalin, there is an abundance of the drug to be found in the blood.

Another phase of the fate of adrenalin in the organism has been studied by Carnot and Josserand [5] who, having noted that the dose of adrenalin when injected into an artery must be trebled as compared with the venous dose, tried the action of adrenalin on muscles which had been exhausted by a prolonged faradic current. Under such conditions a dose of 0.055 milligram per kilo injected into the femoral artery of a fatigued leg caused a rise of 1.5 cm. of mercury, while the leg of the opposite side at rest gave a rise of 11 cm. The struggles of an animal on the operating-table are said quite to neutralize small doses of the drug. Such experiments indicate that the stimulating influence of adrenalin will necessarily be transient, and will be manifested imperfectly or not at all unless the drug is driven directly into the venous circulation.

That the active principle of the suprarenal gland has a profound action on chemic processes is illustrated by the work of Herter and Wakeman,[6] who caused a marked temporary glycosuria by its injection into dogs. The animals which died showed pancreatic necroses and hemorrhages.

Before employing adrenalin chlorid on the human subject it is well to determine the surgical cleanliness of the preparation, its bactericidal effect, if any, and its influence upon the bacteriolytic powers of the blood. Adrenalin chlorid, being put up in 1–1,000 solution containing 0.5% chloretone, is necessarily antiseptic.

A sample of adrenalin in powdered form was obtained. This was dissolved in sterile salt solution, in the proportion of 1–10,000, and so used.

The results were practically the same with the "Adrenalin" of Parke, Davis & Co., the "Hæmostatin" of Wampole & Co., and the solution made by us from the powdered adrenalin obtained from Parke, Davis & Co.

The culture tubes contained the above solution of adrenalin diluted as desired with physiologic salt solution and 0.1 cc. of bouillon, making in each case a total volume of 1 cc. The "controls" were 0.8% salt solution and bouillon. The tubes were seeded from suspensions running over 40,000 to the *oese*, young colonies being used. Successive platings on agar, as indicated in the tables, and a count of the colonies which developed, showed the action of the adrenalin. The organisms used for experiment were *B. coli*, *B. pyocyaneus*, and *Staphylococcus pyogenes aureus*.

Adrenalin mixed with salt solution and bouillon, in the proportion of 1–100,000 and 1–40,000, would appear to retard very slightly the growth of the organism until between the third and fifth hours, when there is a marked rise; and at the expiration of the fifth hour the adrenalin culture contains a greater number of organisms than does the control, a difference which is usually more exaggerated at the expiration of 24 hours. In the proportion of 1–20,000 adrenalin seems to retard the multiplication of the organisms even at the expiration of 24 hours, though the inhibitory action is but slight and sometimes fails completely.

Cultures were also made using adrenalin in salt solution in the proportion of 1–100,000 and 1–40,000, discarding the 0.1 cc. of bouillon and comparing the growth under such conditions with that in physiologic salt

alone. The latter became sterile in 24 hours; the adrenalin tube containing 1–100,000 at the expiration of the same period showed several hundred organisms to the loop. Adrenalin in the proportion of 1–40,000 gave no growth. This behavior recalls that of such simple amido bodies as asparagin, which in very dilute solution favors bacterial growth, while in larger quantities it retards it.

A more accurate idea of the foregoing statements may be obtained from the following protocols:

TABLE I.

ADRENALIN WITH SALT SOLUTION AND BOUILLON.

B. coli.	Immediate.	1 hour.	3 hours.	5 hours.	24 hours.
Suspension	40,000	.....	.....	.....	.....
Control	114	116	702	9,802	43,830
1-100,000	240	118	460	9,680	56,646
1-40,000	112	100	540	11,693	49,937
1-20,000	183	127	659	1,132	38,936

B. pyocyaneus	Immediate.	5 hours.	24 hours.
Suspension	50,000	.....	.....
Control	651	2,236	40,000
1-100,000	901	2,990	innumerable
1-40,000	657	1,407	"
1-20,000	355	790	80,000

Staph. pyog. aur.	Immediate.	5 hours.	24 hours.
Suspension	90,000	.....	.....
Control	245	4,181	34,762
1-100,000	213	11,118	innumerable
1-40,000	284	6,110	"
1-20,000	200	2,215	29,394

TABLE II.

ADRENALIN AND SALT SOLUTION.

B. coli.	Immediate.	1 hour.	3 hours.	5 hours.	24 hours.
Suspension	40,000	.....	.....	.....	.....
Sodi'm chlorid	111	79	106	17	sterile
Adrenalin.					
1-100,000	123	55	82	130	335
1-40,000	127	185	sterile	sterile	

The bacteriolytic action of blood serum containing small quantities of adrenalin has been tested by 2 experiments upon *B. coli*. While it is distinctly desirable that further work should be done before making any generalizations, the outcome of these 2 trials has been a marked loss of bacteriolytic power. The serum was obtained from the rabbit. Each tube contained 0.5 cc. of serum and 0.1 cc. of bouillon, with sufficient 0.8% salt solution and adrenalin solution to make a total volume of 1 cc.

TABLE III.

BLOOD SERUM AND ADRENALIN.

B. coli.	Immediate.	1 hour.	3 hours.	5 hours.	24 hours.
Suspension	A 46,080	.....	.....	.....	.....
	B 50,300	.....	.....	.....	.....
Control	A 289	115	583	18,630	95,850
	B 272	197	920	15,840	112,860
1-100,000	A 366	209	932	54,560	innum'ble
	B 247	83	574	31,030	"
1-40,000	A 289	183	618	38,250	"
	B 183	117	671	40,130	"
1-20,000	A 293	203	892	53,760	"
	B 153	118	666	43,200	"

As to the physiologic action of adrenalin, the following experiment is quite typical of results that may be obtained in the laboratory:

A dog weighing 14 kilos was killed by ether. The chest and pericardium were then opened, and artificial respiration was started. The blood-pressure remained at the abscissa line, and there were no cardiac motions visible for 15 minutes. A 1 : 10,000 adrenalin chlorid solution, running at the rate of about 12 cc. to the minute, was then allowed to flow from the buret by gravity into the external jugular vein, the pumping action of the heart being established by grasping this organ in the hand and making forceful and rhythmic pressure. Feeble contractions were noted for several minutes before regular, normal pulsations were reestablished. These contractures had apparently no effect upon blood-pressure, but are distinctly recorded in the tracing. They were reinforced frequently by manual pressure. In a few minutes the heart began to beat with normal vigor. The blood-pressure rapidly rose under repeated injections of adrenalin, reaching to above normal, and respiratory efforts were resumed. Thereafter with each injection of adrenalin there was a prompt jump in the pressure, followed in a few minutes by a gradual fall to normal, but not below.

One tracing shows a secondary rise without a further administration of the drug. Garnier has already called attention to this phenomenon, which a complete tracing might show as constant. No attempt was made to keep up the body temperature; and there was, incident to the high blood-pressure, an almost constant hemorrhage from the thoracic wound. In consequence of these conditions there was a slight but steady fall in blood-pressure. The absence of a compensating drop after a high rise was especially noteworthy.

We finally attempted to kill the dog with large doses of adrenalin, administering twice, 10 cc. of a 1–10,000 solution. After 137 cc. had been given 2 hours and 38 minutes from the beginning of the experiment, as it seemed that life might be prolonged several hours, chloroform was injected into the external jugular vein. Our efforts to resuscitate one or more hours after death have thus far proved futile, even though the body temperature was carefully maintained.

As to the clinical side of the question, adrenalin chlorid was used during the last month in 6 cases, all exhibiting symptoms of impending death. I did not feel that our knowledge of its powers or toxicity was such as to justify its employment in cases in which there was even a slight hope of success by other methods.

CASE I.—Boy, aged 9, sustained a crush of the lower third of both thighs, and was brought to the hospital cold, pulseless and gasping. Two drams of adrenalin were given in a half-pint of normal salt solution by subcutaneous injection. The immediate increase in blood-pressure was probably due to the stimulating effect of hope and enthusiasm upon the observing faculties of the attending surgeon, since the patient died 10 minutes after the hypodermoclysis was begun.

CASE II.—A woman, aged 67, because of extensive carcinoma, was subjected to an excision of 6 inches of the ileum and the ascending colon and one-half the transverse colon. Associated with an almost imperceptible pulse of 150 were the respiratory signs of impending death. Four cubic centimeters of adrenalin chlorid, 1–1,000, were given subcutaneously in a pint of normal saline solution. In 10 minutes the pulse dropped to 100, and was of good quality. An hour later, because of a feeble running pulse, this treatment was repeated, and with similar success. This patient lived for 5 days, dying apparently of progressive septicemia.

CASE III.—R. K., aged 42, was referred from the medical wards of the Philadelphia Hospital because of a tender, painful abdomen and a hard and irreducible inflamed scrotal hernia. There was fecal vomiting and constipation. Operation showed a strangulated hernia bathed in a purulent exudate. The gut was covered with a white, adherent membrane, which was stripped from the intestine. The gut was thoroughly irrigated with normal salt solution, returned to the abdominal cavity and a radical cure was performed, and drainage was provided for by a tube and gauze. This patient subsequently developed bronchial pneumonia. He died 5 days later. On the last 2 days of his life, because of a running and progressively weaker pulse, he received 4 cc. of adrenalin chlorid in half a pint of salt solution every 2 hours by hypodermoclysis. In all 17 doses were given. There was no distinct effect produced upon the pulse.

CASE IV.—E. S., aged 6. Typhoid perforation 26 hours old. On operation, an hour from admission to the surgical service, the patient having been quietly and properly etherized, the pulse was running at 160, extremely weak; the extremities were cold and mottled. During the operation a half pint of normal salt solution, containing 4 cc. of adrenalin chlorid, 1–1,000, was given by hypodermoclysis. During suture of the external wound the patient's pulse was running to over 180, the breathing had become gasping, the skin was blue and wet, and the signs of impending death were most marked; 1.5 cc. of adrenalin chlorid in 1-10,000 dilution was injected into the median cephalic vein. Within 2 minutes there was a prompt response, the tension of the pulse increasing markedly, and the rate dropping to 160. A red flush appeared on the face, the extremities became warm, and the condition of the child on being returned to bed was much better than it was at the beginning of etherization. On the second day temperature had

dropped to 99° F. and the pulse to 100. There was abundant discharge from the drainage-tubes, and it looked as though recovery might take place, since food was taken and retained, and the bowels opened freely. A septic condition, however, continued, and the child died in 7 days from operation.

An autopsy showed that there was no attempt at repair, either in the parietal wound or in the peritoneal cavity. The latter was filled throughout with a thin, purulent exudate under no tension. The only adhesions found were those at the point of perforation covering the stitches.

CASE V.—F. W., aged 50, because of osteomyelitis following operation on ununited fracture, was admitted to Dr. White's wards, and was subjected to a hip-joint amputation. During the course of this there was difficulty with the respiration, and the patient rapidly dropped into a condition of profound collapse, the pulse running at 150. A pint of normal saline, containing 1 dram of adrenalin chlorid, 1–1,000 solution, was given by hypodermoclysis. The absorption was, however, extremely slow, and the pulse became weaker, irregular, and more rapid, running at 160. Fifteen minutes later a second subcutaneous injection of adrenalin, 1 dram in a pint of normal saline solution was administered, and though there was no perceptible effect on the pulse-rate, it seemed to improve in quality. An hour later 2.5 drams of adrenalin chlorid were given in a pint of normal saline solution. This was followed by distinct increase in force and regularity. In addition to the adrenalin this patient was given freely, alcohol, strychnin, digitalis, and coffee. Temperature remained high, but the pulse notably came down until 15 hours after operation, it was running at 138. Two drams of adrenalin were given in a half-pint of salt solution. The absorption was slow. In 1½ hours a pulse of high tension was running into 180, but 2 hours later it came down to 140. Twenty-six hours after operation, pulse, 140; temperature, 102° F., the respiration 30. Two drams of adrenalin were given as before. In 15 minutes the pulse was 180, but the next 3 hours had dropped to 144. This patient died of sepsis 7 days after operation. There was very extensive sloughing of the wound, but the skin edges had united. The lowest point reached by the pulse was 112, 3 days after operation; 8.5 drams of adrenalin were given.

In the last case, one of typhoid perforation, the patient came to the table with a pulse of 180. An intravenous adrenalin injection was without effect; it is uncertain whether or not any of the drug was introduced into the circulation, since it was administered by an inexperienced hand.

In two of these cases the effect of the adrenalin was immediate and unmistakable; in both it seemed life-saving.

But the clinical evidence I have produced as to its effect must be regarded as inconclusive on all points. It was not employed on a single patient in which there was a fair prospect of the preservation of life without its use; hence the unbroken mortality of my series of cases cannot be counted against it. One case of typhoid perforation apparently speaks strongly in its favor, since I have never seen a surgical patient so profoundly septic and collapsed make an operative recovery. This one case, however, must be corroborated by many others before confidence may be placed in the drug.

Laboratory experiments apparently show that adrenalin by intravenous injection is the most powerful, practicable cardiac, and vasomotor stimulant yet presented to the profession. Its value is still further enhanced by the fact that it stimulates the respiratory center and increases general metabolism and body temperature.

The toxic dose for man is not known, but is probably several hundred times greater than that in which the drug is ordinarily given.

Because of the rapidity with which it undergoes alteration in the body, it is inert in so far as its systemic effect is concerned when given either by the mouth or by the rectum.

Because of the tendency to abscess formation at the seat of injection incident to the ischemia caused by strong solution, the dilution should be at least 1–10,000 when the drug is given hypodermically. Nor does it seem probable that any effect can be expected, when thus administered, from less than 2 cc. of the 1–1,000 solution. Apparently, it is safe to give an initial dose of 10 cc. of the strong solution in 90 cc. of normal salt.

In cases of urgency adrenalin chlorid should be given intravenously in a dilution of 1–10,000. The injection should be slow, thus prolonging the effect of the drug, and should be pushed up to 100 cc. of the strong solution or until the heart clearly and unmistakably responds to its influence.

There is as yet no convincing clinical proof to the effect that the drug is as efficacious when used on man as laboratory experiments would lead us to suppose.

Because of its power of lessening the bacteriolytic power of the blood of animals, its use in cases of infection in the human should be practised with great caution until a wider experience has proved its safety or danger in these cases. Clinical evidence strongly suggests that it exerts a similar power upon the blood of man.

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NINE CASES OF RESECTION OF THE INTESTINE.[1]

BY

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By resection of the intestine is meant cutting out a segment of the tube so as to leave two open ends. These ends may be treated in one of two ways: First, and much preferable is their union, either end-to-end or laterally, by means of one of the numerous methods in use, and the restoration of the continuity of the intestine; or second the formation of an unnatural anus by attaching the open ends to the skin—a measure which may be necessary when the patient's condition will not permit a prolonged operation, when the viability of the remaining intestine is doubtful, or in cases of general peritonitis.

Resection is indicated when it is necessary to get rid of a malformed, diseased, or injured portion of the intestine, as in congenital or acquired stricture, malignant tumors, intussusception, fecal fistula, gangrene from hernia, volvulus, or mesenteric thrombosis, and severe traumatism, as from gunshot wounds.

The best method of uniting the ends is by suture, and the best suture is one that penetrates all the coats of the intestine and approximates the serous surfaces—the best type of which is the Connell suture with all the knots on the inside.

Of the numerous mechanical devices for uniting the ends of the intestine, the Murphy button is preferable in spite of the fact that it is a large, unabsorbable foreign body which has to remain in delicate tissues for a considerable time, where it may possibly produce gangrene, ulceration or obstruction of the bowels. Yet its superior advantages in the rapidity, simplicity, and facility with which it can be used will often make it the method of choice. The best field for its use is in the small intestine in end-to-end union.

Most of the complicated instruments which have been invented to aid the introduction of sutures in the intestine may be passed over without discussion—they are more ingenious than practical and often the union by suture could be completed during the time taken in adjusting the intestinal forceps or other aid which may be used.

During the last 3 years I have resected the intestine 9 times with 5 recoveries and 4 deaths. Five of the resections were done for strangulated hernia with 3 recoveries and 2 deaths and 4 were done for tumor of the colon, with 2 recoveries and 2 deaths. The resections

[1] Read by title at the meeting of the Medical Society of Virginia September 15, 16, and 17, 1903.

for hernia were all on the right side—2 inguinal and 3 femoral, and the 2 deaths were both in cases of femoral hernia. The resections of the colon were for tumor, twice in the hepatic flexure, once in the splenic flexure, and once in the sigmoid flexure.

The methods of union were by the Murphy button, five with 3 deaths; and by suture, three, all recoveries. In one case the ends of the intestine were left ununited. As a matter of justice to the button it must be stated that it was used in the worst cases while the suture was used only in the most favorable cases. The Connell suture was used in 2 cases and in one case two rows of continuous sutures were used—the first through all the coats and the second omitting the mucous coat.

Mortality.—The mortality of any large series of intestinal resections must be high—chiefly on account of the serious conditions for which resection is demanded—and of these conditions the most serious is gangrene of the intestine on account of the liability of infection, peritonitis and toxemia. The mortality of 44% in my cases is probably higher than the average mortality from intestinal resection at the present day and yet in none of the fatal cases was there much reason to expect a different result. Thus in Case VIII, the operation was done on a delayed case of typhoid perforation with a general peritonitis, when a tumor was found in the colon, the accidental perforation of which required excision. Under such unfavorable conditions recovery could not reasonably be expected. Cases II and IV both had the beginning of general peritonitis when operated on and Case IX was almost in a moribund condition—all desperate cases in which an operation was thought to give the only hope. All were victims of delay. I believe that all four of these cases would have terminated favorably had surgical attention been given at the proper time.

At the meeting of the British Medical Association in July, 1903, G. H. Makin stated that the mortality from resection of the intestine at St. Thomas Hospital was 53%. More recent statistics from the same hospital gave a mortality from the lateral method of union of 30.7%. Twelve end-to-end unions of the large intestine gave a mortality of 50%, while 8 side-to-side unions gave a mortality of only 25%. Fuchsig reports 24 end-to-end unions with a mortality of 54.16% and 16 lateral unions with a mortality of 37.5%.

Littlewood did 11 enterectomies of the large intestine with a mortality of 27%. Von Eiselsberg had 12 resections for intussusception with a mortality of 25%. Dunn did 16 enterectomies with a mortality of 25%. Gibson collected 74 cases of resection with enterorrhaphy for other causes than hernia with a mortality of 74%. He also collected 225 cases of resection with primary enterorrhaphy for gangrenous hernia with a mortality of 26%, and in 63 cases in which the Murphy button was used the mortality was only 22%.

CASE I.—*Strangulated Inguinal Hernia Associated with Volvulus; Gangrene; Excision of 28 Inches of Ileum. Recovery.*[1]—July 8, 1900, W. G., a male negro, aged 60, was admitted to the Emergency Hospital. History: Patient has had a right inguinal hernia many years and had an operation on it 10 years ago, but the nature of the operation could not be ascertained. At any rate the hernia soon returned and the patient wore a truss. About 11 o'clock on the day of admission to hospital while lifting a heavy cake of ice the hernia came down in spite of his truss and on attempting to reduce it he found that he was unable to do so. There was severe pain soon followed by nausea and vomiting. On examination at 3 p.m., 4 hours later, a tumor about the size of an adult head, tense and dull on percussion over the lower part, was seen occupying the right side of the scrotum and inguinal region. Under chloroform anesthesia the sac was opened by a long incision and was found to contain a large mass of intestine including the cecum, ileum and a portion of the omentum—the last being adherent to the bottom of the sac which was anatomically of the congenital variety. The intestine was considerably congested but otherwise in good condition and was returned to the abdominal cavity, when to my surprise, down came a long coil of black, gangrenous intestine which up to this moment had been concealed within the abdominal cavity.

The strangulation was probably due to the volvulus or to compression by the limbs of the portion which was fixed in the scrotum. The gangrenous portion was pulled down at each end until sound gut was reached and 28 inches was removed, the ends united by means of a Murphy button and reinforced by a row of Lembert sutures. The mesentery was cut parallel with the gut—not V-shaped—the vessels ligated and the edges of the mesentery united by 2 rows of silk sutures—one on the upper and one on the lower surface, inverting and completely concealing the cut edges.

The great omentum adherent to the bottom of the sac was ligated, cut off and returned to the abdominal cavity. The sac was ligated just above the testicle and cut off and the upper portion separated from the cord to within the abdominal cavity when it was sewed across with kangaroo tendon and Bassini's operation for the radical cure completed.

There was no trouble after the operation. Calomel and soda were given on the ninth of July and magnesium sulfate on the tenth—2 grams (½ dram) every hour; 3 evacuations occurred. The button passed on the twenty-second, 14 days after the operation. Its appearance was preceded by griping in the abdomen for 48 hours. First dressing on July 18 when primary union was found to have occurred and the stitches were removed. Patient made an uninterrupted recovery and was discharged July 26—18 days after the operation and was perfectly well when heard from 1 year later.

CASE II.—*Right Strangulated Femoral Hernia; Gangrene; Excision; Death after 2 weeks.*—This patient was a married woman aged 41, in good health except for a femoral hernia which had existed for 2 years and for which she wore a truss. December 5, 1900, after dinner she was taken with severe pain in the abdomen and vomited. A physician was called in who said that he reduced the hernia but the vomiting continued at intervals and so did the pain except when the patient was under the influence of morphin.

On examination December 14, 9 days after the trouble began, the patient was found lying in bed free from pain but with the pinched face of peritonitis, abdomen slightly distended and slightly tender to pressure, temperature 98.6° and pulse 120. There had been no bowel movement during 9 days except what resulted from enemas. A small tumor was felt at the saphenous opening so operation was advised and performed without delay.

Under ether the abdomen and hernial sac were opened by an incision dividing Poupart's ligament, revealing about 2 inches of gangrenous ileum in the hernial sac and general peritonitis—affecting both parietal and visceral layers of peritoneum, with a greyish fluid in the peritoneal cavity.

About 4 inches of intestine were removed and the ends united with a Murphy button and reinforced with 1 row of silk Lembert sutures. The mesentery was united by 2 rows of silk sutures—1 on each surface, approximating the serous surfaces and burying the cut edge between them. All the small intestines which could be removed were then drawn out of the abdominal cavity and washed with salt solution and wiped free of lymph while the abdominal cavity was irrigated with salt solution, after which the intestines were returned and the abdomen closed without drainage. The sac containing the gangrenous intestine was dissected out and a gauze drain placed below Poupart's ligament where the sac had lain.

The patient did well for a few days—there was very little vomiting, but the pulse was never less than 110; then profuse diarrhea set in and death occurred December 28.

A partial necropsy showed general peritonitis, the coils of the intestines being glued together and covered with lymph and pus. The coil containing the button was dark-colored and gangrenous for some distance on each side of the site of union. Union had taken place, but the parts were easily torn asunder. The button was free within the intestine and had not moved from its original position.

Remarks: Criticising the treatment of this case in the light of more experience, I should have removed more intestine in order to get into as sound tissue as possible and I should not have eviscerated the patient for the purpose of cleansing. As to whether I should have left in drainage—that is a matter of opinion—there seemed no use for it in this case, as shown by its subsequent course, as there was little or no fluid in the cavity at the necropsy.

CASE III.—*Right Strangulated Femoral Hernia; Resection and Suture; Recovery.*—Mrs. S. J. F.; white; aged 50; native of New York; dressmaker; had been troubled with a right femoral hernia for about 20 years and had worn a truss at times. September 8, 1901, the hernia came down and she could not return it; it became painful and vomiting set in and occurred daily. On the day of operation, at the Emergency Hospital, 4 days later, the twelfth, the vomitus was stercoraceous. A small tumor was seen at the saphenous opening. Under chloroform first, then ether, the sac was exposed by a curved incision with the convexity below. On opening the sac a coil of black small intestine was found, and on relieving the constriction by cutting Poupart's ligament a large quantity of fluid escaped from the peritoneal cavity. Five inches of intestine was removed and the ends united with continuous silk sutures—the first row being through all the coats and the second through all except the mucous. The mesentery was cut parallel

[1] This case was reported in the American Journal of Medical Sciences, May, 1903, under the title of "Volvulus," etc.

with the intestine and united with 2 rows of silk sutures—approximating its serous surfaces above and below so as to bury the cut edges. The radical operation for the cure of femoral hernia was then performed, using kangaroo tendon and closing the skin with silkwormgut sutures.

Calomel and sodium tablets were given next day, but seemed to increase the vomiting which continued with a fecal odor until the eighteenth, 6 days after operation, although the patient was comparatively free from pain—pulse running between 100 and 110, and temperature 98° to 100°. From September 18 to 22 all the symptoms were worse, especially the vomiting, and the patient was expected to die, but the vomiting ceased on the twenty-second, the pulse fell to 110, the bowels acted regularly after this, and the patient slowly recovered, and was discharged November 10—nearly 2 months after operation.

Remarks: The trouble after operation in this case was caused by the long delay after the hernia became strangulated before operation, during which time peritonitis set in.

CASE IV.—*Right Strangulated Femoral Hernia; Gangrene; Resection; Use of Murphy Button; Death.*

J. K., white male, farmer, aged 60 years, native of Ireland, had suffered from a right femoral hernia for 30 years. It came down while he was traveling March 31, 1902, and he could not return it. Next day he had vomiting, hiccough, and violent pain in the abdomen, especially marked in the left hypochondriac region. This was his condition when admitted to Emergency Hospital April 2. The pulse was 100, the tumor was about the size of a goose egg, tense and somewhat tender, but the greatest pain was in the left hypochondrium. It was difficult to convince the patient that a little tumor at such a distance from the seat of pain could be the cause of his trouble, so he would not consent to an operation until April 3, 3 days after the first symptoms of strangulation.

Under chloroform first, then ether, the sac was opened by a longitudinal incision dividing Poupart's ligament. The contents of the sac were found to be 3 inches of gangrenous ileum and a portion of damaged omentum. The omentum was ligated and removed, and on drawing out the intestine for examination, thrombi in the mesenteric veins were found over an area requiring the resection of 18 inches of intestine. A Murphy button was used and one row of sutures for reinforcement—the mesentery being treated in the usual way. The sac was dissected out, ligated above and excised, and the divided tissues united with kangaroo tendon—the skin with continuous silkwormgut sutures leaving a place for draining the former location of the sac.

During the operation the pulse ranged from 120 to 140. Next day the patient seemed better, pulse 96, temperature 98°, and there was less vomiting. April 5 the vomiting was worse, the calomel and sodium given the day before failed to produce a fecal evacuation, although gas was freely passed. April 7 death occurred.

The necropsy showed general peritonitis and gangrene of 3 or 4 feet of small intestine, including the point of junction and extending principally on the proximal side.

Remarks: Evidently not enough intestine was removed at the operation to get beyond the veins which contained infected thrombi and later caused peritonitis and gangrene of an additional portion of the intestine.

CASE V.—*Strangulated Right Oblique Congenital Inguinal Hernia; Gangrene; Union by Murphy Button; Recovery.*—W. C., negro, male, aged 76; native of Maryland; laborer; was admitted to Emergency Hospital March 24, 1903. Patient stated that he had been troubled with hernia for 5 or 6 years, that it came down the day before admission, and that he could not return it. Pain and vomiting followed. On examination a hard, tense swelling about the size of an orange, tympanitic on percussion and without impulse on coughing was seen in the right inguinal region and upper part of the scrotum. His pulse was 110.

Under chloroform the sac was opened about 24 hours after the hernia began to pain him. A coil of black intestine came into view followed by about 100 cc. (3 oz.) of dark-colored fluid. The constriction existed at the internal ring, and required the division of some of the fibers of the internal oblique and transversalis muscles. The intestine was then drawn down, covered with hot moist cloths for 15 minutes, and as there was no improvement in the circulation 8 inches was excised and the ends united with a Murphy button and one row of sutures. The mesentery was treated in the usual way. The coil of intestine resected was the lower part of the ileum. An operation for the radical cure of hernia was then done.

The sac, being continuous with the tunica vaginalis, was not dissected from the cord, but a suture of kangaroo tendon was passed around its neck high up and tied. The conjoined tendon, Poupart's ligament, and external oblique were then sutured together in front of the cord. No drainage.

The patient stood the operation well, and had no serious symptoms afterward. Hiccough was a little annoying for 3 days, and there was no fecal evacuation for 7 days, in spite of calomel and sodium. The button came away without difficulty April 19, just 26 days after its introduction, and the patient was discharged recovered 1 week later.

CASE VI.—*Adenocarcinoma of the Hepatic Flexure of the Colon; Resection; Union by Connell Suture; Recovery.*—J. M., a white male, aged 42, a native of the United States, gave the following history: His father died of pulmonary tuberculosis, his mother of dysentery; 5 brothers and 3 sisters are living and in good health. The patient had painter's colic 7 years ago, grip 10 years ago, and for 3 years in succession.

The present illness began in October, 1901, with constipation and pain in the stomach. About the last of December he began to vomit—at first about once a week, then daily—the constipation being marked and obstinate. Preceding the vomiting there was "heartburn" and violent peristalsis—regular storm waves, with the formation at times of gaseous tumors. These tumors usually occurred in the right iliac region as local, circumscribed swellings, having almost the consistency of solid tumors, but they would disappear after awhile and return again. A diagnosis of stenosis of the intestine about the ileocecal region was made, and the patient operated on March 17, 1902, at the Georgetown University Hospital.

Under ether, the abdomen was opened through the right rectus muscle, and a small, hard, gristle-like tumor was found in the hepatic flexure of the colon, causing rather a constriction of the colon than a swelling. The mesocolon was ligated, the colon detached and 6 inches removed, with 4 or 5 slightly enlarged lymphatic glands. The proximal end was dilated to almost twice the size of the distal end, so it was partly closed with sutures and the 2 ends were united by Connell's suture. The abdomen was closed in the usual way with through-and-through silkwormgut sutures, and catgut sutures to unite the peritoneum and sheath of the rectus.

The patient had an uninterrupted convalescence, and was discharged April 14. Seen a year later the patient was in good health.

CASE VII.—*Adenocarcinoma of the Splenic Flexure of the Colon; Obstruction of the Bowels; Enterotomy and Colostomy; Later Excision of the Splenic Flexure; Union with Connell's Suture; Recovery.*—M. W., a white, male, aged 43, a native of Tennessee, inventor, was admitted to the Emergency Hospital April 7, 1902. The patient had suffered 4 or 5 years with pain in the right side, about the last rib, and had been treated by osteopaths, homeopaths, etc., but with no permanent relief. At the same time there was increasing constipation, from 2 or 3 passages a week to 1 a week, and on admission to the hospital he had not had a passage for 2 weeks in spite of purgatives and enemas. During the last 4 days there was vomiting. The pulse was less than 100 and the patient was not suffering greatly, although the bowels were enormously distended and tympanitic. No tumor could be felt.

Under ether the abdomen was opened through the right rectus muscle, and one of the coils of the distended small intestine was opened allowing the escape of a large quantity of fluid fecal matter, after which the opening was sewed up. The hand was then introduced and search made for the obstruction. The ascending colon was greatly distended, showing that the obstruction was below that point, therefore the dilated colon was traced on until a small, hard tumor was felt in the splenic flexure—the intestine below being collapsed. As the tumor could not be dealt with without making another incision, and as it was advisable not to tax the patient's strength much farther, it was decided to establish an artificial anus and wait until the patient's strength improved enough to justify the removal of the tumor. Therefore an opening was made in the cecum, the parietal peritoneum stitched to the bowel all around the opening and a short distance from it, and the edges of the opening were stitched to the skin.

There were no bad symptoms, and 19 days after the first operation, on April 26, the patient was etherized, and the abdomen opened along the outer border of the left rectus muscle. The colon was found fixed so closely to the posterior abdominal wall that it was necessary to make a transverse incision outward from the center of the first incision. The proximal portion of the intestine was dilated and thickened, the portion distal to the tumor contracted and thin. Four inches of colon with 2 or 3 slightly enlarged mesenteric glands was removed and the ends united with the Connell suture. The abdomen was closed with through-and-through silkwormgut sutures and catgut for the peritoneum and muscles.

The after-treatment consisted in keeping the colon beyond the artificial anus plugged with gauze, so that no fecal matter would pass over the point of junction until it was considered safely united. May 10, 2 weeks after operation, packing of the colon was left off, and after this the evacuations followed the normal route, except what little escaped through the artificial anus.

May 24, 4 weeks after the second operation, the patient was discharged recovered, but still having the artificial anus, which he was advised to have closed later on. August, 1903, 15 months after operation, the patient was seen. He was in good health, had regained his lost weight, the bowels were regular, and by wearing a pad over the artificial anus, he controlled it fully, but he was not yet ready to have an operation done for its closure.

CASE VIII.—*Laparotomy for Typhoid Perforation; Cancer of Colon Discovered; Resection; Death.*—R. C., a white male, aged 50, a blacksmith by occupation, was admitted to Georgetown University Hospital, April 15, 1902, with a diagnosis of typhoid fever, although the patient said he had typhoid fever when 15 years old.

On admission, the pulse was 96, temperature 100.6°, respirations 20, mind perfectly clear; his tongue was dry, pointed and

tremulous. Calomel 16 mgs. (¼ gr.) every half hour till 13 cgs. (2 grs.) were taken was ordered, to be followed by 15 gms. (½ oz.) of magnesium sulfate. Three passages occurred between the fifteenth and seventeenth. Early in the morning of the seventeenth he was seized with severe cramps in the bowels and vomiting. These symptoms continued until I saw him at 11 o'clock that night, about 17 hours after the cramps came on. At that time the pulse was so rapid that it could not accurately be counted, but was estimated to be from 160 to 200; vomiting about every 5 minutes, mind perfectly clear, great thirst, abdomen soft throughout, not distended, but tender in both iliac regions; tympany on the left side, and dulness on the right extending from the iliac fossa to the liver. A diagnosis of intestinal perforation and peritonitis was made, and under ether, laparotomy was immediately performed.

On opening the abdomen general peritonitis was found—the intestines being covered with lymph and the peritoneal cavity containing at least 1000 cc. (1 quart) of peasoup-like fluid. An opening large enough to admit the end of the little finger, was found in the ileum about 20 inches from the cecum and was closed transversely by a single row of Lembert silk sutures. The intestines were drawn out, wiped off with gauze and the peritoneal cavity irrigated with salt solution. In exploring the abdominal cavity with the hand a tumor of the sigmoid flexure about at its junction with the rectum was discovered and in examining it the finger was accidentally thrust through the intestinal walls at the site of the tumor. This required resection which was hurriedly done—the upper end of the rectum being closed while the lower end of the colon was brought out and stitched to the skin. Gauze drains were provided. Death occured on the nineteenth, 33 hours after the operation.

Necropsy: Intestines inflamed and adherent. Lower part of small intestine dark-colored and contained 12 ulcers—round, oval or irregular in shape—varying in size from ½ cm. to 2 cm. (¼ in. to ¾ in.) in diameter—most of them situated with their long diameter transverse to the intestine and on the opposite wall from the mesenteric attachment. No other perforation was found. The spleen weighed 210 gms. (7 oz.) and was larger and softer than normal. The tumor removed from the colon showed under the microscope the typical structure of an adenocarcinoma.

CASE IX.—*Tumor in the Hepatic Flexure of the Colon; Resection and Union by Murphy Button; Death.*—J. W.; male negro, aged 29 years; native of Virginia; laborer; admitted to Emergency Hospital June 8, 1902. This patient gave a history of constipation and pain in the bowels extending over a period of 3 or 4 months. A week before admission complete obstruction set in, and there was great pain, with abdominal distention and vomiting. On the morning of the operation, June 9, the pulse was 120, temperature 97.4°, skin cool, abdomen tympanitic all over, but less so in the left iliac fossa than elsewhere. The abdomen was opened through the right rectus muscle and the bowels evacuated through an opening in the small intestine, which was afterward sutured.

The bowels having collapsed somewhat, search was made for the obstruction. As the sigmoid flexure and the transverse colon were collapsed, it was evident that the obstruction was above that point, and it was found as a hard lump in the hepatic flexure of the colon, lying on the right kidney. Owing to the immobility of the intestine a transverse cut was necessary in order to gain access to the tumor. Four inches of intestine was resected, and the ends united with a Murphy button and 1 row of sutures. The abdomen was closed in the usual way. Death occurred from exhaustion 7 hours after the operation.

The tumor removed was hard like gristle, looked like a cancer, and produced complete obstruction of the bowel, but the pathologist who examined it said that it did not have the histology of cancer.

Remarks: This patient's life would have been saved in all probability had he been operated on a week sooner. It might have been better to establish an artificial anus and later on remove the tumor.

A UNIQUE CASE: MOLLUSCUM FIBROSUM OF THE RECTUM IN A PATIENT WITH THE TYPICAL SKIN LESION.[1]

BY

A. B. COOKE, A.M., M.D.,

of Nashville, Tenn.

Professor of Anatomy and Clinical Professor of Diseases of the Rectum, Medical Department, Vanderbilt University; Secretary American Proctologic Society, etc.

To designate any pathologic condition as unique is at the present time somewhat hazardous, in that it in a sense challenges all past experience and invites disputation. The term is here employed from no such motive; and in order that my intention may be clearly understood, a preliminary word of explanation seems advisable. The cutaneous affection, molluscum fibrosum, is itself extremely rare, occurring only 86 times in the 112,775 cases of the American statistics (1 in 1,311). Most authorities regard and describe it as strictly a skin disease. Jackson casually states that it may present on mucous surfaces; Van Harlingen incidentally alludes to the fact that it has been encountered postmortem in the viscera and in the course of the nerves; and Crocker briefly refers to a case in which several of the lesions were found in the buccal cavity. In none of the works consulted is it even intimated that the intestinal mucosa may be the site of such pathology.

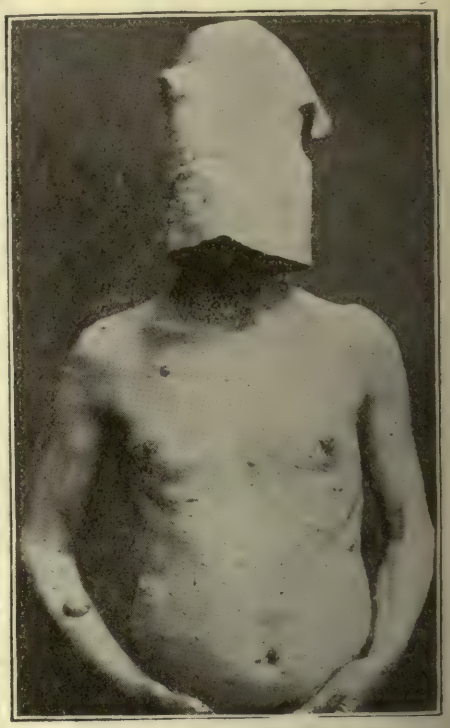


Fig. 1.

Likewise the literature of rectal diseases is silent upon the subject, though fibroid tumors or polypi of this viscus are referred to by most modern authors and have probably been encountered by the majority of workers in this field. The feature, therefore,



Fig. 2.

of the case to be reported, which justifies the adjective "unique," is not the skin disease, nor the occurrence of multiple fibroid tumors in the rectum, rare though both

[1] Read at the fifth annual meeting of the American Proctologic Society, New Orleans, May 6, 1903.

these conditions are; but rather the association of the two conditions in the same individual, and the further fact that the mucous and cutaneous tumors were identical in structure.

CASE.—C. A. D., white, aged 43, a civil engineer and native of Tennessee, was referred to me from a remote county, in May, 1902, with the diagnosis of cancer of the rectum.

Family History.—Parents are both living and in good health. There is no history of skin or of rectal disease in any member of the family.

Personal History.—He has had the ordinary ailments of infancy and childhood, is a moderate user of alcoholic stimulants and tobacco since boyhood, and has never had any previ-



Fig. 3.—Fibroma molluscum from rectum. Surface of tumor. Photographed by Louis Leroy, M.D., of Nashville, Tenn.

ous skin disease. The tumors began to appear on the skin about 1880, developing very gradually, and being noticed first on the face, with the exception of a single large one on the right forearm, which was present from infancy and called "a birthmark." He was vaccinated in 1880, and is certain the tumors increased much more rapidly in size and number afterward. The present typical appearance is well shown in the accompanying photographs. (Figs. 1 and 2.)

First trouble with the rectum occurred when 13, at which time protrusion followed a costive stool. For a number of years he was compelled to replace the protrusion after every stool, and occasionally he was forced to go to bed for several days on account of the pain. A free discharge of blood and mucus usually terminated these attacks. He was of costive habit up to 9 years ago, when diarrhea with partial loss of sphincter control suddenly supervened. This condition became worse, and the protrusion greater until 4 years ago, when the protruding tumors were removed. No relief followed the operation and the diarrhea grew worse until the patient was having from 6 to 20 stools a day, composed largely of bloody mucus. The protrusion also recurred, and was treated a number of times by the injection method. Patient became bedridden in March, 1902, at which time he had lost nearly 50 pounds in weight, had no appetite, digestion greatly impaired, constant pain located chiefly in abdomen and back, and he was taking .048 gm. (¾ gr.) of morphin daily. Early in March he was given an anesthetic by his physician, and a diagnosis of "cancer" was made.

Physical Examination.—Patient is emaciated, sallow, nervous and despondent. He has had at least a dozen calls to stool during the preceding 24 hours. Sphincters are relaxed and perianal integument is red and excoriated from the irritating discharges. Anal canal is patulous in spite of numerous sensitive abrasions. On introducing the proctoscope and withdrawing the obturator the bowel was seen to be almost completely filled with polypoid tumors, many of them ulcerated and bathed in a profuse, tenacious, mucopurulent, bloodstained secretion of exceedingly offensive odor. The growths began in the lowest rectal chamber, springing from all sides indifferently and varying in size from a birdshot to an almond. The largest were uniformly pedunculated, those intermediate in size had sessile attachments and the smallest appeared as mere elevations under the mucous membrane. Owing to the general inflammation and hyperplasia the rectum was only partially inflatable and the first examination was necessarily limited to the lower six inches. Later it was found that the lesions extended well into the sigmoid colon, though above the rectosigmoid junction they were much fewer in number, smaller in size, and were attended by less inflammation of the mucosa. Beginning below, the tumors were removed by torsion with the forceps and by biting them off with a curet against the sharp end of the proctoscope. The hemorrhage was rather free so that it was only possible to remove a small number at a sitting. The operation was repeated from time to time during a period of 3 weeks when the bowel as high as could be seen was clear of all but the smallest tumors.

Altogether some 60 of the growths were removed. No anesthetic was employed and the patient at no time complained of pain. His general health improved rapidly. At the end of the 3 weeks his weight had increased 25 pounds and the discharges had diminished in frequency and amount to the extent that he was comparatively free from discomfort. After 4 weeks' treatment he returned to his usual occupation and with the exceptions of a slight uneasiness in the rectum and an occasional discharge of mucus, has remained well. Nine months later 6 or 8 additional tumors of moderate size were removed. Whether these had escaped former notice or grown larger I am unable to say.

The tumors were preserved as they were removed from the rectum and, together with several from the skin which the patient consented to sacrifice in the interest of science, were submitted to Dr. Louis Leroy of Vanderbilt University, to whose kindness I am indebted for the accompanying report and microphotographs. (Figs. 3 and 4).

FIBROMA MOLLUSCUM OF THE RECTUM.

The specimen selected for examination was nearly spherical and about 1 cm. in diameter. The mucosa covered about half of its surface, the other half being rather smooth fibrous tissue, appearing as if the tumor had been encapsulated and shelled out of the capsule. The tumor was firm in consistency but not dense enough to "creak" under the knife when cut.

A microscopic examination showed a covering of normal mucosa with crypts dipping down into the main bulk of the growth. These crypts seem to be somewhat proliferated and



Fig. 4.—Fibroma molluscum from rectum. Deep portion of tumor. Photographed by Louis Leroy, M.D., of Nashville, Tenn.

have a tendency to branch out in their lower ends. They run rather irregular courses, probably owing to the distortion produced by the adventitious tissue which has developed between them and in the submucosa. All of the tubules of the crypts are patulous and there are no "blind" tubules nor any retained secretion in any of them. The epithelium lining the crypts is all regular and normal, no evidence of proliferation being found anywhere. The tumor itself is composed mostly of white fibrous tissue although in some areas the structure is quite open and in these locations many branching cells occur mixed with the fibrous tissue, giving the structure of mucous tissue. This myxomatous tissue is much less in amount than that in the tumors from the skin of the same patient. The

elastic tissue is not increased in amount, but there is a considerable infiltration of leukocytes and the fibrous tissue is exceedingly rich in cells.

Altogether the tumor is identical in structure with the specimens of fibroma molluscum which were examined from the great number upon the surface of the body. There is no evidence of adenoma or malignant epithelial growth.

GROWTH AND DEVELOPMENT OF CHILDREN IN COLORADO.[1]

BY

CHARLES F. GARDINER, M.D.,

AND

HENRY W. HOAGLAND, M.D.,

of Colorado Springs.

We have to offer in the following paper simply a preliminary study of the physical differences that exist in the development of boys and girls under different climatic conditions. We have, therefore, during the past 2 years measured over 1,000 public school children of Colorado Springs, Col., and compared the average measurements so found with the results obtained by Dr. W. S. Christopher, of Chicago,[2] and Dr. William Townsend Porter, of St. Louis, upon a large number of public school children in those cities.

It is probably not necessary to mention the fact that climatologically considered, there is a marked and decided difference between the climatic environment of children living in Colorado Springs and those who inhabit the cities of St. Louis and Chicago—a difference great enough, we decided, to produce physical changes in Colorado Springs children, that a careful comparative measurement analysis would show, especially when taken during the susceptible period of adolesence, and upon organs of structure naturally adapted to be subject to climatologic change, as the lungs and bony framework of the chest under diminished atmospheric pressure, the weight and height as influenced by an excess of sunshine, outdoor air, and exercise. We regret that owing to our inability to find any reliable data regarding measurements of school children living in a small town in the East, we have been forced to make our comparisons with those of children living in large cities. We felt that possibly too much unproved theory regarding climatic effects such as we were studying had been indulged in and too much stated as a fact for which there was no scientific data. We therefore endeavored to be as strictly accurate as it was possible to be and to avoid the tendency to have figures fit with preconceived ideas. Our technic consisted in taking age, weight, height, inspiration measure of chest, expiration measure

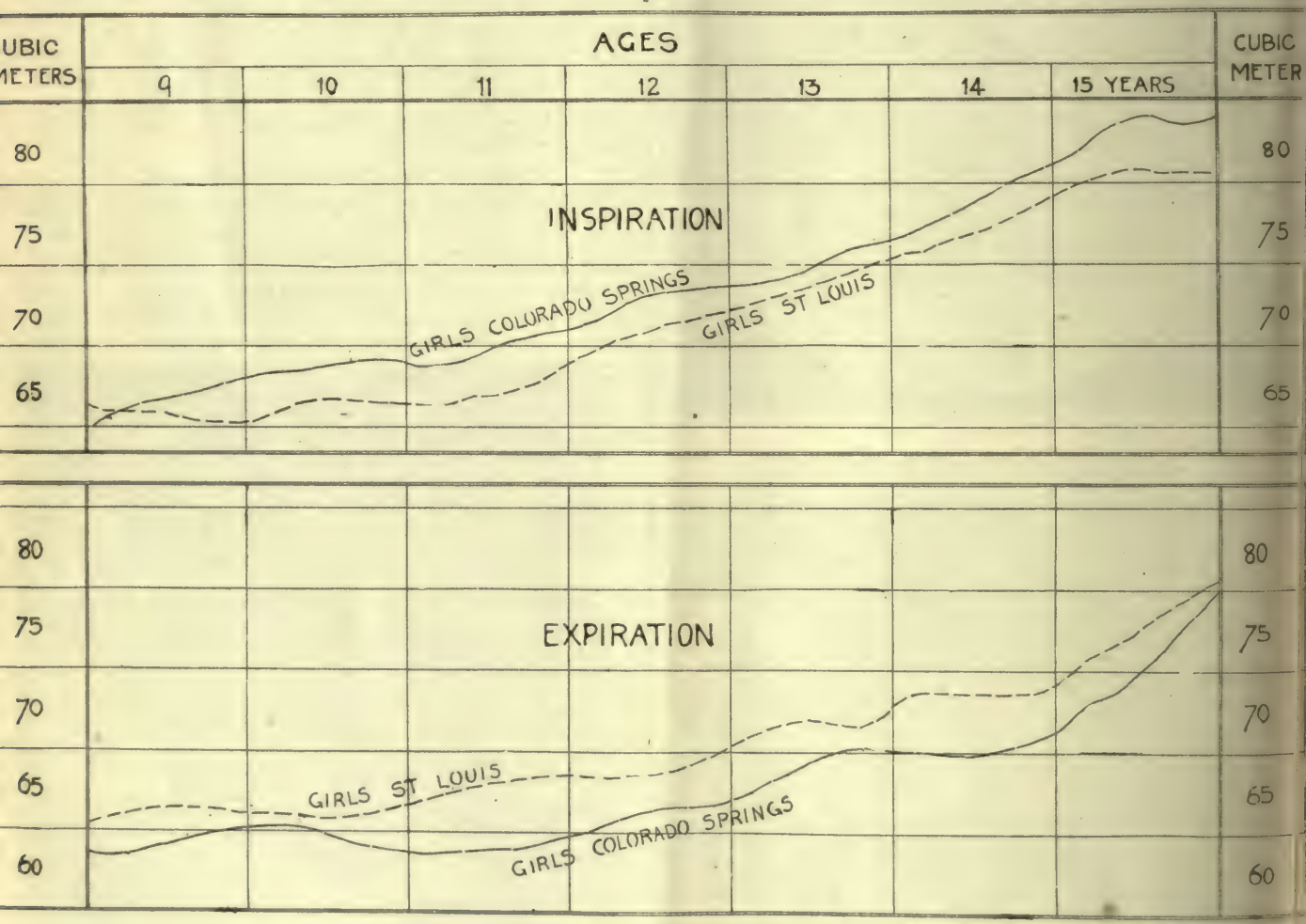


CHART SHOWING AVERAGE CHEST MEASUREMENTS. GIRLS OF COLORADO SPRINGS (NATIVE BORN), COMPARED TO GIRLS OF ST LOUIS.

[1] Presented before the American Climatological Association, at the meeting in Washington, May 13 and 14, 1903.

[2] Transactions of the Academy of Science, St. Louis, Vol. vi, No. 12. The Growth of St. Louis Children, April 14, 1894. Report of Committee on Child Study and the Pedagogic Investigation, Chicago, Ill., 1899.

of chest, the thoracic perimeter, and time in Colorado. Every child was measured by a special sliding scale with arm (with shoes on), weight taken at the same time of day with ordinary indoor clothes on and by a Fairbanks scale tested daily. The chest measure was taken by a steel tape at a level of the nipples in boys and slightly above for girls, the clothing being removed to the undergarments. Full inspiration and expiration were induced as far as possible, but in many cases it was found very difficult to accomplish this, and in some few cases the measurements were rejected on this account. The vital capacity was taken on a wet spirometer, the same instrument used by Dr. Christopher in his work in Chicago. Each child was given only 3 trials to attain the highest point. This differed from the technic used in Chicago, as the children there were given repeated trials until the highest point possible was attained. The measurements from all the children of one age from 9 to 16 were averaged and the result compared with the average for the same age found at St. Louis and Chicago. The results were charted and compared with charts that were made by us from averaging the measurements of the children in eastern cities. Ages were computed from the last birthday as being practically accurate. The average monthly increments were not taken. We only measured children who had lived over 2 years in Colorado Springs, as we did not consider less time spent at 6,000 feet altitude, enough to modify decidedly, physical structure. The results were tabulated into 2 groups—those of the children who had lived 2 years or over in Colorado Springs and those who had been born and had lived in Colorado Springs since birth. As the first group showed only to a less degree what the second or native group showed to a more marked degree, we selected the latter, as we judged that native born children were the best standard for accurate comparison for many reasons.

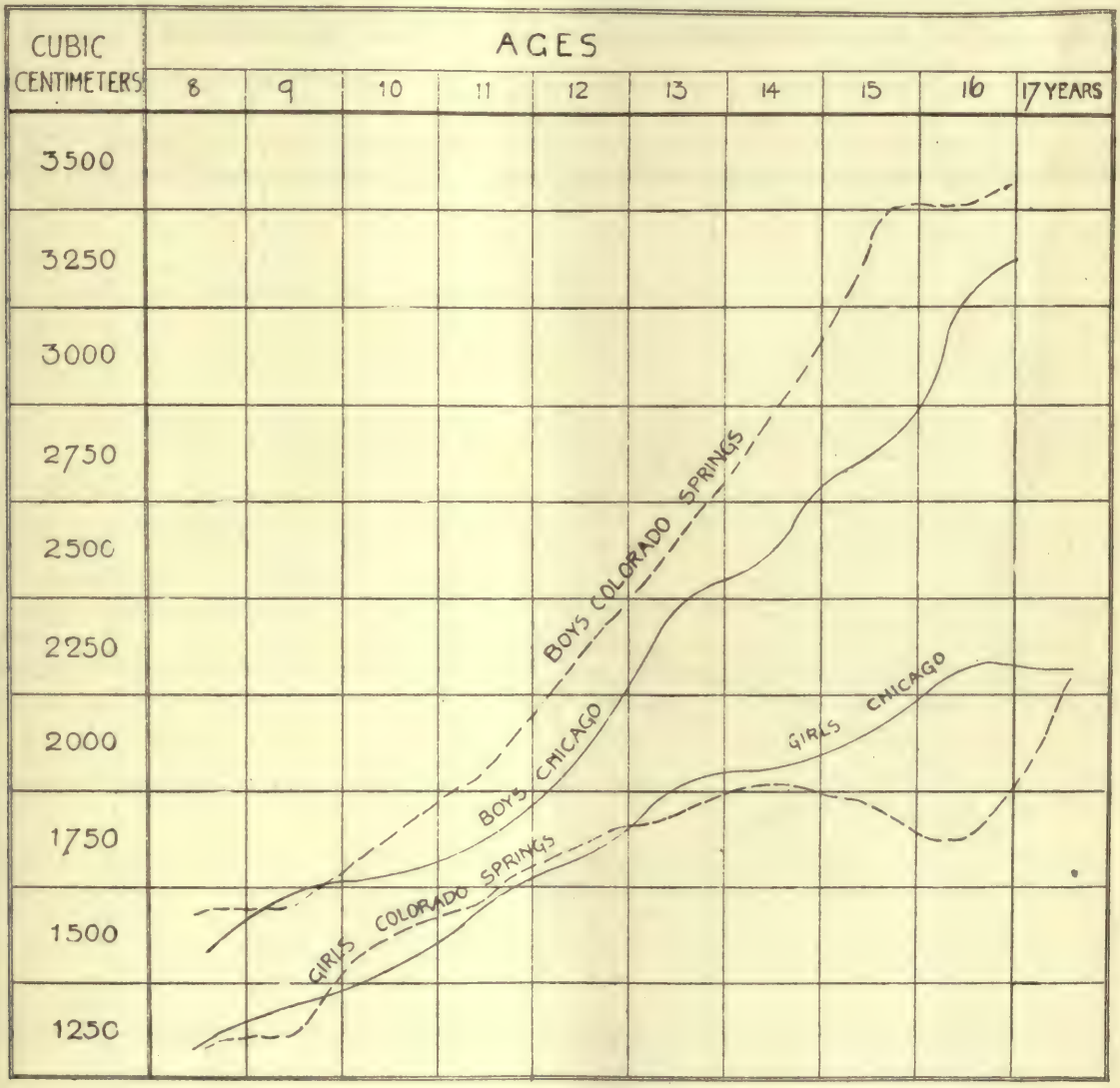


CHART SHOWING LUNG AIR CAPACITY BY WET SPIROMETER BOYS AND GIRLS BORN IN COLORADO SPRINGS, COMPARED TO BOYS AND GIRLS OF CHICAGO, ILL.

BOTH FROM PUBLIC SCHOOLS

There are necessarily some differences between children living in Colorado and those living in Chicago and St. Louis not dependent upon climate at all, which might possibly influence our results in any comparative study; for instance, heredity—a large number of our children living in Colorado Springs were born of tuberculous parents (the exact number being very difficult to estimate, but certainly enough possibly, to modify ser-

iously the development of a child, if, as some consider, physical characteristics are inherited). The nationality was probably more largely American than in the cities in the East, but this point, although important, we were unable to ascertain. The physical culture given the children as having a direct bearing upon development was probably one of the most important points to consider aside from climatic influence. This was found to be in favor of the children in the eastern schools who had regular classes for physical culture while the children living in Colorado Springs who were measured depended almost entirely upon their usual play and games and had no such special exercises tending to increase chest or vital capacity except to a comparatively limited extent.



CHART SHOWING AVERAGE HEIGHT IN MILLIMETRES. BOYS OF COLORADO SPRINGS (NATIVE BORN) COMPARED TO BOYS OF CHICAGO.

Probably the children in Colorado were as a class better nourished, clothed and housed than those in the East, and had, of course, a further advantage of not living in a closely built city. This would of itself, possibly, make some difference. The hours confined in school were the same in both climates. It is of further interest to note that the children measured in the Chicago schools were, it is stated, superior in size and physical development to those measured in other eastern cities, so that our averages were compared with the best, or a high eastern average of measurement to a large degree. We also recognized that the social condition of the children was important as it has been found that the favored class differs from the poor in favor of the higher physical development of the former. On this point, however, we could find no pronounced difference more than we have stated before. The poor in Colorado Springs are, generally speaking, under somewhat better physical environment than the poorer classes in the East, but it is also true that perhaps the favored class do not use the public schools to the same extent, so that all factors considered, we can say that the comparison between the children of St. Louis or Chicago in the public schools and those in Colorado Springs in the public schools offers no more unusual conditions than a comparison between public school children of any city and those in a town of 30,000 inhabitants, the only exception in our case being the large tuberculous inheritance and the climate.

The climatic factor present in Colorado Springs consists of an altitude a mile or more (6,100 feet) above sea level, a rainfall of 14 inches annually, a low humidity, and a condition of climate that allows playing in the open air, with a few exceptions, every day in the year, cool in summer, cold and dry in winter, the soil gravel for 60 feet in depth, with natural surface inclination for drainage.

It is an opinion frequently expressed and generally believed, that the inhabitants of high altitudes have an increased chest measure. Such records as we have been able to consult on this subject have been measurements taken at unusually high altitudes (from 12,000 to 18,000 feet), and without exception, in the case of individuals

who were engaged in such hard labor as carrying heavy loads or climbing over a very rough and precipitous country, or upon natives who had inhabited such elevated regions for many generations. No doubt, among parts of Colorado settled by hardy pioneer stock, inured to hardship and living an outdoor life, constantly engaged in hard muscular exercise, we should also find a high chest measurement, only at least partially due to altitude; but in Colorado Springs our people live on a plain and not in among the mountains, so that mountain-climbing is not a factor in everyday life. Indulging in hard labor is also the exception and not the rule or usual occupation of the inhabitants. Also, the children we measured represent but one generation

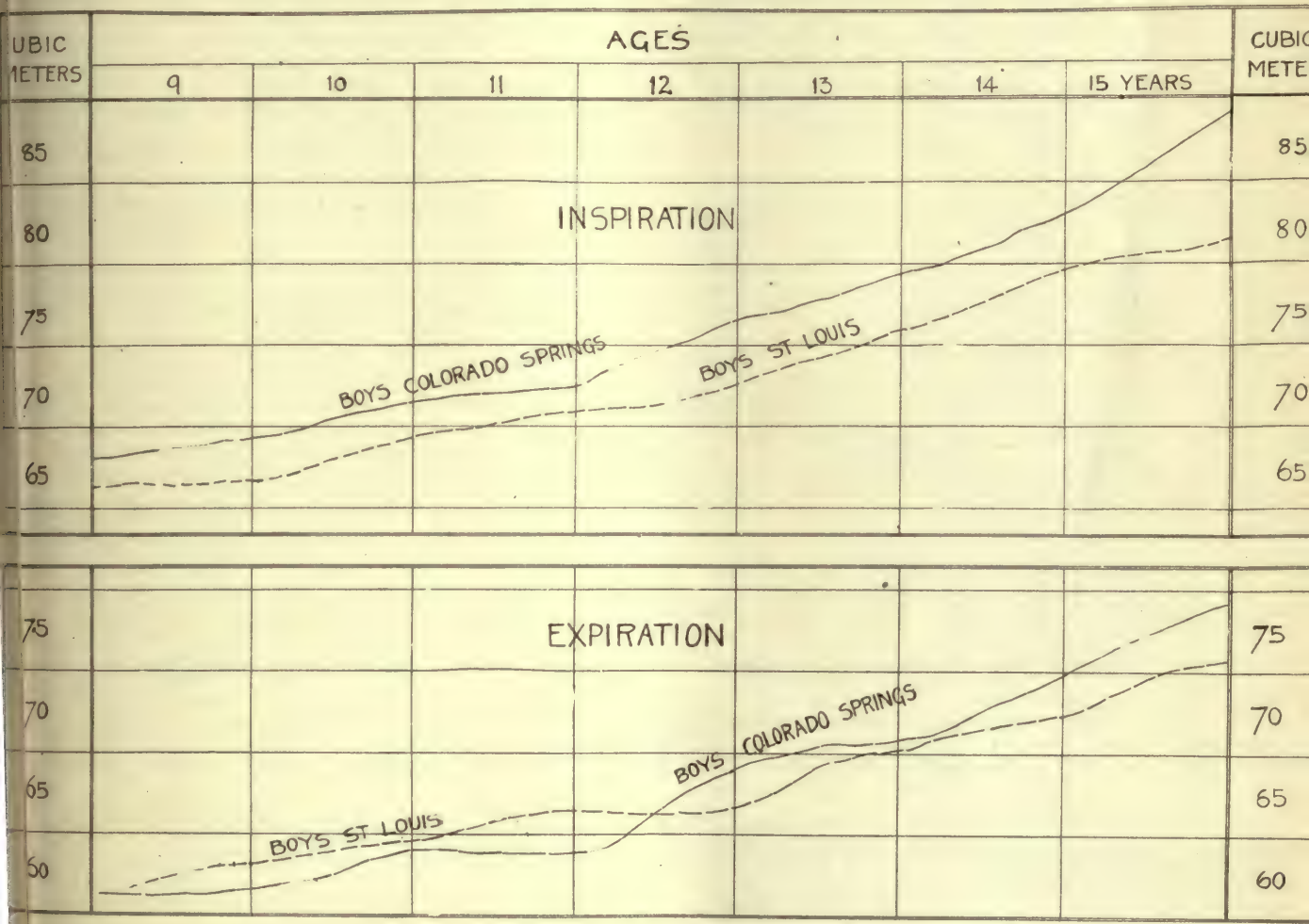


CHART SHOWING AVERAGE CHEST MEASUREMENTS BOYS OF COLORADO SPRINGS (NATIVE BORN), COMPARED TO BOYS OF ST LOUIS

removed from low altitude dwellers, and, most important of all, a large percentage, which we roughly estimated at between 50% and 60% of our children, were directly descended from parents, one or both of whom were invalids, suffering from tuberculosis, and living in Colorado Springs to recover their health. In such instances the child was born after the disease was advanced far enough in the parents to make a climatic change a necessity. Such children are not usually supposed to possess a marked advantage in physical structure over children of normally healthy parents, but on the contrary, will possibly often show a tendency toward some physical defect directly inherited. At least this we would expect to be true under ordinary climatic conditions. We therefore were measuring children who had inherited to a large degree what we may call a diminished vitality, but who were born and had lived under climatic conditions said to be antagonistic to such diminished vitality or to any tuberculous taint. Our results, as shown by the charts, corroborate the popular idea of an increase of chest measurement at 6,000 feet altitude in individuals born and living at such altitude; but our charts show more than this. Our comparisons proved not only greater girth of chest and vital capacity in native born Colorado children as compared to children in St. Louis or Chicago, but we further found that in exactly the same ratio, the Colorado children were taller and weighed more. This was constant, and occurred almost without exception at all ages from 9 to 16. So it would seem from this result that we have in Colorado Springs a climatic factor, which, directed toward development, induces a greater respiratory range, a better oxidation and increased cardiac power, so stimulating nutrition as to produce a child above the normal average in chest measure, vital capacity, height, and weight. It appears as if nature, working upon the development of children at this altitude, does not develop one organ or organs while the others lag behind, but stimulates the entire structure to a symmetric development. This result is, no doubt, due to many causes, such as primarily thin air, and a dry soil, with an excess of sunshine, enabling children to play out of

doors both summer and winter. Perhaps extra care is given the children instinctively, the parents fearing a repetition of their own disease in the offspring.

tinue it, and by studying the nervous system at the above ages, to determine by comparative tests the normal for Colorado Springs.

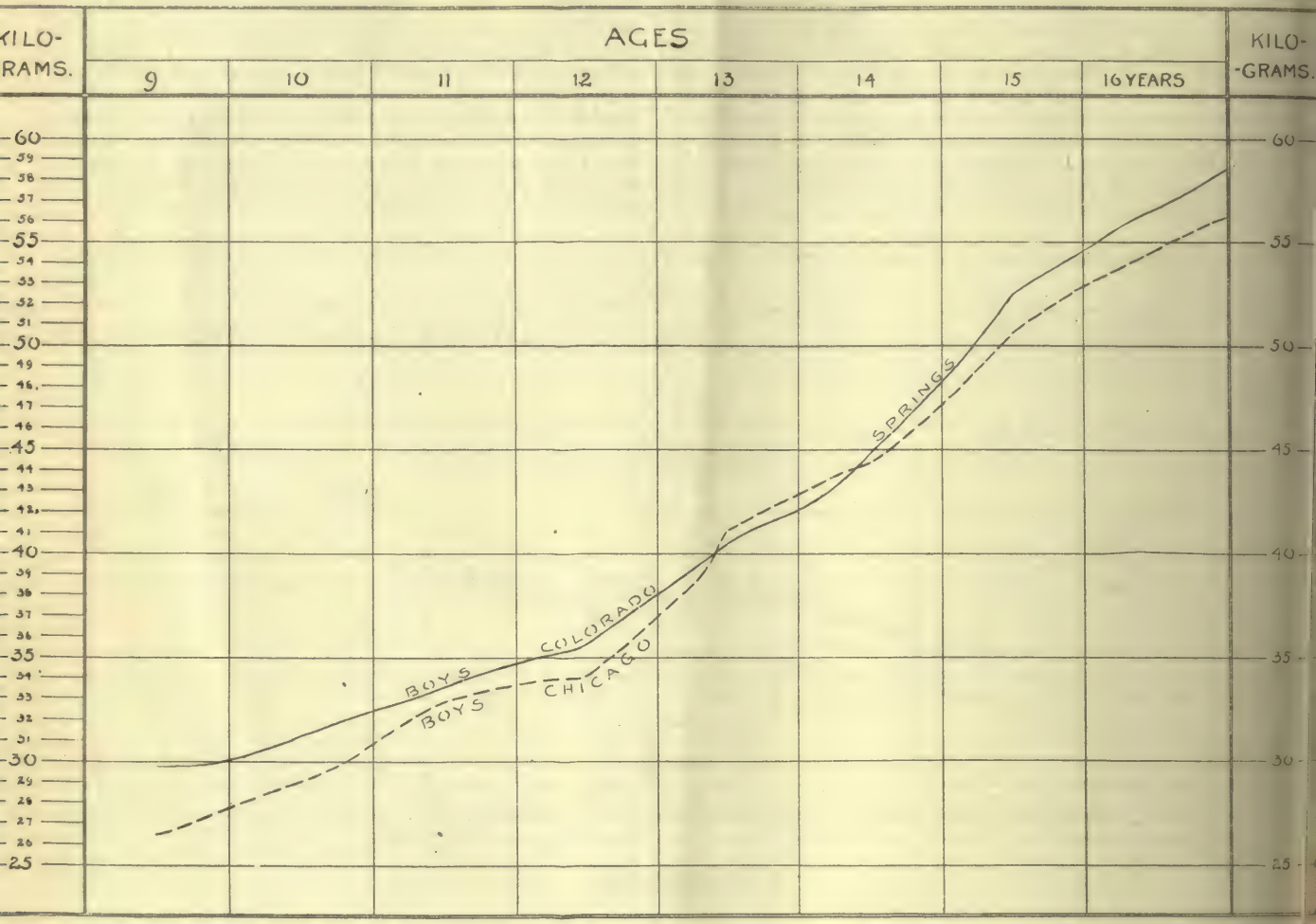


CHART SHOWING AVERAGE WEIGHT IN KILOGRAMS. BOYS OF COLORADO SPRINGS (NATIVE BORN) COMPARED TO BOYS OF CHICAGO.

Only further study in the years to come can determine these points. While, of course, it is still uncertain without further comparative tests, it is, we think, reasonable to suppose that the mental growth of native born Colorado children is also in advance of the normal; certainly the inference is very strong, as, from Dr. Christopher's work in Chicago, it was proved and shown to be a law, that physical development occurs, corresponding with increased mental power.[1]

We are well aware that this little work of ours is not final, and in the future we hope to be enabled to con-

[1] It is clear from the foregoing charts and tables, that on the average those pupils who have made great intellectual advancement are on the whole taller, heavier, stronger, possessed of greater endurance, and larger breathing capacity than those who have made less advancement. These observations also indicate that a physical factor, as well as the intellectual one now entirely relied upon, should be introduced in the grading of pupils. This physical factor is particularly desirable in determining the fitness of children to enter the first grade, where so many children under the legal school age, are entered by misguided parents to the great detriment of the children. In this connection, mention must be made of a fact wellknown to all. In every school there are a few pupils who are small in stature and light in weight, and yet exceedingly bright in their school work. It is not very uncommon to find that the best pupil in the room is the smallest, and possibly the youngest. These small bright pupils constitute a class by themselves, they are exceptions to the general rule, and must, like all exceptions, receive special consideration. Such children cannot be considered normal, and I venture the assertion that the true explanation of them will be found to be of greater medical than pedagogic interest.

THE USE AND ABUSE OF FRESH AIR AND OVERFEEDING IN TUBERCULOSIS.[1]

BY

W. H. PRIOLEAU, M.D.,

of Asheville, N. C.

It is no longer a disputed point that the treatment which offers most to the patient with pulmonary tuberculosis is the hygienic-dietetic method. However, as is always the case in each new treatment, in our enthusiasm to progress rapidly, we swing the pendulum too far and often destroy the just balance. Fresh air in abundance is to be desired above all else in the treatment of tuberculosis, whether the patient live in the city or in the country. The sleeping-room should be so ventilated that he can get a complete change of air at each respiration. Such perfect ventilation is seldom possible. Experience shows that the only way for a patient to get sufficient fresh air is to live out in the open. Most tuberculous subjects, by training, can be taught to do this; with some the teaching is more difficult than with others. We can reach this latter class only after hard work and much humoring. For various reasons such patients

[1] Presented at the twenty-ninth annual meeting of the Mississippi Valley Medical Association, October 7, 8, 9, 1903, at Memphis, Tenn.

find living outside uncomfortable and irritating; and because of the mental effect, it is not advisable in beginning treatment to compel them to adopt a distasteful mode of life. The aversion that some people have toward abundant fresh air is remarkable; there are many who object to it as a constant factor, although a most powerful agent in their cure. For such persons moral persuasion and gradual education will accomplish more than a sudden overthrow of their prejudices. To do this, make the patient's room comfortable and gradually increase the supply of fresh air until he lives day and night with all windows and doors open. As he becomes accustomed to the free circulation of air and becomes less prejudiced about the danger of draughts, colds, etc., he will object less to the open-air treatment, until he actually feels his dependence upon it for comfort. With this point gained the best part of the battle has been won. It cannot be questioned that the patient who breathes hourly, pure, fresh air, other conditions being equal, has an excellent chance for recovery. An important point in this treatment is that the patient be comfortable at all times. Being outside on a cot, uncomfortable and fretted, is of less advantage than being indoors and comfortable. If not warm in the open air and he cannot be made warm there, it is better that he should return to his room. Nothing is more unpleasant to an invalid than being cold; likewise there are few things more harmful. Besides the discomfort of it, cold stops digestion, chills the periphery of the body and congests the internal organs.

It has been claimed that where a certain disease is indigenous, there nature has also placed the cure. Since tuberculosis exists in all parts of the world, we must admit that everywhere we have at our command this means for curing it; the best germicides for the tubercle bacilli, according to our present knowledge, being fresh air and sunlight. The question then arises; if this remedial agent can be had at home as well as at a distance, why subject the patient to exile, and in many cases, alas, inflict mental distress by incurring extra expense? The answer is simple:

1. Clinical experience shows that at certain elevations tuberculous patients convalesce more rapidly.

2. The farther away a patient can get from a city or town, the purer the air.

3. A patient remaining at home will not carry out the fresh-air treatment as conscientiously as when at a resort, with his cure as his only object. Also at a sanatorium he is not alone in his mode of life.

4. Business worries, when near at hand, consume one much more than when removed from the scene of them.

5. At resorts, physicians from their constant dealing with tuberculous patients are perforce specialists, whereas the general practitioner at home has neither the time nor the inclination to treat tuberculosis in all its infinite detail, and for obvious reasons does not get the same results as are now obtained at sanatoriums.

The proper feeding of the patient is equally as important as fresh air in the treatment of tuberculosis; one is dependent upon the other, and the two working together produce the cure more often than any other plan of treatment. It is in the nourishing of a patient that most of us err. Either we are not sufficiently careful in telling him what he may eat and how much he must eat; or else without due regard to the individual's digestive and assimilative powers, we order a full tuberculosis diet and insist upon its disposal in 24 hours. Ordinarily the digestive powers of a tuberculous patient are poor, and if we overburden and consequently upset the stomach we lose our sheet anchor.

"Many good stomachs are ruined by stuffing." [1]

Forced feeding destroys any natural appetite a patient may have. A healthy appetite for 3 meals a day is more wholesome than forced feeding 6 times a day. If one enjoys 6 meals a day, so much the better, but without the relish 3 meals a day will give better results than 6 when enforced. A tuberculous person should never know hunger, but he should be allowed the privilege of an appetite. As the appetite is generally poor, he should be required to eat more at the 3 principal meals than he feels like doing; that is the proper time for superalimentation, for it is a known fact that a patient with tuberculosis can digest and assimilate more than he feels like eating. When too much food is eaten the excess passes away undigested or unassimilated, it does not assist in the human economy, but on the contrary retards it. Nature is accommodating and will allow an extra strain occasionally, but sooner or later an overtaxed system will rebel, and then follows a clinical picture familiar to all. A socalled bilious attack comes on, the patient loses his appetite, his tongue is furred, whites of the eyes are yellow, skin is thick, he has a foul taste in his mouth and feels altogether miserable. By injudicious forced feeding we have undone what we were endeavoring most to do; whereas had we gone more slowly, the patient may not have gained flesh so rapidly as under superalimentation, but then he would not have had the bilious attack to make him lose what he had gained. A slow but sure progress is much better for a tuberculous patient than rapid gain in weight followed by a digestive upheaval. Ordinarily the stomach empties itself every 3 or 4 hours, but if we are continually putting food into it we never allow it either to empty itself or to rest. Also we are always mixing undigested with partly digested food and the perfect chyme is never formed. The undigested food remaining in the stomach or intestines ferments; some of the gas passing up the esophagus and out of the mouth makes the breath unpleasant and decays the teeth. The rest of the gas fills the bowels and produces gaseous dyspepsia, a complaint in itself most disagreeable.

The food that causes least harm when eaten to excess is the nitrogenous. It is a tissue builder and does not produce fat. When undigested it passes away in a state of putrefaction. When digested, but not assimilated it gives the liver and kidneys extra work to do.

Carbohydrates, eaten to excess, produce fat, and while fat is good fuel to have stored up for an emergency, it does not necessarily follow that an increase of weight means an improvement in the condition of the diseased lungs. Too much fat tends to soften the muscles, and produce a general fatty infiltration of the organs of the body.

The most injurious of all foods are the starches. After a certain amount has been digested and taken care of by the body, the rest remains to produce acid and gaseous dyspepsia.

The quantity of food that a patient can dispose of in 24 hours depends upon 2 things, the digestive power and the daily exercise. It stands to reason that one who is at rest on a cot cannot digest as much as one who exercises. During exercise the body uses up more food and the human economy demands more to take the place of that which has been disposed of. How are we to tell the quantity of food that a patient can digest and assimilate in 24 hours? Just as we make stated examinations of a patient's sputum to find out the increase or decrease of the number of tubercle bacilli, so ought we to examine periodically the feces to find out the state of digestion. There is no way of telling whether the food is assimilated except by the subjective and objective symptoms of the patient, but there is a way of telling whether digestion is going on as it should, and we ought to use that means just as we use all others at our disposal to effect a cure. Physical examination of the stomach by percussion would be an assistance in finding out if dilation be present. Examination of the contents of the stomach would tell us the

[1] Things Every Tuberculous Patient Should Know. Stevens.

length of time it takes the stomach to dispose of a meal. As regards diet, eggs, milk, cream, beef, mutton, fats, bread and butter are the principal foods. After a patient has eaten a good meal of some of these, then allow him articles of less value; at no time permit him to ruin his digestion by eating pastries, greasy foods, or much sweets. Supply fresh air and nutritious food to each patient, according to the comfort of his body and the power of his digestion, remembering always that the personal equation enters into each case that is under your care.

A CONSIDERATION OF GENERAL ANESTHESIA WITH A PRESENTATION OF INSTRUMENTS.[1]

BY

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The action of an anesthetic is produced by direct influence upon the cerebrospinal nerve centers.

Indications for Its Use.—To relieve the pain of operative work; of childbirth; to overcome the general spasm of strychnin poisoning, of traumatic tetanus, and of puerperal, hysteric and uremic convulsions; muscle spasm in fracture and dislocation; and for the relief of pain and to secure relaxation during the passage of gallstones or kidney stones.

Selection of Anesthetic.—Use ether by choice when the administrator is inexperienced, in atheroma and organic heart disease. Loud murmurs denote power of muscle, therefore any anesthesia is safer than when the low murmurs show poor compensation.

Use chloroform in brain and eye work in the presence of lung or kidney disease.

Use nitrous oxid as a preliminary to other general anesthetics, to regain motion in ankylosed joints. Nitrous oxid is counterindicated in atheroma and aneurysm.

Ethyl bromid is prompt in action, pleasant like chloroform, and safer, in that it does not depress the heart. It sometimes produces anesthesia without unconsciousness.

Administration.—No two individuals ever take an anesthetic in exactly the same manner, and the skilful administrator is the one who has recognized this and is simply careful. Ether may be more carelessly used than chloroform, yet both are deadly; chloroform kills quickly, while ether may cause the death of a patient days after operation. The anesthesia is often of more importance than the operation, and the operator should at all times keep the anesthetist informed as to the progress of the surgical work. The anesthetist bearing in mind that he could kill any patient with his inhaler, should seek to balance so wisely the depth of anesthesia to the operation as to imitate sleep and not death.

Methods.—(General anesthesia.) Have the patient's bowels thoroughly flushed during the previous 24 hours with calomel, 16 mg. (¼ gr.), every 30 minutes until .13 gm. (2 grs.) are given. Follow with Epsom salts, 30 gms. (1 oz.), in divided dose, or castor-oil, 15 cc. to 30 cc. (½ oz. to 1 oz). Administer a hot soapsuds enema the morning of the operation, if needed; empty the bladder, allow no food within 6 hours before operation. Examine the heart, lungs and urine. Remove all superfluous garments and attire the patient in clothes to be worn subsequently. Carefully conserve body heat by blanketing, avoiding at all times unnecessary skin exposure. Remove anything loose from the mouth, taking note of dental work.

Place the patient in a recumbent position, with the head level or a little below the body, turned away from the direction of the operator. If a woman, remove hairpins, plait hair, and have it well wrapped up in a towel (this lessens postoperative nausea). Protect patient's eyes with a towel, the skin of the mouth, nose and cheeks, with vaselin. Instruct the patient calmly to listen for your voice and to keep the hands tightly clasped; the tighter the better and the quicker will sleep be produced (Bodine). Allow no other voices or noise.

The implements, beside the inhalers, which are requisite, are a wooden screw, gag, tongue-forceps, a curved needle threaded with silk for tongue suture, swabs fastened to sticks or forceps, sterile hypodermic syringe and needle. The drugs needed are tincture iodin (renders site of puncture sterile); strychnia, 2 mg. to 5 mg. ($\frac{1}{30}$ gr. to $\frac{1}{12}$ gr.); atropin sulfate, .4 mg. to .6 mg. ($\frac{1}{150}$ gr. to $\frac{1}{100}$ gr.); whisky.

In the event of an emergency, loosen the clothes about waist and neck, removing corsets if a woman. Use lavage if undigested food rises. Empty the bladder (catheter), and rectum (enema). Examine heart, lungs, urine. Watch in all cases the patient's face, the respiratory movements and pulse (radial preferable, though a single-eared stethoscope attached over the precordial region gives constant information while allowing the hand to be free) *continuously* throughout the operation.[1] Note the ciliary and pupillary reflexes from time to time. By constant care study to give the patient all the air and the least amount of anesthetic possible.

The physician is cautioned against anesthetizing a female unattended (psychic erotism).

Ether is inflammable, chloroform is not; in night work have the light above (ether vapor being heavier than air always falls). Secure ventilation when using chloroform to avoid injurious chemic decomposition from heat.

Complications.—Mucous collection is not necessarily due to poor administration. In treating this complication place the patient's head to one side, lowered with mouth opened, and swab the throat. If breathing becomes interrupted stop the anesthetic and allow the patient to come to sufficiently for irritation to cause expulsion of the mucus.

For clamping of the jaws, place the head early to one side, and increase the anesthesia; later force the jaws open by screw or gag (having care for dental work), or by leverage, forward by means of thumbs placed against the patient's chin, braced with fingers from the angles of the jaw. Spasm of the diaphragm denotes onset of vomiting or release from anesthesia. Treat this by pushing the anesthetic, or if the patient's condition will not permit this, allow the vomiting seizure to be completed when deep anesthesia may be carefully renewed.

Vomiting: Should this symptom present during the early stage of anesthesia in a patient otherwise doing well, push the anesthetic. During a later stage, or if the patient becomes livid, stop the anesthetic, turn the head to one side, draw the tongue forward, clear the mouth and throat, and allow recovery from the paroxysm. When using ether with bag inhaler, the addition of fresh strong ether often excites vomiting, which should be combated by commencing with sufficient ether 60 cc. to 90 cc. (2 fl. oz. to 3 fl. oz.) in the bag to carry the patient well into the anesthesia. Sometimes no further addition will be necessary during the entire operation if care is taken to prevent evaporation from the inhaler when not in use. Owing to heat evaporation a greater quantity of ether is required in summer.

Respirations are sometimes entirely suspended; if in the early stage, push the anesthetic to get regular action before consciousness is lost. Later it is a danger signal, signifying that the anesthetic should be stopped. Poisoning from idiosyncrasy is rare; poisoning through an overdose shows itself in lividity or pallor of the face,

[1] Presented at the New York Academy of Medicine, Surgical Section, May 11, 1903.

[1] See the New York Medical Journal, May 10, 1902, for description of instrument.

stertorous breathing, sudden or progressive dilation of the pupil, failing pulse (best seen in expression and color of face), thready and marked irregularity of pulse, complete loss of reflexes, failing or irregularity in respiration,



Dr. Frederic Griffith's combined inhaler.

darkening of the blood at site of operation, fall of temperature, and loss of body tone.

Treatment.—If ether is the anesthetic it should be stopped, the head drawn to one side, the tongue brought forward, and artificial respiration administered. Either Sylvester's method of forced artificial respiration or Labordy's method in which the tongue is drawn out forcibly 12 to 16 times per minute. The body heat should be maintained, and atropin sulfate, .4 mg. to .6 mg. ($\frac{1}{150}$ gr. to $\frac{1}{100}$ gr.); strychnin, 2 mg. to 5 mg. ($\frac{1}{30}$ gr. to $\frac{1}{12}$ gr.) administered. If chloroform is the anesthetic, stop the anesthesia, slap the chest with a wet towel, put the head down, draw the tongue forward, and elevate the feet. This acts mechanically by causing the blood to sink to the right heart from the abdomen, and probably causes the heart to contract; rub the patient with ether, apply mustard, the electric battery, and maintain respiration by artificial means, which will force the chloroform from the lungs. With these procedures ammonia inhalation will be of value, as will the administration of tincture of digitalis 10 drops to 20 drops, and strychnin 2 mg. to 5 mg. ($\frac{1}{30}$ gr. to $\frac{1}{12}$ gr.) hypodermically, oxygen inhalations, and amyl nitrite. Forcible, rhythmic compression over the precordium (120 per minute); as a last resort, interthoracic massage. If morphin has been used before the general anesthesia, the additional depressant action of this drug will have to be combated. If nitrous oxid gas has been the anesthetic, stop the administration, force the jaws open, draw the tongue forward, apply forced artificial respiration, and give atropin sulfate .4 mg. to .6 mg. ($\frac{1}{150}$ gr. to $\frac{1}{100}$ gr.) strychnin, 2 mg. to 5 mg. ($\frac{1}{30}$ gr. to $\frac{1}{12}$ gr.).

Mortality.—Statistics show for ether 1 death to every 26,000 administrations; for chloroform 1 to every 10,000 to 16,000 administrations. According to these figures chloroform causes five times as many deaths as ether. Nitrous oxid gas administrations show 1 death to every 120,000 to 150,000. The chief causes of death are early, due to fright; later, to overdose.

Implements.—The combination anesthetizing inhaler, which is designed to fill the want for a single instrument combining anesthetics in a safe manner at minimum cost. It consists of a metallic face-piece which prevents collapse during respiratory action, the patient's face being protected from pressure by a pneumatic cushion. By means of a single valve the gas is delivered to the patient in increasing proportion until he is thoroughly anesthetized, the time varying from 30 seconds to 4 minutes. The change from gas to vapor anesthetic is accomplished by placing the filled cup in position and slowly releasing the valve. Substitution is gradual and at all times under control of the anesthetizer. A supply of fresh air may be constantly admitted to the mixing chamber by means of slide openings at the top of the cup. While ether has been the anesthetic most used in combination with nitrous oxid gas, I have employed chloroform in the same capacity. With this object in view, the receptacle has been made of such proportions as will allow for adequate quantities of either anesthetic being employed upon the gauze or sponge in the retainer. When employed with chloroform the cap is removed to allow for the free entrance of air. Rebreathing of gas is provided for by a stopcock between the gas bag and the tank, and by occlusion of the exhaust valve.

I have employed the instrument in a case of gas-and-chloroform anesthesia lasting 2¼ hours, while a surgeon removed stones from a sacculated bladder through the perineum of a man of 73. Reaction was prompt, but thepatient died upon the tenth day from exhaustion due to an infection cystitis. In another case of gas-and-chloroform anesthesia lasting 35 minutes in a man of 81 suffering with gangrene of the foot, amputation was performed a few inches below the knee-joint. The reaction was prompt, and the man is living today, 18 months after operation.

SPECIAL ARTICLES

THE INFLUENCE OF THE UNIVERSITY OF MARYLAND ON MEDICAL EDUCATION.[1]

BY

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SYNOPSIS:—DIFFERENCES BETWEEN "FACTS" AND "TRUTHS": DISCONNECTED FACTS HAVE NO SIGNIFICANCE UNTIL THEY BECOME PART OF THE SYNTHETIC STRUCTURE OF A SCIENCE: EXTRACTS FROM THE HISTORY OF THE UNIVERSITY OF MARYLAND, SHOWING ITS INFLUENCE ON MEDICAL EDUCATION: MODERN PHYSIOLOGIC DISCIPLINE: METHODS OF MEDICAL TRAINING: THE LECTURE, THE LABORATORY, TEXTBOOKS, CONFERENCES: VALUE OF INSPIRATION COMING FROM MEDICAL WORK.

Today we begin the study of one of the most important and beautiful sciences which the human intellect has systematized.

Alexander von Humboldt, in his monumental work, "Kosmos," describes in a very beautiful manner the condition of the mind in one to whom a promised land of research of any kind has opened itself. The following are his words: "It is a custom of those who would like to conduct others to the summit of mountains, to describe the path as pleasanter and easier than it will be found in reality. It is their habit to praise the glorious views from the mountains, even though they may divine that large portions of the regions below may be concealed in fog. They know also that in this concealment there is a mysterious charm, and that a hazy perspective distance produces the impression of infinity, reflecting in a serious and divining manner in the mind and in the sentiments." (Kosmos.) I may add that this feeling of mysterious charm will in the right kind

[1] Address at the beginning of the course on Physiology at the University of Maryland, October 1, 1903.

of mind elicit the desire of a closer acquaintance with that region seemingly so far away; and this is about the conception that I have of the sentiments with which an investigator should approach the solution of difficult problems of any kind. The charm and the stimulation which come from everything that is new and not understood, make us put up with many a stony path and much hard work. In connection with the accumulation of facts of experience and experiment in medicine, the correlation of which with our general knowledge of already established truths has not yet taken place, Humboldt says: "It is a safe criterion of the quantity and quality of the discoveries which we may expect in any science, when the facts seem yet to stand isolated and without relation to one another." The great plethora of experimental results, therefore, is rather to be interpreted as a good sign, only we will have to be cautious not to regard in the light of a *law* what is in reality only a recent acquisition, standing, as a rule, in very loose relation or having no connection at all, with the synthetic structure of physiologic knowledge.

We are living in a period in the history of medicine in which the experimental tendency has gained supremacy over speculative philosophy in medicine. But we are in the possession of such an enormous amount of new material and facts, which by additional experiments is daily increasing, that the new facts frequently must be allowed to remain unused, and are, for the time being, of no assistance in the advancement of our science. In this connection, I must again repeat what I have emphasized in the preface of the second volume of my work on "Diseases of the Intestines," namely, the difference between *truth* and mere *facts*. These two are often, unfortunately, considered synonymous. Facts are little truths that our senses are capable for the present of comprehending; but back of, and beyond these facts, later experience often reveals the higher and greater truth. An experimental fact which today seems absolutely disconnected and therefore without meaning, may tomorrow, when viewed in another light, suddenly assume a far-reaching significance and importance. No new fact of experience or experiment, be it at present apparently ever so remote from practical bearing, need be considered worthless, provided it is correct. It may be allowed to rest as raw material for a time, but it is probable that in another association it may acquire an importance which we did not anticipate.

But this I must emphasize that an isolated, disconnected fact of experience or experiment, has for the time being no significance for the progress of medicine. This significance comes only then when we can arrange and fix this fact into the already existing and firmly established architecture of our knowledge. There exists a danger in over-rating the value of single facts of experience and experiment. Individual facts discovered this way are accumulating to such an extent that we are completely submerged under an ocean of experimental results, and the intellectual interpretation which fits them into the synthetic structure of our science is missing. Physicians who are not participants in experimental undertakings, feel this absence of the connecting link between an enormous number of new acquisitions very painfully, which though experimental are in a sense empiric. This is also true of the experimental acquisitions in bacteriologic as well as biochemic domains. In the eighteenth and during the first part of the nineteenth centuries medicine was comparable to a sterile unproductive heath, in which some evil spirit drove about the speculating medical philosophers in a circle. Now we have got into an over-fruitful swamp or jungle in which the facts grow so luxuriantly that they threaten to smother our thinking powers. The tendency of all laboratories is to bring out new facts. Let us have all of them if it must be, but what we need as much, if not more than new facts, are master minds who will instruct us in the interpretation of these and old facts, and give them a meaning and value by fitting them into the synthetic structure of physiology and medicine. Martius[1] compares modern medicine to a sense-confusing concert, and what is needed is a disciplinarian to instruct us concerning the leading motives, to seek the familiar law in the revealed wonders of the present time.

[1] Pathogenese Innerer Krankheiten.

"Sucht das vertraute Gesetz in des Zufalls grausenden Wundern,
Sucht den ruhenden Pol in der Erscheinungen Flucht."
(SCHILLER.)

If these halls could speak they could inform you of nearly a century of medical teaching that would constitute a most interesting part of the history of American medicine. If this dome could repeat the words that have been spoken under its sky-lit arch, it would tell you of teachers who, through their erudition, theoretic and practical training, broad experience and critical judgment, ranked among the masters of medicine. If those benches upon which you are sitting could tell their story they would inform you of generations of truth-seeking students who have occupied them, coming not only from all parts of this great country, but from other countries the world over. If, as Churchill says, greatness is a combination in the same individual of unusual moral and unusual intellectual force, then we have had many great teachers in this institution. What constitutes the greatness of teachers, and what constitutes and indicates the greatness of a university? Certainly not the bricks and mortar of which the buildings are constructed, nor even the rich endowments, but the men it has produced. And what constitutes a great medical man? The general acceptance that the work which he has done is exceptionally useful and has left a permanent record in the annals of the science in which he was active. The principle exponents of merit in medical men are the following: (1) That they have accomplished research work involving new and valuable discoveries, useful in the art and science of medicine; (2) that they occupy positions of recognized importance in the medical profession, either as teachers, investigators, editors of high-class medical journals, high positions in the medical service of the army and navy; (3) that they are authors of medical works of recognized merit by which our knowledge of the normal and abnormal functioning of the human body has been advanced. If we apply these tests to the alumni of the University of Maryland we will find that we can be justly proud of the record of our school. For not only have we among them research workers who have made valuable contributions to the art and science of medicine, beginning with the contributions of Professor Charles Frick and Nathan R. Smith in the art of surgery, and extending to the discovery of the microorganism which is the cause of smallpox, discovered during the present year by our alumnus, William T. Councilman, at present professor of pathology in Harvard University, Boston, but we have had a large number of our alumni to fill positions of prominence in the profession throughout the country. Professor E. F. Cordell, who this year fills the newly appointed chair of history of medicine in the University of Maryland, assures me that 8 or 10 of our alumni have been Surgeon-Generals of the U. S. Army or Navy. Quite a number of our alumni still living are professors in standard medical institutions of the country. In this city there is not a medical school which has not several alumni of the University of Maryland on its teaching staff, and of medical institutions outside of Baltimore, I need only mention the names of Alexander C. Abbott, professor of hygiene and bacteriology in the University of Pennsylvania; Charles P. Noble, surgeon-in-chief to the Kensington Hospital of Philadelphia; Roberts Bartholow, emeritus professor of materia medica and therapeutics, Jefferson Medical College, Philadelphia; William T. Howard, Jr., professor of pathology at the Western Reserve University in Cleveland, O.; John W. Williams, professor of obstetrics, Johns Hopkins University; Professor William T. Councilman, of Harvard University, Boston. In addition to these, who are full professors, a large number of associate professors and instructors in other institutions could be mentioned.

I can only refer in a passing manner to the medical works written by alumni of this university. The books of Charles Frick, Nathan R. Smith, Robley Dunglison,[1] Roberts Bartholow, Alexander Abbott, John W. Williams, Henry Berkeley, the

[1] According to Allibone (see Cordell's History of the University of Maryland, p. 77), the sale of Dunglison's principal works in 1858 amounted to 100,000 volumes. He was the founder of the medical faculty of the University of Virginia. Graduate of University of Erlangen, 1829. In 1836 professor of Institute Medicine, Jefferson Medical College, Philadelphia.

writings on the history of medicine by Eugene F. Cordell, the contributions to pathology by W. T. Howard, Jr., and William T. Councilman, William Alexander Hammond,[1] Professor of Physiology in the University of Maryland, 1860, and Surgeon-General United States Army, 1862, and the works of members of the faculty still active on our staff. In enumerating the literary contributions of our alumni I should have mentioned the writings of William Canfield and his work on Urinary Analysis, written while he was the editor of the *Maryland Medical Journal*. And no doubt numerous other highly valuable contributions have escaped my memory. Eight works of acknowledged merit have been published by present members of our medical faculty and two more are in preparation. But enough has been mentioned to convince you of the honorable history of this institution which you have entered, and of the priceless heritage which it is our duty to uphold and to enlarge upon in future.

We have it on very good authority, that of James Russell Lowell, that when one is to make an address, he can begin by doing one of 3 things: (1) Narrate an anecdote; (2) make a quotation; or (3) express a sentiment. There will be abundant opportunity to avail myself of this advice in our future communications, but the sentiment that I should like to express at present is that we can derive an abundance of inspiration and encouragement from the interesting history of this school, and that we can apply to the records thereof the sentiment expressed in the words of Longfellow:

"Lives of great men all remind us
We can make our lives sublime,
And, departing, leave behind us
Footprints on the sands of time."

And now what shall I say concerning the life and work of that lovable physician, scientist, and gentleman in whose footsteps I have the honor to follow today? The attempt to give due credit to the character and genius of Professor Francis T. Miles would lead me to falter in the effort to eulogize his work, to falter at the idea of the potency and inspiration which the example of his life has given us. My position as eulogizer in this case reminds me of a story of Sidney Smith. When he saw his grandchild patting the back of a huge sea-turtle, he said: "My dear, why are you doing that?" The child answered, "Grandfather, I did it to please the turtle." Thereupon Sidney Smith replied, "You might as well pat the dome of St. Paul's cathedral with a view to pleasing the dean and the chapter." And so I must confess my inability to add to the beauty of the life of F. T. Miles. His life, history, and work, narrated in the simplest tones, would constitute their own glorification. For who can picture to himself that sweet, gentle face, that venerable white beard, those thoughtful yet searching eyes, that wonderful command of language and control of diction, with which he could hold his audience spellbound, not only by the weight and intrinsic merit of the facts which he announced, but by the beautiful style in which he announced them. Who can recall him in the clinic as a diagnostician and therapeutist without unhesitatingly confessing that here we had before us the embodiment, the type of an American physician and scientific thinker.

When I entered this hall a few minutes ago it was with the silent prayer that I might merit the record which Miles has left behind him, that I might to a degree fill his chair, and display some of the grace and heart-winning interest which was habitual in him, and that when my time came to resign it to my successor, I might leave it with the same consciousness of having fulfilled my scientific and professional duty, and merit, as he has merited, the commendation "Well done, thou good and faithful servant; thou hast been faithful over a few things, I will make thee ruler over many things. Enter thou into the joy of thy Lord." (Matthew xxv, 21.)

To those of you who recently have entered these halls for the first time let me extend a cordial welcome. I know the doubts and apprehensions of the young medical disciple. Not so very many years ago I sat on these very benches myself, and remember distinctly and with grateful heart the words of encouragement and good cheer of my teachers. I wish I had a hundred hands, to extend them to each one of you individually, and to assure you, "Be not discouraged at the difficulties that you will encounter, but work and despair not." Cling to the inspiration which the history of the art and science of medicine offers, and develop this inspiration into an enthusiasm for work. For there can be no more inspiring and glorious history than that of medicine since it has become a science. I do not refer to the history of medicine prior to the establishment of universities, although even the medicine of the aborigines presents much that is impressive. But I refer more particularly to the history of medicine as developed in the evolution of the civilized nations.

All ages have in their turn woven the laurel wreath for the brow of the physician. The verse of Homer, "A wise physician, skilled our wounds to heal is more than armies to the public weal," and the lines of Cicero, "There is nothing in which men so approach the gods as when they give health to other men," are among the early tributes to our profession. Charles IX proclaimed that all Protestants in France should be put to death on St. Bartholomew's day, but there was one single exception—Ambroise Paré, the father of French surgery. The honor of medicine is yours, its heroes are your heroes. The battlefield of the American revolution welcomed Drs. Mercer, Warren, and Rush. When the French army was entirely demoralized, Larry, the surgeon-general, inoculated himself with the plague to show that it was not contagious—their courage rose and they went on to victory. Think and rejoice at the progress from the time when ancient Hippocrates tried to cure the gastralgia of the great Pericles with hellebore and flaxseed poultices. Even since the time when Haller announced his theory of respiration, and Harvey explained the circulation of the blood, and Aselli taught the existence and uses of lymph-vessels; and the great Jenner balked the worst disease that scourged Europe, and Sydenham developed the normal recuperative forces of the physical organism, and cinchona bark stopped the shivering aches of the world. And Sir Astley Cooper, Abernethy, Hosack, Romeyn, Griscom, and Valentine Mott fought back death with their keen scalpels. What an ancestry—what a heritage. Think of Jenner—400,000 deaths annually in Germany, Great Britain, and Russia—he found that inoculation with virus from a cow that had gone through proper infection, arrested the scourge and saved more lives in a year than all the battles of a century destroyed. He was assailed by literary critics, the press, potentates, ministers. Small wits caricatured Jenner as riding in a procession of fools on the back of a great cow. Grave men expressed their opinions that all the degrading diseases of brute creation would be transplanted into the human family, and that horns would grow out of the foreheads of vaccinated persons, and they would begin to chew the cud. But his blessed discovery survived all prejudice; he is today recognized as one of the greatest benefactors of the human race.

And now to turn to that science which shall interest us for the coming year. Physiology is a comparatively recent department of human knowledge. Its historic development naturally depended upon that of anatomy. A people who had not cultivated the science of anatomy could of necessity know nothing of physiology, and this dependence is evident at the present day. A knowledge of structure is indispensable to a knowledge of function. Physiology is the science of the regular processes that occur in living things, in plants and animals; and as the human being is an animal, the processes that occur in the different organs and systems of the human anatomy can be to a large extent studied by investigations on other animals, and all physiology does not apply exclusively to the human being, but to a certain extent to all animals. The understanding of the phenomena of life, which have been ascertained in living things, have been gained by 2 methods: One is called the method of observation, the other the method of experiment. Direct observation can only instruct us concerning a small portion of the phenomena of life, by far the greater part of these take place in the interior of the organism, and these can only be made accessible to observation by interferences into the normal processes of life, that is, generally by opening the body cavities or by isolating and removing organs and tissues. Every

[1] William A. Hammond, professor of physiology, University of Maryland, 1860, originated the Army Medical Museum, and Medical Library, at Washington. His work on Diseases of the Nervous System (1871) went through 10 editions in 7 years.

observation that is made under conditions artificially induced, constitutes an experiment. The art of experimentation has been admirably developed in the last 25 years, and has gradually necessitated the teaching of physiology by 2 methods, one by the socalled *didactic* method, in which the instruction is, as a rule, carried on in form of lectures or other personal communication between teacher and student, and the second is the *objective* or *laboratory* method, by which the student is made to understand the problems of physiology by demonstrations and experiments conducted in the laboratory. To begin with, the objective or laboratory method, I may say with Dr. William H. Welch, that "laboratory methods are extremely time-robbing and not adapted to teach the whole contents of any of the medical sciences. It is, of course, hopeless to attempt to demonstrate practically all of even the more important facts of physiology to the medical student." During the present year the University of Maryland will open to its students a new laboratory of physiology, in which they will be made familiar with the technic of experimentations and the fundamental principles of functioning of various tissues and organs will be *objectively* demonstrated. Concerning the didactic teaching, I will say that it will consist of lectures and conferences or examinations. We shall probably have 2 lectures and 1 conference weekly, in addition to the laboratory work.

The science of physiology has grown to enormous proportions. There are any number of textbooks of physiology in the various languages, every civilized nation has now its journals devoted exclusively to this science. In America we have the *American Journal of Physiology*, edited in 2 volumes of 500 pages each, every year. In Germany in addition to a number of special journals devoted to physiology and physiologic chemistry there is a publication "Die Ergebnisse der Physiologie" (The Achievements and the Progress of Physiology) which comes out annually in 2 very large volumes (925 pages) representing in condensed abstracts and in larger connected essays the physiologic advances made in the preceding year. A similar work is the "Zeitschrift für Physiologie," edited by Professor Max Verworn. Indeed I may express about physiology what Huxley said in an essay on medical education in 1870, when he announced that "He had a very strong conviction that any one who adds to medical education one iota or one tittle beyond what is absolutely necessary is guilty of a very grave offense." In the same essay Huxley expresses himself as follows: "*What the student wants in a professor is a man who can stand between him and the infinite diversity and variety of human knowledge, and who shall gather all that together and abstract from it that which is capable of being assimilated by the mind.*"

In a discussion of the relative advantages of the instruction gained in the laboratory, and that gained by lectures and textbooks, we must bear in mind that medical education has a twofold object. To use the language of President Eliot, of Harvard University, the student must be "*trained for power*," that means, first, he must be trained to *observe* carefully, *reason* correctly, *judge* wisely, and *study* effectively. (Bowditch, "Medical Education of the Future.") In the second place, he must be led to acquire a sufficiently large part of the medical knowledge of the time to make him a safe custodian of the health of the community. *Now it must be evident that "training for power" cannot be considered an essential function of a school of "applied" medicine, in which the aim of instruction is to impart direct and valuable information, where the object of all teaching is to give the greatest possible amount of useful knowledge.*

For the purpose of teaching students how to observe, to reason, to judge, and how to study, the laboratory is preferable to the didactic method. There can be no doubt that personal contact with the phenomena themselves, and not with descriptions of them is a powerful mental stimulant for the student; but we are by no means justified in concluding that the didactic methods, the lecture, the textbook, and the recitation are worthless as methods of medical training.

The pendulum of reform has occasionally made extreme excursions in the history of medical education.

Whenever a given method has been found to give unsatisfactory results, there is a strong tendency to abandon it altogether in favor of some entirely different and, as a rule, not much tried method. Dr. Burr in 1899 characterizes the didactic lecture as an "anachronism," dating from the time when printing was unknown and manuscripts were rare and priceless and the only means of communicating knowledge was by "word of mouth."[1] In *Science* for July 7, 1899, Professor C. S. Minot expresses himself similarly: "The very best that can be said of a lecture or a book," he writes, "is that it describes well the knowledge which some one possesses." He goes so far as to assert: "There is no knowledge in books.(!) Knowledge lives in the laboratory; when it is dead we bury it decently in books. . . . A lecture is a spoken book." To this Professor Bowditch[2] caustically remarks: "I venture to believe that Professor Minot's students will hardly agree with this estimate of the lifeless character of either his written or his spoken instruction."

In their efforts to substitute objective or laboratory training for didactic or lecture teaching, the reformers have, in my opinion, gone to extremes. As Professor W. H. Howell, has expressed it: "These gentlemen, having become possessed of the golden truth that the best knowledge is that which comes from personal experience, seem disposed to deny all value to knowledge communicated from the experience of others."[3] As a matter of fact, there are territories of necessary medical training in which the laboratory cannot possibly replace the lecture, and it is quite as possible to abuse the laboratory as it is to abuse the didactic method of instruction, and as Bowditch[4] says: "In all schemes of education a *good* teacher with a *bad* method is more effective than a *bad* teacher with a *good* method."

This distinguished American physiologist has emphasized that in physiology, as in other departments of medicine, we have to deal with subjects which lie within what Michael Foster has called the "penumbra" of solid scientific acquisition and about which conflicting views are unavoidable. Here the experienced lecturer has the best opportunity to train the judgment of his pupils by illuminating first one and then the other evidence upon which the opposing views rest temporarily. Other facts and principles which can not properly be made the subject of laboratory instruction, are the historic presentation of subjects, for few things are more instructive than to follow up step by step the lines along which our knowledge has advanced.

Then, again, equally competent observers differ in their conception of well-observed phenomena in physiology, and it at times becomes necessary to point out to the student, the most probable way of reconciling conflicting observations. Such doubtful territories offer highly beneficial opportunities for mental training, but here the conference or recitation is better suited than the lecture, for in the conference the minds of the teacher and pupil are brought most closely in contact, the student's difficulties are appreciated by the instructor and the point of view of the teacher can be understood by the student. To quote Professor Bowditch once more[5] "no higher enjoyment falls to the lot of the teacher than that which he experiences when by a series of carefully considered questions he leads his pupil onward from the known to the unknown, and notes the gleam of intelligence which illumines his countenance as a subject previously obscure becomes clear as a result of his own mental operations guided by his teacher's skillful questions."

No monopoly of opportunities for mental training can be claimed—either for the laboratory, the lecture, or the recitation—they must all be used, and each in its proper sphere of usefulness.

All knowledge and study should have a value to us beyond its practical one, and that value lies in the ennobling, elevating, and edifying influence which all acquisition of higher truth exerts—I mean the cultural value of knowledge. The starry heavens had to Immanuel Kant a value beyond their astronomic one. The setting sun, as it mantled with bloom of roses,

[1] Philadelphia Medical Journal, October 21, 1899.
[2] "The Medical School of the Future," Trans. Congress of American Physicians and Surgeons, Vol. v, 1900.
[3] The Michigan Alumnus, January, 1900, Vol. vi, p. 143.
[4] L. c., p. 115.
[5] L. c., p. 113.

the Alpine snows had a value to John Tyndall beyond its optical one. . . . The sound of a village bell, as it came mellowed from the valley to the traveler on the hill had a value to Helmholtz beyond its acoustic one. To the great botanist Linné the lilies of the valley had a value beyond their botanic one. A certain lightening of the heart, he said, accompanied the declaration "*that Solomon in all his glory was not arrayed like one of these.*" And so let our physiologic studies have a value beyond their practical bearing on medicine.

Do you want to know how to make the study of physiology easy? Why learn to love physiologic work; do not let your study become a drudgery—or irksome.

Sir Andrew Clark once delivered an impressive "lay sermon" on the ways to acquire the "love of work," and this great clinician was also a thorough student of human nature. In the address I refer to, he said:

Firstly I believe that every man's success is within himself, and must come out of himself. No true, abiding and just success can come to any man in any other way. Secondly, a man must be seriously in earnest. He must act with singleness of heart and purpose; he must do with all his might and with all his concentration of thought the one thing at the one time which he is called upon to do. And if some of my young friends should say here "I cannot do that—I cannot love work," then I answer that there is a certain remedy, and it is work. Work in spite of yourself, and make the habit of work, and when the habit of work is formed it will be transfigured into the love of work; and at last you will not only abhor idleness, but you will have no happiness out of the work which then you are constrained from love to do. Thirdly, the man must be charitable, not censorious—self-effacing, not self-seeking; and he must try at once to think and do the best for his rivals and antagonists that can be done. Fourthly, the man must believe that labor is life, that successful labor is life and gladness, and that successful labor with high aims and just objects, will bring to him the fullest, truest, and happiest life that can be lived upon the earth.

Let me but do my work from day to day,
In field or forest, at the desk or loom,
In roaring market place, or tranquil room;
Let me but find it in my heart to say,
When vagrant wishes beckon me astray,
"This is my work; my blessing not my doom;
Of all who live I am the one by whom
This work can best be done in the right way."

Then shall I see it not too great nor small
To suit my spirit, and to prove my powers;
Then shall I cheerful greet the laboring hours;
And cheerful turn when the long shadows fall
At eventide, to play and love and rest
Because I know for me my work is best.

(VAN DYKE.)

Yellow Fever Situation.—From Laredo, Texas, under date of November 9, comes the following news: Yellow fever continues without much abatement, notwithstanding the efforts of physicians. The official bulletin states: New cases, 12; deaths, none; total cases, 723; total deaths, 66. Dr. Murray, international yellow fever expert, has returned from a trip as far as Saltillo, where he has been investigating the yellow fever situation. He says that conditions in Monterey, if judged by other cities where yellow fever has been epidemic, indicate no less than 25,000 cases there this year, with the mortality rate placed conservatively at 5%. The deaths have been greatly in excess of the number reported in the official bulletin issued in this city, and fully 500 cases now exist. All the stations on the line of the Mexican Central between Laredo and Saltillo, he says, have suffered an invasion of yellow fever, and have contributed an unknown number of deaths and cases.

How Pullman Cars are Cleaned.—According to the *New York Sun* the management of the Pullman Company, in controversion of the recent criticisms of the sanitary condition of its cars which have appeared in letters to the newspapers, has sent out this statement of just what the process of cleaning a Pullman car is: "As soon as a Pullman car arrives at its destination, it is entirely stripped, the carpets are beaten and aired, and the interior of the car is thoroughly scrubbed with soap and water. The blankets are taken out of the car, and are thoroughly blown out with compressed air at a 90-pound pressure. It is impracticable to wash them after every trip, but they go to the laundry several times a year, which is oftener than is the case with hotel blankets. All linen is renewed each trip. Every case of sickness in a car, however trivial, is followed by the antiseptic cleansing of the section occupied by the sick person, and the entire car is sprayed with formaldehyd. As a further sanitary precaution, in the newer cars of the company purely decorative draperies are being omitted, and the necessary ones, such as berth curtains, are being made of lighter material which does not hold dust or odors."

THE WORLD'S LATEST LITERATURE

Journal of the American Medical Association.

November 14, 1903. [Vol. XLI, No. 20.]

1. Relation of the Public School to the Seminary and College as to Psychoses. F. SAVARY PEARCE.
2. Best Methods of Counteracting Psychoses Due to the Strain and Stress Incident to Our Public School Methods. WILLIAM JAMES HERDMAN.
3. The Voluntary and Involuntary Brain Centers Controlling the Ocular Muscles. G. C. SAVAGE.
4. Retroversion of the Uterus: A Clinical Study of the Complications, Symptoms, and Treatment. L. H. DUNNING.
5. Retrodisplacements of the Uterus: A Further Report on Operations on the Uterosacral and Round Ligaments. J. WESLEY BOVEE.
6. Exercise as a Mode of Treating Diseases of the Heart. N. S. DAVIS, JR.
7. The Future of Preventive Medicine. H. A. MOODY.
8. Special Influences of the High Altitudes on the Nose and Throat. S. EDWIN SOLLY.
9. Arrested Tuberculosis: Subsequent Histories of 79 Arrested Cases Treated at the Sharon Sanatorium from 1891 to 1902. VINCENT Y. BOWDITCH.
10. The Red-light Treatment of Smallpox. NIELS R. FINSEN.

1, 2.—See *American Medicine*, Vol. V, No. 23, p. 903.

3.—See *American Medicine*, Vol. V, No. 25, p. 986.

4, 5.—See *American Medicine*, Vol. V, No. 25, p. 984.

6.—See *American Medicine*, Vol. V, No. 20, p. 781.

7.—See *American Medicine*, Vol. V, No. 25, p. 985.

8.—See *American Medicine*, Vol. V, No. 20, p. 779.

9.—See *American Medicine*, Vol. V, No. 24, p. 942.

10.—Red-light Treatment of Smallpox.—N. R. Finsen explains that the modern red-light treatment excludes the chemic rays, while Gaddesden's method consisted simply in surrounding the patient with all sorts of red things. He is surprised that anyone should consider these treatments identical. Gaddesden's idea was that the color would irritate the blood and thus produce a more pronounced erythema, forcing all the "bad matter to get out." The red light should prevent irritation. The patient should come under treatment before the fifth day. In the 2 cases with discouraging results reported by Schamberg the patients were not placed in the red-light room until the seventh day of the disease. Before the method can be declared a failure the absence of all chemic rays must be demonstrated by exposing photographic plates or sensitized paper in different parts of the sick room. [H.M.]

Boston Medical and Surgical Journal.

November 12, 1903. [Vol. CXLIX, No. 20.]

1. Stomachal and Intestinal Derangements and Affections of the Fauces, Pharynx, and Air Passages. BEVERLEY ROBINSON.
2. Routine Treatment in a Genitourinary Clinic; Functions of Such a Clinic. F. J. COTTON and R. F. O'NEIL.
3. Some Principles Involved in the Therapeutic Applications of Radioactivity. WILLIAM ROLLINS.

1.—Stomachal and Intestinal Derangements of the Fauces, Pharynx, and Air Passages.—B. Robinson reemphasizes the importance of recognizing that acute and chronic disease of the digestive organs causes morbid determinations in the air passages, which can be best combated by diet and suitable medication. Asthmatic seizures are frequently due to acute indigestion. Throat irritation may be due to direct contact with the acid eructations from the stomach or from general poisoning of the economy by absorption. We find the same microorganism in the throat as in the stomach. On the other hand, chronic nasopharyngeal catarrh may become the *fons et origo* of digestive troubles through repeated dropping and swallowing of unhealthy secretion. [H.M.]

2.—Routine Treatment and Function of the Genitourinary Clinic.—Cotton and O'Neil present a paper in 2 parts, the one dealing with technical data, and the other with broader problems having to do with the general utility of such a clinic. Part one deals largely with the report of cases and such data as would ordinarily be obtained from such a clinic. The result of their experience is rather discouraging so far as cures are concerned. For instance, in reference to gonorrhea, counting all patients who left the clinic before being cured, as uncured, they believe that those who could be pronounced cured would not number more than 20%; while 80% received practically no benefit from the treatment. There is a frank statement of existing fact which differs materially from the roseate reports

often given of such clinics. The venereal clinic beside providing opportunities for the cure or relief of the patient, for the education of the attending surgeon, for the instruction of the student, must also discharge a duty to the public in combating the prevalence of venereal disease, and that neglect of its treatment which so largely favors its spread. Through education of the practitioner and of the student, and by direct education of the public, this must be accomplished. The authors hold that the present routine is not satisfactory, except in so far as it offers opportunity to the surgeon in charge to learn his work. A special genitourinary clinic should treat patients with gonorrhea only under such conditions as are consistent with proper treatment and good results. Some discipline and regulation is needed in such clinics if we are to make them of proper service. [A.B.C.]

3.—Some Principles Involved in the Establishment of Radium Activity.—Rollins gives the following facts about radium. It gives off ether waves of various lengths. It sends off particles of various sizes: (1) Particles which are positively charged and supply 99% of the radioactivity; and (2) particles about one-thousandth as large as the former, and which are negatively charged and are supposed to be the same as the cathode stream particles in the Röntgen light tube. A third form of activity consists of the gamma rays. In using radioactive substances in disease of or near the skin, the depth of the diseased tissue to be affected must determine the distance at which the radioactive substance is placed from the surface of the patient—activity diminishes approximately as the square of the distance, though really more rapidly on account of the complex nature of the activity. If radium is placed 10 cm. from the skin, the intensity at a depth of 1 cm. is nearly as great as at the surface for the more penetrating forms of activity. In many cases, therefore, the sound tissues below the diseased will be acted upon by a destructive agent whose activity would be nearly as great as at the place of disease. The correct way in treating a skin disease with a radioactive substance is to consider to what depth it is desirable to confine the activity. If to a slight depth, the radioactive substance should be almost in contact with the skin, the duration of the application being always shorter than when at a greater distance. In this case, healthy tissue at a depth of 1 cm. would be acted on by radiations and emananations whose intensity would be less than one-hundredth of those striking the skin; obviously a more scientific method. [A.B.C.]

Medical Record.

November 14, 1903. [Vol. 64, No. 20.]

1. Gonorrhea in Infants, with a Report of 8 Cases of Pyemia. REUEL B. KIMBALL.
2. Terminal Syphilis and Tabes. WILLIAM J. DOUGHERTY.
3. Traumatic Separations of the Lower Epiphysis of the Humerus and Their Treatment by the Extended Position, with Report of 2 Cases. GILBERT GEOFFREY COTTAM.
4. Emulsion-albuminuria. ISADOR H. CORIAT.
5. Report of a Needle in the Prostatic Urethra. B. B. FOSTER.
6. A Case of Lead Osteoperiostitis. W. MOSER.
7. Abdominal Pain in Pneumonia. CHARLES S. GRABIN.

1.—Gonorrhea in Infants.—R. B. Kimball's conclusions are as follows: 1. Gonorrhea prevails among infants and children to an extent not fully appreciated by the profession, and has become a common epidemic in institutions where numbers of children are placed together. 2. The ordinary clinical forms which the gonococcus infection assumes in children are ophthalmia, vulvovaginitis, and pyemia. 3. A series of cases of pyemia, reported in this paper, occurred in infants in whom no local lesion could be found to explain the mode of entrance of the organism to the general circulation. 4. The suggestion is made that from a stomatitis due to the gonococcus such a systemic infection may arise. Gonorrheal stomatitis in infants is a disease that needs further study. 5. Only by careful exclusion, by microscopic examination, and by complete isolation can this disease be absolutely debarred from a hospital where infants are cared for. 6. There is urgent need of public enlightenment on this subject. Those in charge of institutions for children, trained nurses, and even parents, should be taught the frequency and virulency of this infection and the ease with which it is spread. [A.B.C.]

2.—Terminal Syphilis.—Wm. J. Dougherty says, in its earlier stages, locomotor ataxia is diagnosed incorrectly in 50% of the cases. Practitioners have failed to familiarize themselves with its earlier manifestations. Most neurologists now hold that there is something other than previous syphilis, which may be either a neurotic predisposition or a diathesis, necessary to cause this disease. The writer objects to the term "parasyphilitic," introduced by Fournier, and suggests in its stead "terminal syphilis," as the latter expresses more nearly what we know of the condition. The chief reasons advanced by those opposing the syphilitic nature of tabes may be summarized as follows: 1. The statistics of tabes always contain a percentage of apparently nonsyphilitic patients. 2. The morbid anatomy of tabes is said not to exhibit the lesions of syphilis. 3. Uselessness of antisyphilitic medication in the treatment of tabes. 4. The rarity of tabes as compared with syphilis. 5. The comparatively infrequent occurrence of tabes in races in which syphilis is very prevalent (Chinese, Negroes, etc.). 6. The infrequency of tabes among prostitutes. Dougherty considers in detail all of these objections and maintains that they are insufficient to establish conclusively the claims made for them. Many persons may deny having previously had syphilis, wilfully or ignorantly. A child having contracted syphilis in early life from a syphilitic mother, would naturally, at a later period, disclaim ever having had syphilis. The rarity of the disease among negroes and Chinamen may be attributed to a more perfect physiologic method of combating the disease, and from the fact that these races are not subjected to the enervating influences of a higher civilization. Marie and Guillian have advanced a theory in explanation of tabes. They believe that the posterior columns of the cord, together with the posterior spinal pia, have a separate system of lymphatics and they regard the tabetic process, not as a lesion of the posterior root axons nor of the neuroglia, but simply as a syphilitic disease of the posterior lymphatic system; a syphilitic lymphangitis of the posterior columns, routes, and pia. [A.B.C.]

3.—Traumatic Separation of the Lower Epiphysis of the Humerus and its Treatment in the Extended Position.—Gilbert G. Cottam says epiphyseal separation may occur in childhood, and if this separation is followed by exuberant callus, the olecranon fossa will be more or less filled, causing limitation of extension of the forearm. This is an argument in favor of dressing in the extended position. It is particularly essential to differentiate between this lesion and backward dislocation of the ulna. Albert, of Vienna, furnishes an additional aid for the differentiation of the 2 lesions which, in substance, amounts to the following, viz., relation of the anatomic points, as in dislocation—combined with unimpaired flexion, is characteristic of epiphyseal separation. The writer quotes from various authorities in regard to the proper treatment of epiphyseal separation at the elbow-joint, and one is struck by the want of uniformity in their opinions; several favor the method of dressing an extension. The writer then reports 2 cases somewhat in detail. The first was a child of 6, which received an injury at the elbow, which was diagnosed as traumatic separation of the lower epiphysis of the humerus. After reduction the arm was placed in extension on a splint for a week, and then plaster cast was substituted with straight splint, the position being the same. A perfect recovery followed. The second was a child of 4, which received an injury to the elbow, and under an anesthetic it was found to be a traumatic epiphyseal separation, there being not much swelling. The arm was at once placed in a plaster cast in extension and supination, as was the previous case. The cast was not removed for one month, when it was found that a perfect result had been obtained. [A.B.C.]

4.—Emulsion-albuminuria.—I. H. Coriat adds a fourth case to the reported series, one of alcoholic delirium with acute parenchymatous nephritis. The negative osmic acid reaction and the negative acrolein test used for the milky urine passed, afforded positive proof of the absence of neutral fat. All the proteid reactions were present. This is an undescribed form of albuminuria in which the proteid exists in an emulsion, or rather in a peculiar colloidal physical state. The size of the proteid particles held in suspension was so small that neither repeated filtration nor long-continued centrifugalizing could remove them from solution. It is anal-

ogous to some other rare forms of urinary proteid as Noel-Paton's crystalline globulin, or Gutterink and de Graff's crystalline albumose. [H.M.]

5.—A Needle in the Prostatic Urethra.—B. B. Foster reports the case. A man complained of excruciating pain immediately after urination. Nothing abnormal was found except on passing a sound, it was believed by 1 or 2 of several examiners, a foreign body was detected in the posterior urethra or in the bladder. Circumcision and meatotomy being indicated were performed, after recovery from which the patient was comfortable for several days, when his former trouble recurred. No foreign body could be detected, but perineal incision was made into the bladder, and still nothing abnormal could be detected. The patient recovered, and was for some time without pain. After several months the symptoms recurred, when it was believed a foreign body could be detected in the same situation as before. Suprapubic cystotomy was done and the bladder thoroughly explored; at the same operation perineal cystotomy was done, making passage entirely through the bladder. A sound was introduced and found to come in contact with a hard substance near the internal meatus. The foreign body was removed by way of the bladder, and found to consist of an ordinary sewing needle with a short thread in the eyelet. The patient made a good recovery. How the needle got in this position was never satisfactorily explained; the patient claimed that it had been swallowed, but various circumstances led to doubt as to his statement. [A.B.C.]

6.—Lead Osteoperiostitis.—W. Moser reports the case. A man had been employed in lead works for a number of years. The condition consisted in an inflammation of bone and periosteum, with formation of large masses in both temporal regions. They were somewhat soft and fluctuating, and the skin was reddened. The mass on the left side contained granular cheesy material, and that on the right was a firm fibrous structure; they resembled syphilitic osteoperiostitis, but they were not painful at night, and there was no history of specific infection. The left mass was extirpated, while that on the right was merely incised and scraped out. The patient's left arm was paralyzed, and there was ptosis of the left eye. He was in a state of chronic delirium (lead encephalopathy), having hallucinations of varied form. The patient had long suffered from attacks of lead colic. The writer is of opinion that the administration of potassium iodid in these advanced cases of lead-poisoning is useless. [A.B.C.]

New York Medical Journal.

November 7, 1903. [Vol. LXXVIII, No. 19.]

1. The Dwarf Tapeworm (*Hymenolepis nana*), a Newly Recognized and Probably Rather Common American Parasite. CH. WARDELL STILES.
2. The Operative Treatment of Chronic Bright's Disease: A Second Communication, Based on Reports of 120 Cases. RAMON GUITERAS.
3. The Importance of the Physical Examination of the Abdomen as a Routine Practice Irrespective of What Be the Symptoms. MARK I. KNAPP.
4. Deep Breathing. RICHARD COLE NEWTON.
5. Some Points in the Treatment of Hip-Joint Disease. GEORGE B. PACKARD.
6. Some Principles on which is Based the Therapeutics of Electricity in Nervous Diseases. A. D. ROCKWELL.

1.—The Dwarf Tapeworm.—A newly recognized American parasite. *Hymenolepis nana*, is described by C. W. Stiles. It measures from ¼ of an inch to slightly less than 2 inches (5 mm. to 45 mm.) in length, Like tenia it has 4 suckers on the head. It has been proved that when the eggs of this parasite are swallowed by white rats the embryos escape from the shells, bore into the intestinal villi, become transformed into the larval stage, and later fall again into the lumen of the intestine, to become adult with mature eggs within 15 days; 30 days from the time of infection, eggs were found in the feces. Stiles assumes that the same cycle without intermediate host may take place when the parasite infests man. It seems probable that rodents, especially rats and mice, are the regular hosts for this parasite. The dwarf tapeworm inhabits the ileum and there may be a single parasite or several thousand specimens present in a patient. Simultaneous infection with other parasites is common. The most frequent symptoms determined by the presence of *Hymenolepis nana* are abdominal pain, which may or may not be associated with diarrhea; convulsions of various sorts, frequently epileptiform; headache; and strabismus. Male fern is the only drug which has thus far met with any degree of success in the treatment. [C.A.O.]

2.—See *American Medicine*, Vol. V, No. 22, p. 854.

3.—Physical Examination of the Abdomen.—M. I. Knapp directs the attention of the medical profession to the absolute need of a physical examination of the abdomen in every case, no matter what or how insignificant are the symptoms. The correctness of this contention he illustrates by several cases. The cases show first, that abdominal examination should be practised much more than it is at present; and, second, that tumors, carcinoma included, can grow to a large size without arousing suspicion or giving symptoms. Considerable stress is laid upon inspection as a means of gaining important information in these cases. [C.A.O.]

4.—Deep Breathing.—R. C. Newton says that deep breathing is essential to good health, and is in many cases a valuable therapeutic measure. He believes that its importance is not at all generally appreciated, and that it should be a part of every child's education. It is especially indicated for backward and sickly children. He says that the profession owes it to itself to study more deeply this vital question, and to be able to instruct the laity fully upon all its bearings. [C.A.O.]

5.—See *American Medicine*, Vol. V, No. 22, p. 856.

6.—Electrotherapy in Nervous Diseases.—A. D. Rockwell says that the reasons there are so many disappointments in the results obtained from the use of physical methods of treatment, and especially electricity, in these cases are: (1) Ignorance of the physics and physiology of the method employed; (2) imperfect technic, and (3) failure to appreciate the differential indications for the use of the various modalities. The article aims to enable one to appreciate clearly the differential indications for the use of the different electric modalities which the author believes is at once the most difficult, as it is the most neglected part of the art of electrotherapeutics. [C.A.O.]

Medical News.

November 14, 1903. [Vol. 83, No. 20.]

1. Chronic Villous Arthritis, with Special Reference to Its Etiology and Pathology. CHARLES F. PAINTER and WILLIAM G. ERVING.
2. Treatment of Tapeworm. SAMUEL P. GERHARD.
3. X-ray Treatment of Cancer of the Uterus; Method and Results. SINCLAIR TOUSEY.
4. Why Not Absolute Precision in Chyme Analysis? MARK I. KNAPP.
5. Precipitins and Their Medicolegal Use. JAMES EWING and ISRAEL STRAUSS.

3.—X-ray Treatment of Cancer of the Uterus.—Sinclair Tousey describes the method, and claims that wonderful results may be expected. The treatment by means of vacuum tubes brings about complete relief from pain, and the entire treatment results in a cessation of the discharge, disappearance of the odor, and a restoration to general health. The fibroid diminishes somewhat in size, and the progress of the carcinomatous infiltration is arrested. Each treatment acts as a general tonic, and the patients often declare that they would be treated every day if they could afford it. The patients the author has treated or recommended for treatment in this way had cases in which the surgical removal of the disease seemed impossible, or in which it had been unsuccessful. In these cases, a symptomatic cure resulted. The author has formed no opinion as to the possibility of a complete disappearance of uterine cancer under Röntgen ray treatment. [W.K.]

4.—Absolute Precision in Chyme Analysis.—M. I. Knapp reasserts that while dimethylamidoazobenzol reacts very sharply on free mineral acids, it reacts also on other very weak acids, and on such degrees of acidity as are within the bounds of even a subacid stomach. The supersaturated alcoholic solution of tropeolin 00 stands in no way behind the reagents of Gunzburg and Boas, and in addition can be used for precise titration. Both free HCl and organic acids very often exist simultaneously. The presence of relatively large quantities of organic acids, either formed within or introduced into the stomach, gives the symptom-complex described by the author as organacidia gastrica. The presence of these acids can be

demonstrated by the floating test, carried out in 1 or 2 minutes. Free HCl, organic acid, and general acidity can be determined in one and the same specimen, thus enabling us to work with small quantities. This is accomplished by using tropeolin with titration until all the free HCl is combined, then dimethyl to determine the quantity of weak organic acids, and finally phenophthalein for the total acidity. [H.M.]

5.—Precipitins and Their Medicolegal Use.—J. Ewing and I. Strauss review the work of investigators as to precipitins for albumins of blood, milk, muscle, and bone, and exudates and also as to the specific precipitins for albumins, globulins, and peptones, and for vegetable albumins. They discuss the nature of the precipitin reaction, the substances exciting its development, and what constitutes the precipitum; also artificial and spontaneous changes in precipitin serum from age, heat, chemicals, and precipitoids; also changes in the precipitable substance from heat, drying, acids, salts, earth, antiseptics, and miscellaneous materials. They then consider the specificity of precipitin reactions, and define as a result of their own confirmatory investigations the essential features. Only the more active serums can be safely employed, such as cause flocculent precipitates in 3 hours when added in proportion of one of test serum to 100 of blood solution. A potent serum is especially necessary when dealing with small stains. As potent serums are more diffuse in their action their dilution must be high enough to rule out spurious reactions from heterologous bloods. In a proportion of 1 to 50 only human and monkey bloods will give more than faint turbidities. A dilution of 1 to 100 is better when the material to be tested is abundant. Most writers prefer 3 hours as the time limit of the reaction. With humanized serums, dilutions of even 1 in 10 or 20 in heterologous bloods seldom become flocculent in 3 to 4 hours. With minute, old, and feebly reacting specimens the time limit must be increased and the dilution decreased. The writers designate a normal test serum as one of which 1 cc. added to 10 cc. of fresh serum diluted 1 in 100 yields a distinct flocculent precipitate in 1 hour at 37° C., and that the unit of precipitin be the quantity contained in 1 cc. of such normal serum. By careful calibration of the test serum the blood of the highest monkeys may be distinguished from human blood. They conclude with a full description of the technic of producing the serum and applying the test. [H.M.]

CLINICAL MEDICINE

DAVID RIESMAN A. O. J. KELLY

REVIEW OF LITERATURE

Clinical Description and Pathology of the Adams-Stokes' Symptom-complex.—H. Luce[1] reports in detail the symptoms of a patient who, during life, presented the symptom-complex of the Adams-Stokes' syndrome. He had never been ill before this condition manifested itself, the disease beginning very suddenly one day, while he was at work, with an attack of fainting, which lasted several hours. An examination revealed 28 pulse-beats and heart-beats to the minute. The heart action was regular, the pulse full and slightly tense. Cardiac dullness was normal in outline; a systolic murmur could be heard over the entire precordia; the second sound was perfectly clear. No other abnormalities could be discovered. The patient had a number of fainting spells during the next few days and died during one of them on the fourth day of the disease. Autopsy brought to light a primary sarcoma of the cardiac septum, which had led to a bilateral infravalvular obstructing stenosis. A very complete microscopic study of the case with special reference to the central nervous system and the pneumogastric nerves was made and the conclusions concerning the nature of the disease, and especially of the bradycardia are formulated as follows: Organic lesions of the cardiac septum may produce a retrograde degeneration of both vagi, as some of their large branches run through the septum, terminating in the muscle without intermediation of ganglia. A myogenic origin of the bradycardia, wherever pneumogastric degeneration, whether peripheral or central, is found, is therefore extremely probable and either myogenic or neurogenic bradycardia must be considered as a diseased functional condition of the heart muscle, which is favored by insufficient nutrition, toxic, nervous and infectious diseases, etc., influencing the heart. The Adams-Stokes' symptom-complex may arise at any age and be associated with any cardiac disease of either organic or functional basis. Its course may be acute, subacute or chronic; recovery may result and arteriosclerosis is not absolutely necessary for its production. The chief symptom is bradycardia which may be of cardiogenic or neurogenic origin. The nervous symptoms of the disease vary and are the expression of individual reaction of the nervous system, especially of the medulla to the circulatory disturbance produced within the central nervous system by the slowing of the heart action. [E.L.]

[1] Deutsches Archiv für klinische Medicin, Vol. lxxiv, 369.

Relation of the Thyroid Gland to Marasmus.—In 18 cases of marasmus that came to autopsy, J. Ruhrah[1] found atrophy of the thymus to be the only demonstrable lesion, beside the terminal infection. The atrophy was marked, and was associated with relative increase in the fibrous capsule and interlobular tissue. The author concludes that: (1) Atrophy of the thymus gland is always found in cases of infantile atrophy; (2) the condition of the thymus is an index of the general nutrition of the infant; (3) the state of the nutrition in infants may be estimated by a microscopic examination of the thymus at necropsy. [B.K.]

Sapremia from Pyorrhea Alveolaris Simulating Typhoid Fever.—Carr and Roughton[2] report that a woman of 29 had noticed for a week before her illness that her gums were tender and bled easily. Following this there were several days of malaise, slight aching of the limbs, remittent or intermittent temperature, pulse 90 to 110, some diarrhea, and other ordinary symptoms and signs of enteric fever, even to a positive Widal reaction; at no time were there rose spots, enlargement of the spleen, or abdominal distention. The temperature rose regularly every evening, first to 104°, later to 103°, and later to 101° or 102°, for some 3 weeks. The disease was thought to be enteric fever. The patient, after being in bed a week or so, complained of dryness and soreness of the lips and gums. Later pus was seen to be escaping around some of the teeth. A specialist was called, who at once removed several of the affected teeth and instituted proper mouth washings. The temperature at once fell, and the patient made a rapid recovery. The authors state that previous instances have been reported of a positive Widal reaction in septicemia and sapremia. [A.B.C.]

Maritime Quarantine in Louisiana against Yellow Fever.—Q. Kohnke[3] gives a history of the maritime quarantine laws for New Orleans from their first enactment in 1816 to the present. The earlier periods were occupied by a series of attempts at quarantine alternating with repeals of the entire law, the latter being numerous. The later years furnish instructive records of the effect of various methods of quarantine and disinfection of vessels. At the present time, vessels (other than fruiters) coming from tropical ports from which yellow fever may be imported, are disinfected and vessel and passengers detained for 5 days. Fruiters from infected ports are disinfected, except hold and cargo, and not detained. The hold is disinfected with sulfur after the cargo is removed. Fruiters from noninfected ports are only partially disinfected. Kohnke says that no discovery in preventive medicine explains so well their successful quarantine against yellow fever as that of the mosquito transmission of the disease and nothing so well explains their failures. History compels recognition of the 2 cardinal principles of quarantine against yellow fever—destruction of mosquitos and detention for 5 days of persons exposed to the disease. [A.G.E.]

Physiology of the Thoracic Vagus Branches.—M. B. Zeele[4] sums up his experimental researches in these conclusions: 1. The cardiac branches of the vagus may be severed without opening the thoracic cavity. 2. Peripheral stimulation of the vagus causes a narrowing of the bronchi. 3. This narrowing of the bronchial lumen appears to be independent of circulatory changes due to cardiac anomalies, but is due to muscular spasm. It may also be caused by a swelling of the mucous membrane, however. 4. Both muscular spasm and swollen

[1] British Medical Journal, August 29, 1903.
[2] Lancet, August 22, 1903.
[3] New Orleans Medical and Surgical Journal, September, 1903.
[4] Russki Vratch, August 9, 1903.

membrane interfere with gaseous metabolism. 5. Swelling of the mucosa does not offer a greater resistance to expiration than to inspiration. Evidently, then, the prolonged expiration in constricted bronchi is a form of nervous regulatory mechanism. [L.J.]

Henoch's Purpura.—A case of this infrequent disease is reported by J. Orr.[1] The patient was a girl of 14. Several periodic relapses were, perhaps, the most interesting phenomena in the case. Six of these occurred, invariably beginning on Tuesday. By Friday or Saturday the patient would be practically well, and would remain so until the following Tuesday. Treatment was that usually employed for rheumatic manifestations. Improvement after the administration of orange juice was so pronounced that Orr would make that the first part of the treatment in a subsequent case. [A.G.E.]

GENERAL SURGERY

MARTIN B. TINKER
A. B. CRAIG C. A. ORR

REVIEW OF LITERATURE

The Surgery of the Simple Diseases of the Stomach.—B. G. A. Moynihan[2] discusses the surgical treatment of the stomach in reference to 4 pathologic conditions, namely, perforation of gastric or duodenal ulcers, hemorrhage from gastric or duodenal ulcers, chronic ulcers, and hour-glass stomach. He has operated in 12 cases of perforation of the stomach and duodenum with 6 recoveries. He holds that hemorrhage from gastric and duodenal ulcers may arise from an acute or chronic ulcer. The characteristics of hemorrhage from acute gastric ulcer are spontaneity, abruptness of onset, and rapid loss of a large quantity of blood, marked tendency to spontaneous cessation, the infrequency of a repetition of the hemorrhage in anything but trifling quantity, and the transience of the resulting anemia. Hemorrhage from chronic ulcer may be latent or concealed, in which case it is trivial or the hemorrhage is intermittent but in moderate quantity, occurring spontaneously, the life of the patient being never in jeopardy from the loss of blood, though the anemia is a persisting symptom, or the hemorrhage occurs generally after a warning exacerbation of the chronic symptoms, it is rapidly repeated, is abundant, persistent, and may lead rapidly to a fatal issue, or finally the hemorrhage is instant, overwhelming and lethal. In hemorrhage of acute ulcer, medical means will suffice in almost every instance to insure recovery. In a few cases, however, in which the hemorrhage is both copious and recurring, operation becomes necessary; in this case the surgeon should not seek for the bleeding point, which in all probability cannot be found, but he should proceed at once to do a gastroenterostomy. In all cases of hemorrhage from a chronic ulcer an operation should be performed at the earliest possible moment. Search for, and local treatment of the ulcer or ulcers is not necessary; gastroenterostomy will prevent recurrences of the hemorrhage, will lead to rapid healing of the ulcer from which the blood has come. It is almost or quite impossible to distinguish between gastric and duodenal ulcers, nor is such distinction necessary, for the duodenal ulcer almost always indicates a preexisting gastric ulcer. Inveterate dyspepsia is in itself ample warrant for surgical treatment. The treatment of hour-glass stomach is considered at some length. [A.B.C.]

Indications for the Surgical Treatment of Cholecystitis and Cholelithiasis.—W. Körte[3] does not approve of operating on every case of gallstone giving symptoms, nor does he favor procrastination when operation is necessary. He bases his expressions upon about 300 cases. When he operates he does so, not because of gallstones, but because of the variety and grade of inflammation. Colic may be due to cholelithiasis, cholecystitis, infected hydrops, infected biliary passages, with or without stone, etc. Even after operation the patient may not be free from symptoms; there may be a recurrence, a stone may have been left, or adhesions may produce the symptoms. He does not consider an early operation indicated in chronic cases without violent symptoms and slight jaundice, unless the case presents violent exacerbations, or the social position of the patient forces him to work. He operates in cases where life is threatened during the attack, or where the patient is losing ground between paroxysms. Chronic remitting fever, chills, a palpable, tender gallbladder after the attack, repeated icterus, which does not disappear quickly, and increasing hepatic tenderness, are indications for operation, which, however, is best performed after the acute attack. Hepatic nodules, a sign of carcinoma, are a contraindication, as it is then already too late. He prefers cystectomy to cystotomy and drainage; its prognosis is better. Choledochotomy and drainage he does in most of his cases, but always where infection exists. [E.L.]

The Surgery of the Lower Ureters.—Hugh H. Young[1] gives at length the anatomy of the ureters. Anomalous positions and conditions are considered, together with various pathologic conditions. A number of cases are reported which have to do with surgical conditions in the lower portion of the ureter, under the following captions: Intravesical balloon formation at the end of the left ureter; papilomatous ureteritis associated with stricture at the orifice of the left ureter, tuberculosis of the kidney, nephroureterorectomy and cure; chronic sinus of the left side supposedly due to necrosis of the ribs, cystoscope demonstration of atrophy of the left side of the trigone, contracture of the ureteral orifice and absence of urinary function, operation, kidney found destroyed by calculi, nephrectomy and cure; calculus impacted in the intravesical orifice of the left ureter, detected by the cystocope and extracted by means of a uretercatheter; calculus impacted in the left ureter for probably 27 years, removed by extraperitoneal ureterolithotomy through an iliac incision, lateral cystotomy and intravesical ureterotomy for stricture of the intramural ureter, cured; calculus impacted in the juxtavesical of the right ureter demonstrated by uretercatheter and radiograph, ureterolithotomy, suture and cure. Other cases are reported and the paper deals exhaustively with the various pathologic conditions of the ureters. [A.B.C.]

The Sequels of Renal Decapsulation.—B. F. Bonch[2] examined the kidneys of animals that had been subjected to renal decapsulation and found that the decapsulated organs showed a rapidly progressing and extensive growth of connective tissue around the uriniferous tubules. The result is pressure on the renal parenchyma and atrophy of the cells. These facts have an important bearing on the ultimate result of the operation, which would thus appear to be more dangerous than at first suspected. [L.J.]

Cerebellar Abscess with Sudden Paralysis of the Respiratory Center.—H. Fliess[3] reports a case of cerebellar abscess existing in a man who had a discharge from the middle ear for some years. This abscess existed for some time without giving symptoms. Vomiting, pain on moving head, stiff neck, tenderness on percussion, irregular temperature, slight delirium, facial palsy, deficiency of hearing then arose. Operation was decided on, but after a few minutes of etherization, respiration ceased, not to return in spite of prolonged artificial aid. The heartbeat persisted for 2 hours under artificial respiration. The abscess was found as diagnosed, having evidently collected by passing along the aqueductus vestibuli. Fliess believes the respiratory paralysis to have been brought on by increased cerebral pressure. [E.L.]

GYNECOLOGY AND OBSTETRICS

WILMER KRUSEN FRANK C. HAMMOND

REVIEW OF LITERATURE

Treatment of Hematocele.—P. Zweifel[4] says the old idea that retrouterine hematocele was due to the retention of the menstrual fluid from cold or other cause, has been superseded by the now accepted theory that it is almost invariably the result of extrauterine gestation. When in a pregnant woman symptoms of peritonitis appear, as pain in abdomen, fainting, vomiting, and weak pulse, there has probably been a rupture of a pregnant tube. There is grave danger in letting this go on

[1] The Practitioner, September, 1903.
[2] British Medical Journal, June 13, 1903.
[3] Deutsche medicinische Wochenschrift, April 9, 1903.

[1] Annals of Surgery, May, 1903.
[2] Russki Vratch, May 24, 1903.
[3] Deutsche medicinische Wochenschrift, April 2, 1903.
[4] Münchener medicinische Wochenschrift, August 25, 1903.

and great wisdom in immediate operation. Cases of acute hemorrhage will usually die without immediate action, but can as a rule be cured by operation. The operation is easy, and consists in the immediate search for the bleeding tube and its seizure by forceps to control the bleeding. Then ligate the tube, remove the blood from the abdomen to the last drop. In order to remove the blood with the least irritation of the intestines, one should not hesitate to raise up the narcotized patient so that the blood may flow into the Douglas sac, whence it is easily removed by sponging. In case of existing encapsulated hematocele, Zweifel advises a waiting treatment. Only putrefaction of the blood, persistent pain, or especially large-sized hematocele, furnishes cause for operation. With these limitations opportunity is frequently offered for operation. In cases of waiting treatment, it is the natural desire of the physician to hasten the absorption of the hematocele. But if one is honest, in these cases nature does all, and the doctor does nothing—that is, nature heals, and the physician takes care of the patient. Some recommend the use of iodin, but the writer holds mostly to hydrotherapy and rest in bed. [W.K.]

Bilateral Parotiditis and Croupous Pneumonia Complicating Malaria During Pregnancy.—Under this head Samuele Sereni[1] discusses the nature of parotiditis and refers to its duple origin, known as long ago as the time of Hippocratic division into an idiopathic, then styled "benign, soft, white inflammation," and another, a dangerous inflammation, complicating or consequent to some infectious morbid process elsewhere in the body. After a brief history of the particular case in point, evidently consecutive to pulmonary, or the other conditions noted, the author compares views of Trousseau, Dupré, and Claisse on this subject, and continues with a minute examination into the actual etiology. The various interdependence of pregnancy, pneumonitis, malaria, and parotiditis is considered and leads to quotation of cases and opinions of many writers, among whom are Hanau, Pilliet, Schuetzenberger, and Crocq. The paper closes with an extensive bibliography. [T.H.E.]

Value of Conservative Operations on the Uterus and its Appendages.—W. P. Manton[2] says, that while in a very large proportion of the patients that consult the specialist regarding disease of the pelvic organs the conditions have lasted for so long that conservative treatment is impossible, there remains a goodly percentage of cases in which the removal of the pathologic process is possible without destruction of the entire organ. He reports 62 conservative operations on the uterus and appendages in 53 patients during the past 5 years. These include myomectomies, resection of ovaries and tubes, and puncture of cystic ovaries. Of the cases reported, there have been 94.3% of symptomatic cures, 5.6% of failures, and 5.6% of pregnancies. There were no deaths. In formulating conclusions regarding reconstructive surgery, note must be taken of the more rapid convalescence, the more satisfactory improvement in the general health of the patient, the maintenance of the reproductive organs, and the possibility of future pregnancy. [A.G.E.]

TREATMENT

SOLOMON SOLIS COHEN
H. C. WOOD, JR. L. F. APPLEMAN

EDITORIAL COMMENT

Psychic Therapy.—Few physicians will disagree with the statement that the influence of the mind in the treatment of disease has been too much neglected by scientific medical men. The multiplication of various faith cures and quack treatments is sufficient proof of this. It is impossible to deny that these various cults have in many cases succeeded in relieving disease. The statement of Burch[3] that it is possible through suggestion to produce anatomic alterations, we may be pardoned for doubting. This author quotes the wellknown claims that certain observers through hypnotic suggestion have produced blister with the aid of no more active drug than a postage stamp. No unprejudiced experimenter under properly controlled conditions has as yet succeeded in verifying these observations. Subjective conditions only are susceptible to direct relief by suggestion. Indirectly in many obvious ways, this relief may aid in the further recovery from objective disorders. Burch points out that the faith cure, eddyism, spiritism, hypnotism, and the like, often produce similar effects by methods apparently antagonistic to each other. It is evident, however, that underneath all these agencies there must be some fundamental basal principle. It seems to us that it is in the influence of the emotions through the vasomotor system on nutrition and function that the explanation is to be sought. Among psychologists today it is fashionable to say that the mind has a double sort of functioning, the ordinary conscious thinking and that spoken of as subjective, subconscious, or subliminal intellection. Appeals to the conscious mind are not ordinarily important aids to influence the course of disease. The subliminal mind is thought to be very potent. Thus the effect of unwise sympathy from friends on the sick man is a common experience. Tell the patient that he looks worse, and the chances are that he will become worse, or suggest incompetency of the attending physician, and despite the fact that his reasoning faculties dispute the statement, the sufferer is likely to lose confidence in his medical attendant, not because he believes the statement, but because his subliminal mentality appropriates the suggestion despite the protest of his rational intelligence. The value of hypnotism in aiding suggestion—according to Burch—is merely that it puts aside the interference of the higher intellection and leaves the subconscious mind freely open to suggestion. The Christian scientist, on the other hand, attempts to cure his patient largely through the constant suggestion that there is no disease, and that the fact that the patient feels sick is but a mental delusion. The subliminal mind receives suggestions not only from outside, but accepts the suggestions of the higher intellect, socalled autosuggestion. This autosuggestion may very markedly influence the patient for better or for worse. Ordinarily, we are unconscious of the functioning of our organs, but the moment pain or discomfort makes us aware of some disordered physiologic process we become conscious of our bodies, so to speak, the higher intellect suggests some considerable disorder, and the condition which may have been comparatively mild, is greatly aggravated by the effect on the subconscious mind. The underlying principles of psychic therapy Burch finds in three elements, namely, faith, the skilful application of the suggestion, and a passive or receptive condition of the patient. The importance of faith as an element in relieving suffering has been recognized by psychologic therapists for thousands of years. Burch believes the miraculous healings of prophets to have been performed by means of a complete understanding of the laws of psychic therapy, and points out how the Greatest of Divine Healers declared continually the absolute essentialness of faith in the cure of disease. F. X. Dercum, whose recent admirable study of mental therapeutics[1] we have already cited in these columns, distinguishes sharply between the legitimate mental impression or "normal suggestion," used by every skilful physician, sometimes deliberately, sometimes unintentionally, and those methods which depend upon the induction of an abnormal mental state—an artificially induced hysteria. Under this latter head he classes metallotherapy, mesmerism, hypnotic suggestion, etc., as well as the various "mind cures," and "faith cures," including eddyism (socalled Christian science), which, as he points out, depend upon the induction of a "negative hallucination." Therapeutic hypnotism must defend

[1] Policlinico, Rome, September 26, 1903.
[2] Journal of the Michigan State Medical Society, October, 1903.
[3] Journal of Advanced Therapeutics, 1903, xxi, p. 491.

[1] Rest, Mental Therapeutics, Suggestion, Philadelphia, 1903.

itself against Dercum's forcible criticism or it cannot be longer tolerated. On the other hand, the field of usefulness of deliberate "normal suggestion" may well be enlarged. We are, however, it is to be confessed, in a state of almost total ignorance concerning the definite laws of psychic therapy and, while the subject is one which by its very nature is difficult of scientific investigation, and advances in knowledge concerning it must continue to be made largely through empiricism. Discussions of the subject are, we believe of benefit; in the first place, by calling attention to its importance, and second, by making common knowledge of the results of individual experience.

REVIEW OF LITERATURE

The Treatment of Whoopingcough with Aristochin.—Of all the recent quinin preparations N. Swoboda[1] believes aristochin to be the best. It contains 96% of quinin, is easily soluble in the gastric juice, and is absorbed in quantities almost as large as those of quinin hydrochlorate. It does not irritate the gastric mucous membrane, has very powerful germicidal powers, and is not as poisonous to man as quinin. He treated 68 cases of whoopingcough with it, giving it in doses according to the following formula: Nurslings were given 3 times as many centigrams to a dose as their age in months, larger children 3 times as many decigrams as their age in years. The drug did not upset the stomach in a single instance, did not produce any evil after-effects, and was liked by the children. About half the cases, it is said, were influenced favorably, some terminating shortly after the first dose. The average duration under treatment was only 9 days. [E.L.] [Important, if accurate, but quite astonishing. S.S.C.]

Successful Treatment of Intrathoracic Aneurysm by Sufficiently Large Doses of Potassium Iodid.—Wilfred R. Kingdon[2] holds to the view that failure in the treatment of aneurysm with potassium iodid is often due to the physician hesitating to give large doses of the drug, especially when symptoms of iodism appear. In support of this view, he reports 3 cases, all occurring in young men, of intrathoracic aneurysm treated by rest in bed, anodynes, the Tufnell diet, and large doses of potassium iodid. The dose was gradually increased until in the first case it reached 4.5 grams (70 grains), in the second 4.8 grams (75 grains), and in the third 5 grams (80 grains) 3 times daily. Not until the large dose was reached and continued for some time, were there signs of improvement. The third case was especially serious, the tumor projecting about 3 cm. (1⅛ in.) from the anterior chest wall, and slight spontaneous rupture having occurred before systemic treatment was instituted. In each case all the urgent symptoms disappeared, and the patients were able after 3 or 4 months of such treatment to get up and finally to return to their ordinary vocations. Kingdon believes little results can be expected when the dose is below 4 grams (60 grains) 3 times daily. [A.B.C.]

Serotherapeutic Treatment of Scarlet Fever.—Th. Escherich[3] reports the results of the employment of Moser's antiscarlatinal serum in the treatment of 112 cases of this disease. This serum is injected under the skin of the lateral part of the abdomen in the dose of from 100 cc. to 200 cc. (3 oz. to 6 oz.). It causes the temperature to fall 2° or more without sweating and symptoms of collapse. At the same time the frequency of the pulse and respiration is diminished; the arterial pressure is lowered; the eruption becomes paler; delirium and restlessness disappear. In noncomplicated forms of the disease, this decrease in temperature is permanent and the eruption fades entirely in a few days. In less favorable cases the antipyretic effect of the serum is less marked; the fever diminishes without disappearing entirely; but its duration is shortened and defervescence occurs by lysis. Serotherapy exercises no direct effect upon the local manifestations of the disease, but if administered early, it lessens the production of these accidents. In Escherich's experience the mortality from the disease was reduced by half. [L.F.A.]

[1] Wiener klinische Wochenschrift, 1903, xvi, 279.
[2] Lancet, August 22, 1903.
[3] Bulletin Général de Thérapeutique, Vol. cxlvi, No. 8, 1903, p. 315.

PATHOLOGY.

J. EDWIN SWEET

EDITORIAL COMMENT

Some Recent Work in Comparative Pathology.—There is no more beautiful memorial of a man than the desire of his students to continue the work outlined by him. One of the great aims of Pasteur's work was to lighten the burdens of the peasant class by the practical applications of his discoveries. This work has not been forgotten by his pupils, and they have succeeded in handing down this ideal to a later generation. The past year has given us several such researches along the lines of practical application, and of more or less practical value, from the great institute founded by Pasteur. Two members of the commission sent by the French Government to Brazil to study yellow fever, have made two interesting contributions. The first of these is in regard to a disease of Brazilian cattle, locally known as "garotilha," characterized by its rapid course, and the extensive tumefaction of the neck region. Marchoux and Salimbeni[1] have found this disease to be caused by the anthrax bacillus, which enters the organism by way of the mouth, and passes into the lymph-glands of the mouth and neck regions, thence becoming disseminated. The spores are doubtless scattered over the pastures in the excreta of the vultures. The second paper by these same authors,[2] describes a disease seen in fowls in Rio de Janeiro and vicinity. They find the cause to be a spirillum, of the same group as the spirillum of recurrent fever. Vaccinations with virulent blood or serum kept for from 2 to 4 days, or heated to 55° C. for 5 to 10 minutes, or filtered through a Berkefeld filter, were successful as a prophylactic measure. The infection occurs through the agency of a tick, the *Agarus persicus*. Two other disciples of the French school, Elmassian and Migone,[3] give a complete description of a disease epidemic among the horses of Paraguay. They have found the cause to be a new trypanosoma, and do not consider it identical with the cause of the Indian "surra," although the clinical manifestations seem to be much alike. Interesting to the medical profession in this day of transmission of disease by parasitic insects, is the proof that this "Mal de Caderas" is not transmitted by the horse fly. These papers may, at first sight, seem out of place in a medical journal; but let us remember that it is this very breadth of activity which explains the success of the Pasteur Institute, an activity which might well be emulated by our strictly medical schools. Pathology does not consist alone in examinations and descriptions of rare anatomic findings, and of many that are not so rare. The study of disease in the human body is too limited by the impossibility of direct experiment, and in the future, as in the past, we must study the animal by direct experiment, and draw conclusions for man.

The Specificity of the Antisera.—The fact that an animal can be made immune to any of the somatic cells of an alien species, and that this immune serum, injected back into the species which furnished the cells, will cause more or less specific lesions, has been the basis of an enormous amount of research. The results of this work are of interest to the theory of medicine, and are mainly limited to the consideration of immunity. The practical uses of the principle are, unfortunately, by no means as numerous as was at first anticipated; an illustration of the extent of these anticipations is the idea elaborated by one writer, of immunizing an animal against human placenta, and then using this serum in diagnosing pregnancy. In the differentiation of bloods and bones for medicolegal purposes the method gives practical results which, when the method is properly

[1] Annales de l' Institut Pasteur, Vol. xvii, No. 8, 1903.
[2] Annales de l' Institut Pasteur, Vol. xvii, No. 9, 1903.
[3] Annales de l' Institut Pasteur, Vol. xvii, No. 6, 1903.

applied, are by far the most accurate. The principle is also applied to a practical use in some countries to differentiate between beef and horse-flesh. This is the limit of practical application. It was at first confidently expected that an antiserum for carcinoma could be made, but no positive results have as yet been reported. The reason for this disappointment in the case of the serum treatment of carcinoma would seem to be the fact that those substances in the cells which cause the production of the antisubstances are not absolutely specific, as was at first assumed and taught, but are common to several groups of cells. An animal injected with carcinoma cells would therefore give a serum which would react upon other cells than those of the carcinoma, possibly upon the important organs of metabolism, as well as upon the erythrocytes and upon normal epithelial tissue, the result being evidently a therapeutic danger, rather than an aid. The first definite stand for the fact of this non-specificity has been taken by Pearce,[1] in his paper upon the "Nephrotoxins." This study of the nephrotoxins is the most complete and most careful study which has appeared upon the whole question of the cytolytic sera. The conclusions which Pearce draws are all of great interest and are well substantiated, but we are limited here to the consideration of the conclusion in regard to specificity. Pearce found that the serum of an animal treated with successive injections of alien kidney cells would show marked hemolytic power, as well as a certain nephrotoxic activity. It might be supposed that this production of hemolytic power was due to the injection, with the kidney cells, of red blood-cells, which were included in the vessels of the kidney used for the injection. Pearce, therefore, used carefully washed kidney, with the result that hemolytic action was still readily demonstrable. The same coincidence of hemolytic power and specific activity was proved in the serum of animals injected with washed, alien liver, and both hepatotoxin and hemolysin were found to have an action upon the cells of the kidney. The conclusion is therefore evident, that the substances which cause a reaction with the production of antibodies are not confined to the particular group of cells used for the injection, but are doubtless chemic components of several, at least of the types of cell.

REVIEW OF LITERATURE

The study of beriberi in its relation to the geographic, geologic and climatic nature of the country, and the social and hygienic status of its various races, is recently published by Dr. Hamilton Wright.[2] No better field in which to study this disease could have been chosen, for in the Malay peninsula are gathered together members of nearly all oriental peoples affected by the disorder, and geographically the peninsula is the center of the beriberi belt. Wright has abandoned the older classification of types of the disease and substitutes the following: 1. Acute pernicious beriberi which is always fatal. 2. Acute beriberi which runs a course of from 3 to 6 weeks, leaving the patient paralyzed. 3. Beriberic residual paralysis, which persists after the specific virus has ceased to act. The general results of the study may be summarized as follows: 1. The incubation period varies from 10 to 15 days, though the full effects of the virus may not be manifested until later. 2. Beriberi in Europeans is almost unknown, in Eurasians it is comparatively rare, and among Malays and Tamils not common, while the Chinese are the greatest sufferers. 3. Females of the different races are susceptible to beriberi to the degree to which they live under the conditions which induce it in the males. 4. Infants and adolescents are rarely attacked by the disease; the greatest susceptibility is in the second and third decades. 5. The principal foci appear to be mines, jails and asylums. The disease is not prevalent on large estates or in fishing villages. 6. The geologic conditions of the peninsula do not support Dierling's theory. 7. There is no evidence to show that mineral poisons, especially arsenic, have an etiologic relation (Rossi theory). 8. Altitude appears to have a definite bearing on the causation of the disease; beriberi occurring only in the low moist valleys. Temperature has no relation. There is ground for believing that the northeast monsoon rather than the southwest monsoon favors the operation of the specific cause of beriberi. 9. Peculiarities of diet (fish, rice, etc.) among different races have no important relation to the development of beriberi. The report contains a very interesting account of experiments (the great detail of which will not allow repetition) carried on in a jail containing 400 to 500 prisoners. These demonstrated to Wright's satisfaction (1) that "beriberi is independent of diet considered as diet; (2) proof that the gaol itself is a focus in which the virus of beriberi is generated; (3) evidence that confirms the view that beriberi is, broadly speaking, an infectious disease."

Preliminary Report upon a Gastrotoxin.—Theohari and Babes[1] have endeavored to produce a serum having specific toxicity for the peptic gland cells of the stomach by injecting one species with macerations of portions of the gastric membrane of another species. The object of the investigation was to study the effect of such a specific toxin, and to eventually obtain some light upon the obscure etiology of gastric lesions. Goats were immunized against the peptic glands of the dog. The results of the work are summarized as follows: 1. A gastrotoxic serum of a low degree of specificity causes marked hypersecretion. 2. A powerful gastrotoxin, injected into the veins, causes death in a short time, with marked hyperemia of the mucous membrane of the stomach and the small intestine, 3. Small doses of this powerful toxin excite peristalsis and cause extensive intestinal hemorrhages. The central cells show functional changes, while the parietal cells show degenerative lesions. 4. A serum specific for the peptic cells of the stomach of the dog produces extensive changes in the small intestine, while the colon is entirely unaffected, a phenomenon difficult to explain at present. [J.E.S.]

Primary Carcinomatoid Tumor (Mesothelioma) of the Adrenals, with Sarcomatous Metastases.—A case described by P. S. Woolley[2] of interest in the first place because of the entire lack of clinical symptoms which could be referred to the primary tumor. The only clinical symptoms noted were those of tumor cerebri and meningitis, caused by the metastases in the brain. The case is of further interest because of its rarity, and because we have an addition to the records of those rare tumors which seem to show different characters in the primary tumor and in its metastases. The term used by the author, mesothelioma, is supposed to make clear the origin of the tumor from the mesoblast. Metastases occurred in the lung, brain and peritoneal lymph-glands. The classification of these tumors is indeed difficult, and the name "mesothelioma" may be the proper term, though it should not be qualified by the terms "carcinomatoid" and "sarcomatous." [J.E.S.]

Etiology of Cancer.—Fraenkel[3] records the results of experiments made to produce carcinoma by the experimental displacement of embryonal tissue. These experiments were made with the view of testing the case reported by Lack[4] of the production of multiple adenosarcoma of the peritoneum of a rabbit by the injection of the mechanically separated cells of the rabbit's ovary. Fraenkel has not seen a single positive result in 14 experiments, and concludes that the case reported by Lack was due to mere coincidence, and not to the conditions of the experiment. [J.E.S.]

The Relation of the Adrenals to Congenital Syphilis.—N. Guleke[5] arrives at the following conclusions from a careful study of a number of cases of congenital syphilis: Pathologic changes in the adrenals in congenital syphilis are by no means

[1] University of Pennsylvania Medical Bulletin, Vol. xvi, Nos. 5 and 6, 1903.
[2] Studies from the Institute for Medical Research, Federated Malay States, Vol. ii, No. 1. An Inquiry into the Etiology and Pathology of Beriberi, by Hamilton Wright, M.D. (Vue Sill).

[1] Centralblatt für Allgemeine Path., Bd. xvi, No. 11, p. 420, 1903.
[2] Virchow's Archiv. Band clxxii, Heft ii.
[3] Centralblatt für Allgemeine Path., Bd. xiv, No. 16, 17, p. 664, 1903.
[4] Journal of Pathology, Vol. vi.
[5] Virchow's Archiv, Band clxxiii, Heft iii.

rare, even though they are not always recognizable at macroscopic examination. They consist in typical interstitial, productive inflammation and genuine gumma formation. But beside these changes, peculiar necroses are found, which are of varying size and of progressive character. Guleke considers these necroses the effect of the action of a toxin, in this case the specific virus of syphilis, but does not think them a specific syphilitic process. [J.E.S.]

Ciliated Epithelial Cysts of the Capsule of the Adrenal, and of a Pelvic Lymph-gland.—The title sufficiently explains the findings in the case described by K. Sick.[1] The case is of interest in its bearing upon Cohnheim's theory of the dislocation of embryonal cells; the author is unable to decide whether the ciliated cells took their origin from the primitive foundation cells of the intestinal tract or of the urogenital tract. [J.E.S.]

Atrophy of the Adrenals in Addison's Disease.—M. Simmonds[1] describes 2 new cases of Addison's disease with extreme atrophy of both adrenals, and reviews the 24 cases recorded in the literature with a view of establishing the role played by syphilis in this disease. The result of the consideration of the 26 cases is that we must consider the double atrophy of the adrenals encountered in Addison's disease either an idiopathic atrophy, or the result of chronic inflammatory changes. Whether or not syphilis is a factor is a question which cannot be decided on the basis of the recorded cases. [J.E.S.]

A Degeneration Cyst of the Adrenal, with Compensatory Hypertrophy.—The observation of G. Marchetti[1] establishes the fact of compensatory hypertrophy of the adrenals for man, a fact which has been experimentally proved for animals. The usual teaching in regard to the adrenals is that they exert their function through the medium of an internal secretion, so that we should not expect to find retention cysts of these organs; yet Marchetti reaches the conclusion, from the microscopic study of his case, that the cyst is a true retention cyst, a conclusion of no small importance to the question of the normal physiology of the adrenals. [J.E.S.]

A Summary of the Literature of Cytodiagnosis.—This summary, by A. Brion,[2] gives an apparently complete bibliography, comprising 107 references, of the literature upon the diagnosis of various conditions by means of the examination of the cells of the exudates found in these conditions. The article will be found of value to those whose facilities make possible a microscopic examination of pathologic fluids. The result of the summary is that it may be considered the rule that acute processes are accompanied by polynucleosis, while subacute and chronic processes are marked by a mononucleosis. Exceedingly interesting in themselves, and illustrative of the importance of cytodiagnosis, are the exceptions to this rule. Herpes zoster, always considered an acute process, is accompanied by a lymphocytosis of the cerebrospinal fluid; the acute pleuritis caused by the subcutaneous injection of diphtheria bacilli or of diphtheria toxin is marked by a lymphocytosis. The symptomatic importance of such examinations is well illustrated in syphilis; a cerebrospinal lymphocytosis occurs even before the appearance of the Argyll Robertson symptom, and may be considered the anatomic indication that the meninges are already reacting to the specific toxin, and that the nervous system is about to be attacked. [J.E.S.]

Summary Report of the Most Important Italian Contributions to General Pathology and Pathologic Anatomy during 1902.—Barbacci[3] summarizes in concise, clear form the results of no less than 288 publications, under 19 divisions of pathology. This summary not only offers an available source of Italian literature to those not familiar with the language, but it will also afford the reader a surprise in its picture of the activity of one year of the schools of Italy. [J.E.S.]

Syphilis Inoculated into Anthropoid Ape.—At a recent meeting of the Paris Academy of Medicine, MM. Roux and Metchnikoff[4] exhibted a female chimpanzee which they had inoculated on the genitals with scrapings from a syphilitic chancre. At the end of 25 days a small vesicle developed at the site of inoculation and later became a slightly depressed erosion, grayish in color, and having an indurated base. Swelling of the lymph-nodes in both inguinal regions afterward occurred. No eruption has appeared on the other parts of the body, but the genital ulceration and adenopathy are considered sufficient to prove the case one of inoculation of syphilis from man to an ape. M. Fournier said that the erosion presented all the appearances of having a syphilitic origin, but the appearance of secondary manifestations would be necessary to confirm that diagnosis. [A.G.E.]

Relation of the Pseudodiphtheria Bacillus to the Etiology and Prophylaxis of Diphtheria.—P. Giolli[1] finds from his own experiments and a study of the literature, that there is no sure method for the rapid differentiation of the diphtheria from the pseudodiphtheria bacillus. They can only be distinguished by the virulence of the former, which may be temporarily suspended at times. The association with a virulent streptococcus augments the virulence of the true diphtheria bacillus, but has no effect on the pseudodiphtheria. The true diphtheria produces a special toxin, but the pseudodiphtheria produces none at all. Pseudodiphtheric bacilli are found in the throats of those nursing diphtheria patients in the same proportion as in the throats of those who never come in contact with diphtheria. The real sources of diffusion of the infection are the throats of the patients or of convalescents, or the morbid products of the disease, containing the infective germs, *i. e.*, the true, virulent diphtheria bacilli. [B.K.]

Concerning Digestion Vacuoles and their Relation to the Foa-Plimmer Carcinoma Parasites.—Spirlas[2] says that the cancer parasites of Foa, Plimmer, Gaylord, Leyden, and Feinberg are all identical, differing only in size, membrane formation, and amount of contents. He has been able to produce them not only by the injection of cancer cells, but also by the injection of placenta cells, spermatozoa, sarcinas, liver cells, and sterile salt solution; he considers them nothing more than digestion vacuoles in which an intensely staining nucleus is to be found as remains of a leukocyte. They are usually found in lymphocytes, and are probably the remains of leukocytes. [E.L.]

The Agglutination of the Pneumococcus by the Serum of Patients Suffering from Pneumonia.—Ludwig Jehle[3] studied the agglutinating quality of the serum of 6 cases of pneumonia. He came to the conclusion that in all the cases that had concluded by crisis there was present a relatively very high degree of agglutinating power in the serum. This was associated with a high leukocytosis, and a significant lowering of the chlorids in the urine. On the contrary, in a case of lobar pneumonia with a low leukocytosis (8,000) and later in a case of "morbilien pneumonie" with a high leukocytosis (36,000) there was no agglutination. The power of the agglutination appears at the beginning of the disease and remains to the onset of the crisis. After the crisis there is a rapid diminution in the agglutinating power, so that in 48 hours it is present only to a slight degree, and in 4 days it has entirely disappeared. The test may be of diagnostic value in the early stages of pneumonia in doubtful cases. [J.H.W.R.]

Solitary Tubercle of the Stomach.—Roy M. Van Wart[4] reports a hitherto undescribed form of tuberculosis of the stomach, a solitary tubercle, obtained at autopsy upon a negress of 88. The tumor was 3.5 cm. (1½ in.) in diameter and almost spheric. The mucosa covering the tubercle was intact, the submucosa was only slightly injected, and the peritoneum was thickened. The muscularis was split into 2 layers, between which the tubercle was situated. The autopsy revealed no other definitely tuberculous lesion, but the presence of chronic peritonitis, pericarditis, and pleuritis must be considered. The conclusion reached is that it is impossible to state that the lesion was primary in the stomach, but there is no definite evidence to the contrary. Clinically the case is of little interest, as the condition gave rise to no symptom during life. [A.G.E.]

[1] Virchow's Archiv, Band clxxii, Heft iii.
[2] Centralblatt für Allgemeine Path., Bd. xiv, No. 15, p. 609, 1903.
[3] Centralblatt für Allgemeine Path., Bd. xiv, No. 16, 17, p. 673, 1903.
[4] La Semaine Médicale, July 29, 1903.

[1] Il Policlinico, September, 1903, Vol. x, Medical Section, No. 9.
[2] Münchener medicinische Wochenschrift, 1903, 1, 825.
[3] Wien. klin. Woch., 1903, No. 32.
[4] Johns Hopkins Hospital Bulletin, September, 1903.

The Transmissibility of Tuberculosis in Different Animals.—E. Wiener[1] reports the results of experiments made by Binot on the lines proposed by Nocard. Binot directly infected 2 cocks with cultures of tubercle bacilli of the horse, and placed within the abdominal cavities of 2 other cocks, sacs containing like cultures. These with 2 control animals were injected with tuberculin 3 days before the experiment was begun. The directly infected cocks died on the seventy-fifth and ninetieth days. Autopsy showed no change whatever at the site of injection. Preparations from the lungs, liver and kidneys showed the presence of tubercle bacilli. Cultures showed, not the characteristics of the bacilli from the horse, but those of fowl tuberculosis. The sacs that had been introduced into the abdominal cavities of the other 2 cocks were removed on the seventy-fifth and eighty-fifth days. These animals had increased in weight, and were perfectly well. The sacs were found in the anterior abdominal wall surrounded by a thick layer of fibrous tissue. Their contents was a caseous substance containing tubercle bacilli. Culture upon glycerin potato showed the same kind of bacillus as that introduced. Experiments on 6 dogs gave similar results. These experiments do not agree entirely with those of Nocard. He claimed that fowl tuberculosis could be easily transmitted to dogs, but in Wiener's experiments this was not the case. On the other hand Nocard succeeded in transmitting tubercle bacilli from suckling animals to hens only after numerous passages in sacs through the bodies of hens, or after a long abode in the same. Wiener accomplished this without difficulty. [J.H.W.R.]

Enzymes in Tumors.—Arthur Harden and Allan MacFadyen[2] state that the study of the nature of malignant processes has been mainly devoted to the investigation of the morbid anatomy of the affected tissues, and of the cancer cells in particular, while research into the origin has been largely based on the parasitic theory. Their researches have been along the line of inquiry into the functional modifications which take place in the cells of diseased tissue, *i. e.*, a biochemic and chemic study of the process. For this purpose they are studying both healthy and diseased tissues, that comparison may be made. Control experiments are necessarily made on the epithelium of the lower animals. The normal epithelium of the trachea of the ox has so far been found to contain enzymes of the following character: An invertase, an amylase, a maltase, and a proteolytic enzyme, while lactase and rennin have not been found. The diseased epithelium, which was mainly cancerous, and from the human breast, has so far shown the following enzymes: An invertase, an amylase, a maltase, proteolytic enzymes acting in acid and alkaline solutions respectively, a catalase, and an oxidose, together with traces of a lipase, and possibly of a perioxidose. A lactase has not been detected. The authors assert that they as yet can attach no special significance to these results, but they wish to put them on record as part of the investigation going on along this line. [A.B.C.]

The Gruber-Widal Reaction in Icterus.—Julius Joachim[3] reports a case of cholangitis purulenta and one of carcinoma of the ductus choledochus. In the first case there was a positive reaction with the typhoid bacillus, cholera spirillum, dysentery bacillus, and bacillus of pyocyaneus; in the second case there was a positive reaction with the typhoid bacillus, cholera spirillum, and the bacillus pyocyaneus. In the latter case the agglutination failed in high dilution, while it was positive in the first case in a dilution of 1–80. [J.H.W.R.]

Complete Reconstruction of the Liver.—M. Yamasaki[4] reports a case which exhibited during life the signs of cirrhosis of the liver, with splenic tumor, edema of the extremities, ascites, and caput medusæ. At autopsy it was found that the normal, radially constructed acini were almost totally destroyed, and that the liver was composed of circumscribed nodules, made up of newly-formed liver cells. Here and there a small parenchymatous rest remained. From these, but especially from the increased biliary passages, the new hepatic parenchyma had developed. There was no increase of connective tissue. The cause of the original destruction of hepatic tissue was not known; it may have been an acute yellow atrophy. [B.K.]

Duration of Life of Typhoid Bacilli Evacuated with Stools.—E. Levy and H. Kayser[1] report the case of a typhoid fever patient who passed his stools into a cemented cesspool for a period of 5 days without previous disinfection. The dejections remained there during five of the winter months and were then used as manure, remaining in the earth for 15 days. The temperature during these days was at or below the freezing point. Using gelatin as a medium and keeping it at a low temperature they were able to cultivate living typhoid bacilli from this earth. This again teaches the necessity of disinfecting stools, especially as it shows, that typhoid bacilli retain life under unfavorable circumstances for a much longer time, than has usually been thought possible. [E.L.]

Pathogenesis of the Bacillus Proteus Vulgaris (Hanser).—Emil Haim[2] describes a case of typhoid fever occurring in a girl 13 years old. Early in the case there was frequent vomiting and profuse diarrhea. The blood showed the Widal reaction in 1:20 dilution on the seventh day. *B. proteus vulgaris* (Hanser) was found in the stools. Serum from the patient in 1:50 dilution completely, and in 1:100 dilution incompletely, agglutinated the proteus bacillus. Haim looked upon the case as one of mixed infection, and claims that it is the only such case on record. He reviews the literature of *B. proteus*, and cites cases of cholera infantum, gastroenteritis, meningitis, abscess of the brain, leptomeningitis, inflammation of the bladder, peritonitis, appendicitis, pneumonia, diphtheria, and scarlet fever in which this bacillus seemed to play an etiologic part. [J.H.W.R.]

Bacteriology of the Blood.—H. A. Houghton[3] believes that a new method of bacteriologic blood examination must be devised before results will be satisfactory. In a lengthy article he quotes extensively from the literature and reports 3 cases. As a result he concludes: 1. Approximately normal blood contains to a greater or less extent pyogenic bacteria, their manifestation depending on other factors. 2. Bacteriologic blood examination has been proved to be of little or no value, either in diagnosis or prognosis, nor does it indicate any line of treatment. 3. When positive results are obtained there is no assurance that the infective agent found is that which is responsible for the primary infection; or that it is not a cryptogenetic infection; or that a second examination will likewise prove positive; or where only one infective agent is found that it is the only one present; or where 2 are found that both are concerned in the primary infection. 4. In cases where results are negative, we have no reason to believe that the blood is free from bacteria, or that another examination will likewise prove negative. [A.G.E.]

Etiology of Rheumatic Fever.—F. J. Poynton and A. Paine[4] have isolated a diplococcus from 22 cases of rheumatic fever, and demonstrated it in the principal lesions. They have grown it in pure culture and produced by intravenous inoculation into rabbits, identical lesions, from which in turn they isolated the bacterium. They, therefore, hold it to be a cause of the disease, and do not believe any other bacterium has been proved to be a cause. It is a minute diplococcus, streptococcal in liquid media, staphylococcal in arrangement on solid. Acid milk, bouillon, and blood agar are suitable media. It can be cultivated aerobically and anaerobically. The virulence appears to be low and very difficult to raise, but is constant for long periods on suitable media. They know no specific test for the diplococcus but do not think it should therefore be grouped with allied micrococci as a variation of a hypothetic, primitive streptococcus. It produces a special disease and is to this extent a special organism having possibly obtained this specificity by evolution. Heredity, cold, damp, overfatigue, etc., are predisposing factors to its activity in the tissues. [H.M.]

Mode of Entry of the Malarial Organism into the Red Corpuscle.—C. Christy[5] has prepared a series of drawing show-

[1] Wiener klin. Woch., 1903, No. 20, p. 581.
[2] The Lancet, July 25, 1903.
[3] Wiener klinische Wochenschrift, 1903, No. 35.
[4] Zeit. f. Heilkunde, 1903, Bd. xxiv, Heft vii; Abth. f. Path., Heft iii.

[1] Zentralblatt für Bacteriologie, 1903, xxxiii, 489.
[2] Wien. klin. Woch., 1903, p. 585.
[3] The Post-graduate, September, 1903.
[4] Medical Press and Circular, May 13, 1903.
[5] British Medical Journal, September 19, 1903, p. 645.

ing this process. The plasmodium always attaches itself to the rim of the corpuscle, and spreads out by means of pseudopodia. Then the protoplasm seems to sink into the corpuscle a little, the rim appears to be weakened and decolorized, and pseudopodia are sent into the substance of the corpuscle. These processes within the corpuscle become larger and thicker, as the rest of the protoplasm flows in upon them; and finally the nucleus and nucleolus follow. [B.K.]

Charcot-Leyden Crystals in the Pus of Empyema.—H. Floderer[1] has demonstrated Charcot-Leyden crystals in large numbers in the pus of a 13-year-old child suffering with empyema; upon permitting the pus to stand for some time, they did not increase in number. The fact that no eosinophilic cells were found in the pus and that they were not increased in number throughout the circulatory stream would indicate that the crystals are not only formed from them. The author has made studies with leukemic blood and has seen crystals form themselves beneath the microscope without previous breaking up of the eosinophiles; a case of helminthiasis with 24% of eosinophiles had no crystals in the blood, a few only in the feces. They are probably formed by condensation of a blood serum rich in albumin. The presence of Charcot-Leyden crystals in such pus usually gives a good prognosis. [E.L.]

The Pathogenesis of Pulmonary Tuberculosis.—Aufrecht[2] combats the belief that tuberculous infection of the lungs arises from inhalation of the specific organism of this disease. He has observed patients in a general hospital, with various complaints, lying side by side with tuberculous patients and has never seen a case of pulmonary infection which could be traced to the inhalation of the contagion. Nurses who have been with these tuberculous patients have been remarkably free from pulmonary complaints. It is true that these animals will develop a general tuberculosis if forced to inhale dust laden with tubercle bacilli, but Aufrecht points out that these animals are excessively susceptible to the germ and that the lesions which are brought about are not those of simply pulmonary tuberculosis as seen in man. It is not a question in human infection of inhaling a large amount of pure culture of tubercle bacilli, but the accidental inspiration of few bacteria. It is extremely improbable under these circumstances that the microorganism could reach the fine bronchioles or the alveoli. The studies of Saenger show pretty conclusively that the bacilli remain adherent to the walls of the larger bronchi or the upper respiratory tract, in both of which places a primary tuberculosis is extremely rare. Beside these facts it is extremely difficult to explain how, if pulmonary tuberculosis arises from the inhalation of the offending microorganism, the disease should almost universally commence at the apices, since the pathway to this air space is no more direct than to any other portion of the lung. Aufrecht, in a patient with incipient tuberculosis, who died from another cause, found in the lesions in the lungs the characteristic appearance of an infarct. In a subsequent similar case he was again able to demonstrate localized thrombosis of the vessels in the neighborhood of the infected area. A further proof of the role that vascular infection plays in the production of this disease is shown by the difference in the lesions produced in such organs as the liver, where the vessels are not terminal ones, and in tubercles of the lungs or spleen; in the lungs are found the characteristic cheesy tubercles, while in the liver only the gray tubercles are found. Aufrecht, by injecting tubercle bacilli into the vein of the ear of a rabbit, succeeded in producing characteristic tuberculous lesions in the lungs. He believes that the pathologic change in pulmonary tuberculosis begins with an inflammatory alteration of the arterial walls, leading finally to the formation of a thrombus, with consequent necrosis of the lung tissue and later the invasion of the necrosed area. The entrance of the germ, he believes, is through the mediastinal glands and from them escapes by direct contact into the vessel wall. That this migration from the glands and the vessels can take place has been shown by the experiment of Dr. Goerderer, who has even seen a tubercle bacillus in the process of penetrating the endothelial wall of the bloodvessels. Another proof that the entrance of the tubercle germ is through the lymph-gland is found in the observations upon the tonsils of children, in which a surprisingly large number of cases contained tubercle bacilli in the palatine tonsillaris without any sign of tuberculosis in the rest of the body. [H.C.W.]

[1] Wiener klinische Wochenschrift, 1903, xvi, 276.
[2] Journal of Tuberculosis, 1903, Vol. v, p. 105.

Pathologic Anatomy of Addison's Disease.—According to J. Wiesel,[1] there is embryologically and anatomically a close relation between the suprarenal bodies and the sympathetic nervous system. It has been shown that the medullary substance of the suprarenals is identical in structure with the groups of socalled "chromaffin" or "chromophile" cells found throughout the sympathetic ganglia. These chromaffin cells are in no way connected with the nervous function of the sympathetic, but have a separate internal secretory function of their own. The cortex of the suprarenals has an entirely different structure and origin from the medullary substance, and takes no part in the system of chromaffin cells. The only known function of this chromaffin system is the influence on vascular tension, which is now a wellknown attribute of the suprarenals. Wiesel reports 5 cases of Addison's disease, in all of which there was total or partial degeneration of the chromaffin system, including the medulla of the suprarenal bodies. The disease process, which was usually tuberculous, extended also to other parts of the sympathetic system and to the cortex of the suprarenals. The author also found that some of the ganglion cells of the sympathetic assumed a reaction for chromic acid salts, which in normal conditions is possessed only by the chromaffin cells. [B.K.]

Bacteria found in the Normal Urethra, and the Syphilitic Bacillus of Max Joseph.—Herman Pfeiffer[2] made a comparative study of the bacteria found in the normal urethra and that affected with gonorrhea with the bacterium described by Max Joseph and Piorkowsky as existing in the spermatic fluid of syphilitic individuals. He examined bacteriologically secretion from 15 normal urethras and 12 urethras infected with gonorrhea, and was able to prove in 11 of the former and in 6 of the latter the presence of a bacterium which belonged to the diphtheric group. He carefully compares this pseudodiptheric bacillus with that described by Max Joseph, and is forced to conclude that they are not entirely indentical. But in view of the fact that these two bacilli are morphologically the same, he ventures the conjecture that the syphilitic bacillus of Max Joseph is none other than the pseudodiphtheric form which he described. [J.H.W.R.]

Artificial Parthenogenesis in Molluscs.—Jacques Loeb[3] says that after the discoveries regarding the unfertilized eggs of sea-urchins, the question arose whether artificial parthogenesis is confined to a few species or is as general as the phenomenon of sexual reproduction itself. Proof of the latter would be important in 2 directions: (1) It would suggest that the artificial means of causing eggs to develop have something in common with the action of sperm and might pave the way for the solution of the problem of fertilization; (2) it might have some bearing on the problem of abiogenesis. On the basis of experiments which he very briefly outlines, Loeb states that the molluscs may now be added to the list of animals in which it is possible, by physicochemic means, to cause the unfertilized eggs to develop into swimming larvas. Previous experiments had demonstrated this only for echinoderms and annelids. [A.G.E.]

Rare Cases of Echinococcus.—A. Orlowsky[4] reports 3 cases of echinococcus with unusual localization. The first patient was a young woman in whom tuberculosis of the left knee had been diagnosed. On opening the joint a turbid fluid escaped, revealing the characteristic cysts of echinococcus. The lower end of the femur was found to be destroyed, and an amputation was performed at the middle third. In the second case the diagnosis was tuberculosis of the cervical glands in a man of 22. Operation disclosed a purulent echinococcus. The third patient was operated upon for a supposed suppurating sebaceous cyst on the left side of the thorax. An incision brought a hydatid cyst to light. All 3 patients recovered completely. How the embryo of the echinococcus reaches such

[1] Zeit. für Heilkunde, 1903, Bd. xxiv, Heft vii; Abth. f. Path., Heft iii.
[2] Wiener klinische Wochenschrift, 1903, No. 26.
[3] University of California Publications, Physiology, Vol. i, No. 3.
[4] Chirurgia, June, 1903.

distant regions must remain as yet an open question. Possibly, as Tarel assumes, the embryo passes through the intestinal wall, and gains access to the connective tissue of muscles and vessels, traveling along these to remote peripheral sites. [L.J.]

Action of Hemolytic Serums.—In the hemolytic action of blood-serum 2 substances are concerned: A comparatively stable substance, which gives the serum its specific character, the "immune body" of Ehrlich; and a substance present in normal serum, highly sensitive to heat, the "complement" of Ehrlich. R. Muir[1] has studied the combining relationships of these 2 substances, and finds that they differ widely in this respect. The immune body can be in part separated from the red corpuscles before hemolysis takes place. When red corpuscles containing multiple doses of the immune body are hemolyzed by the minimum dose of the complement, the surplus molecules of the immune body remain attached to the receptors of the corpuscles, and can be in part separated. The complement cannot be separated after its union, either directly with the cells or indirectly through the medium of an immune body. Each dose of immune body taken up by the corpuscles in addition to the minimum hemolytic dose, leads to the taking up of an additional and corresponding amount of complement. In this way many times the amount of complement necessary for hemolysis may be taken up. When corpuscles containing multiple doses of immune body are fully saturated with complement, immune body can still be separated. [B.K.]

Bacteriologic Examination of the Blood after Death.—Canon states that shortly after death bacteria migrate from the lung and the abdominal organs into the heart and therefore considers it best to take the blood for bacteriologic purposes from the median vein. Simmonds[2] opposes this statement; he agrees that a larger number of bacteria are found in the cultures from the blood of the heart than from the peripheral veins, but says that this is due to the heart blood being a better medium for them to grow in, as its temperature is more suitable. He also would prefer to open an arm vein, as then he would not have to wait for the autopsy, but the quantity of the blood thus gathered is often not large enough for positive results. If the body is properly preserved, there need be no fear of migration of organisms within 36 hours. [E.L.]

THE PUBLIC SERVICE

Health Reports.—The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended November 13, 1903:

			Cases	Deaths
	SMALLPOX—UNITED STATES.			
Alabama:	Mobile	Nov. 1-7	2	
Illinois:	Belleville	Nov. 1-7	11	1
	Chicago	Nov. 1-7	3	
Indiana:	Indianapolis	Oct. 25-31	2	
Louisiana:	New Orleans	Nov. 1-7	3	2
			Imported.	
Maine:	Grand Isle	Oct. 1-31	25	
Massachusetts:	Haverhill	Nov. 1-7	1	
Michigan:	Detroit	Nov. 1-7	2	
Missouri:	St. Louis	Oct. 25-31	1	
New Hampshire:	Manchester	Nov. 1-7	5	
New Jersey:	Camden	Nov. 1-7	1	
New York:	New York	Nov. 1-7	2	
Ohio:	Cincinnati	Oct. 31-Nov. 6	1	
	Cleveland	Nov. 1-7	1	
	Dayton	Nov. 1-7	2	
	Warren	Nov. 1-7	1	
	Youngstown	Nov. 1-7	1	
Pennsylvania:	Erie	Nov. 1-7	1	
	Johnstown	Nov. 1-7		1
	Philadelphia	Nov, 1-7	42	4
	Pittsburg	Nov. 1-7	30	14
Rhode Island:	Providence	Nov. 1-7	1	
Tennessee:	Memphis	Nov. 1-7	6	
Utah:	Salt Lake City	Oct. 25-31	1	
Wisconsin:	Milwaukee	Nov. 1-7	1	
	SMALLPOX—INSULAR.			
Philippine Islands:	Manila	Sept. 13-26	2	1
	SMALLPOX—FOREIGN.			
Austria-Hungary:	Prague	Oct. 11-24	21	
Belgium:	Antwerp	Oct. 18-24	2	
	Brussels	Oct. 18-24		1
Colombia:	Barranquilla	Oct. 19-25		1
France:	Marseilles	Sept. 1-30		25
	Paris	Oct. 18-24	8	
Great Britain:	Bradford	Oct. 10-24	4	
	Glasgow	Oct. 24-30	18	
	Leeds	Oct. 18-24	1	
	Liverpool	Oct. 18-24	4	
	London	Oct. 18-24	26	
	Newcastle-on-Tyne	Oct. 18-24	10	
	Sheffield	Oct. 18-24	1	
Italy:	Catania	Oct. 16-22		1
	Palermo	Oct. 18-24	1	
Java:	Batavia	Sept. 27-Oct. 11	5	
Malta:		Oct. 11-17	5	
Mexico:	Mexico	Oct. 19-25	3	2
	Tampico	Oct. 25-31		1
Russia:	Moscow	Oct. 11-17	1	5
	Odessa	Oct. 11-17	1	
	St. Petersburg	Oct. 11-17	33	1
	Warsaw	Oct. 4-10		4
Turkey:	Constantinople	Oct. 12-25		4
	Smyrna	Oct. 12-18		46
Venezuela:	Tocuyo	Oct. 16	Present.	
	YELLOW FEVER—UNITED STATES.			
Texas:	Connel	Nov. 3-10	10	
	Dewitt County	Nov. 4	1	
	Laredo	Nov. 4-10	120	18
	Minera	Oct. 30-Nov. 6	10	
	San Antonio	Nov. 2-10	3	1
	YELLOW FEVER—FOREIGN.			
Costa Rica:	Limon	Oct 23-29	2	2
Mexico:	Citas	Oct. 4-10	6	3
	Cuidad Victoria	Oct. 4-10	19	20
	Linares	Oct. 4-10	376	34
	Merida	Oct 4-10	3	1
	Progreso	Oct. 4-10	1	
	Tampico	Oct. 4-30	7	1
	Tehuantepec	Oct. 4-10		1
	Vera Cruz	Oct. 25-31	43	13
	CHOLERA—INSULAR.			
Philippine Islands:	Manila	Sept. 13-26	148	134
	Provinces	Sept. 13-26	3101	1439
	CHOLERA—FOREIGN.			
China:	Hongkong	Sept. 20-26	1	1
Japan:	Yokohama	Oct. 4-10	1	1
Turkey—Syria:	Alexandretta	Oct. 11-17	4	2
	PLAGUE—UNITED STATES.			
California:	San Francisco	Oct. 20-29	4	4
	PLAGUE—INSULAR.			
Philippine Islands:	Manila	Sept. 13-26	2	2
	PLAGUE—FOREIGN.			
China:	Hongkong	Sept. 20-26	2	1
Formosa:		Sept. 24-30	1	2
Japan:	Yokohama	Oct. 4-10	1	1
Mauritius:		Oct. 2-8		54

Changes in the Medical Corps of the U. S. Navy for the week ended November 14, 1903:

CARPENTER, D. N., surgeon, detached from the Chicago and ordered home to await orders—November 6.

CHAPMAN, R. B., assistant surgeon, appointed assistant surgeon with rank of lieutenant, junior grade, from October 28, 1903—November 6.

DIEHL, O., surgeon, detached from the Oregon and ordered to the New Orleans—November 11.

GUEST, M. S., passed assistant surgeon, detached from the New Orleans and ordered to the Oregon—November 11.

WILSON, H. D., passed assistant surgeon, detached from the Naval Station, Olongapo, P. I., and ordered to the Vicksburg—November 11.

MAYERS, G. M., assistant surgeon, detached from the Vicksburg and ordered to the El Cano—November 4.

BRISTER, J. M., assistant surgeon, detached from the El Cano and ordered to the Isla de Cuba—November 11.

BIDDLE, C., surgeon, detached from the Puritan and ordered to the Lancaster—November 12.

Changes in the Public Health and Marine-Hospital Service for the week ended November 12, 1903:

PETTUS, W. J., assistant surgeon-general, detailed as inspector of unserviceable property in the Hygienic Laboratory—November 12, 1903.

GREENE, J. B., passed assistant surgeon, granted leave of absence for twenty days from November 15—November 9, 1903

ANDERSON, J. F., passed assistant surgeon, to proceed to Detroit, Mich., for special temporary duty—November 5, 1903

TRASK, J. W., assistant surgeon, granted leave of absence for four days from October 17, 1903, under paragraph 191 of the regulations.

SALMON, T. W., assistant surgeon, to proceed to Philadelphia, Pa., and report to medical officer in command for duty—November 7, 1903.

MASON, W. C., acting assistant surgeon, granted leave of absence for five days from November 19—November 7, 1903.

OWEN, HENRY, acting assistant surgeon, granted leave of absence for thirty days from November 8—November 9, 1903.

ACHENBACH, JOHN, pharmacist, granted leave of absence for seventeen days from November 20—November 7, 1903.

Board Convened.

Board convened to meet at Chelsea, Mass., November 12, 1903, for physical examination of an officer of the Revenue Cutter Service. Detail for the Board: Surgeon R. M. Woodward, chairman; Assistant Surgeon W. C. Rucker, recorder.

Appointments.

Thomas William Salmon, of New York, commissioned (recess) as assistant surgeon—November 7, 1903.

George Neves, of Oklahoma, appointed pharmacist of the third class—November 11, 1903.

Resignation.

Pharmacist Frank Siedenburg resigned, to take effect October 4, 1903.

[1] Lancet, August 15, 1903.
[2] Centralblatt für Allgemeine Pathologie, 1903, xiv, 165.

American Medicine

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PUBLISHED WEEKLY AT 1321 WALNUT STREET PHILADELPHIA BY THE AMERICAN-MEDICINE PUBLISHING COMPANY

VOL. VI, No. 22. NOVEMBER 28, 1903. $5.00 YEARLY.

Waste of life in America has often been alluded to in these columns, but no illustration is more striking than the fact that in New York city during the last year 538 individuals have been killed in traffic accidents. How reckless we are as to human lives is shown by the comparative figures for London, where—in a larger city—there have been only 158 deaths in the same way. It is said that the Merchants' Association of New York has resolved to pursue reform work in this matter, by all the methods in its power, especially by such devices as may prevent the unnecessary number of accidents. The use of a new fender, for instance, on trolley cars, is to be encouraged, which has been in successful use in Liverpool, England. The reckless speeding of these cars should be stopped. The fact that trolley accidents are more numerous in Brooklyn than in Manhattan demonstrates that it is not congestion of traffic alone that is responsible for the fatalities. Grade crossings of steam cars must be abolished, a reform that at once lessens accidental deaths in a marked degree.

Help in the training of children by the American Institute of Physical Culture is also planned by Dr. Seaver and his associates, as a part of their work to be taken up as soon as the Institute can do so. Many physicians are by study and experience fitted to guide their little patients, and also the parents, in the delicate problems of physical development and hygiene produced by our strenuous modern life; but, again, many are not. To all the Institute offers its services—again, it should be noted in harmony with the local physician—in helping to solve these problems. An experienced and expert woman teacher has been secured by the Institute for this special department, and correspondence will be solicited. To help the child to adapt itself to the new conditions of our present life it is planned, for example, to develop certain games that will call into action much the same groups of muscles that would be used in outdoor games. The child must be enabled to educate its legs for the easy carrying of the body and for the establishment of those nerve reflexes that are essential to the healthy action of the nervous centers. Again, we must train the hand in the use of its fundamental muscles, giving it an ability to execute strong movements as well as light and highly coordinated ones. A small movement in exact form is difficult for the nervous system, and is probably also difficult for the muscular system, because the normal tendency of muscle contractions seems to be toward complete action rather than partial contraction. "The backyard must to some extent take the place of the farm, and the playroom take the place of the barn and field with their varied forms of animal life."

Unphysiologic Physiology.—The makers and supporters of the school textbooks on socalled physiology have made many blunders in their well-meaning attempts, but there is none so fundamental and so absurd as that of failing to see that the young should be taught how to maintain or get health instead of how to avoid disease. No reform or progress can amount to anything that is built upon a negation. No anti movement accomplishes an end of any value. In language two negatives are said to be equal to an affirmative, but our habitual speech ignores the absurdity, and, in morals and social life, two negatives in collision are wholly resultless. A physiology that devotes itself to pathology is ridiculous, and is itself pathologic. It is a misnomer at best, and beyond question is not sanitation and hygiene adapted to the child mind. These subjects should be treated from the positive standpoint for the young, and the love of health, play, physical perfection, and strength should be encouraged and illustrated, not the avoidance of morbidity. Of all the outrageous things possible to be inserted in a school physiology the illustration of the end-products of disease and sin, hobnailed liver, etc., are the worst conceivable.

The reading-notice medical journals are interesting publications; the names they bear are not accurately appropriate, and their editors (rather their proprietors, because editors they have not) have a hard time of it getting as fulsome and lengthy reading notices for one product as for all rivals. The subscriber, of course, is left out of the count, because he does not exist—the subscription list being made up indifferently of dummy names, free and complimentary copies, and all that. All good journals have a sufficiently hard time of it to keep unscrupulous advertisers out of their reading columns, as the blank forms of contract so frequently testify. But there are many who find it as difficult to get the advertisers into their reading columns—at least, those of respectability. The reason for this lies in the

fact that a reading notice is of value to an advertiser only in so far as it is refused to all rivals. The more such notices there are, the less, evidently, will they bring results. When all are welcomed the reading notice becomes valueless, and when advertisers are solicited and begged to come in, the wise ones naturally will give nothing for such "privileges." The following paragraph illustrates both aspects of the affair:

Hiring Advertisers.—The following letter from a "prominent" "medical" journal has been sent to *American Medicine* by the manufacturing firm, whose answer is also given below:

——— ——— ———, 1903.

To ——— ——— ——— ———.

——— ——— ———.

Gentlemen:—

If you will place a contract with us for a page we shall agree to secure and publish in our original columns a high-grade communication, in which the therapeutic value of —— —— would be discussed in an able fashion. The profession is rapidly awakening to the fact that reputable pharmaceutical firms are putting out elegant and reliable preparations that are far superior to the ordinary prescriptions compounded by pharmacists with limited equipment and resources. In offering the clean pages of the —— —— —— for reporting the results secured by the use of —— —— in certain pathologic conditions, we feel that we should be keeping our implied agreement with our subscribers—in fact, render them a service by impressing upon them the advantages of using high-grade ethical preparations, such as —— ——.

The original paper we propose would be of a scientific character and would appeal to our readers by reason of its worth as a literary product. We edit our original columns rigidly and each month cut out incidental references to preparations whose formulae are not known or which are known of by the laity, and as such be undeserving of patronage by the profession. For the preparation of this paper we should secure the services of a good clinician and able writer. As a literary effort the article would be a credit to our journal and would certainly be of great value to you. It could later be used in your literature for general distribution among the profession. Its publication in our columns would insure for it —— thousand readers, each one of whom might be induced to put the preparation to use by having seen its merits described in our columns.

We feel sure you would be willing to reciprocate by taking space with us. But entirely aside from this the —— —— —— is a medium of such worth as to merit your patronage. We can quote you a rate in harmony with our circulation. Speaking of circulation we wish to say that last year we had an average monthly circulation of —— copies. The publisher of —— —— informed us that we were entitled to a place on the —— —— ——, a distinction accorded to but few medical publications. Owing to the nature of this proposition it is not one that can be extended promiscuously and we shall await your reply before taking the matter up with another firm.

Yours very truly,

——— ——— ———.

To this journalistic proposition the pharmaceutic manufacturing company replied:

Dear Doctor:—

We acknowledge receipt of your recent communication. We thank you very much for the compliments which you have paid to our preparation, —— —— ——, which you can be sure is a product that stands for all that is possible to secure from ——. We regret, however, our inability to accept your proposition.

Very truly yours,

H. K. MULFORD COMPANY.

Progress in the Education of Atypical Schoolchild.—We have in a previous issue spoken of the necessity of special treatment of the atypical and backward child in our public schools, and it is gratifying to know that the plan is at last in actual process of outworking in New York. Such children suffer in the graded classes, for which they are wholly unfitted. The method being put in practice in New York is that long advocated by Miss Alida S. Williams, one of the New York public school superintendents. From circulars sent out by the Board of Education to all the principals of the New York schools we quote the following paragraphs to show the design of the reform:

There have been established in several schools special classes for the instruction of children who by reason of physical or other deficiencies are unable to retain their places in regular classes. It is the purpose of the Board of Education to organize similar classes wherever the conditions demand them.

The determination of the need and kind of special training for such children is a work requiring expert knowledge to supplement the selection made by the principal.

In order that this classification may be wisely made, and that the work done for the children in special classes may be of the highest efficiency, Dr. Elias G. Brown, of the Department of Physical Training, has been assigned to special duty, with reference to the ungraded classes and the truant schools. He will cooperate in the following matters so far as the limitations of time will allow:

1. Examination of children who are proposed for assignment to ungraded classes.
2. Planning and carrying out the physical training for these classes and schools.
3. Organizing plays and games for these classes and schools.
4. General hygienic program for these children.

You are requested to institute a careful canvass of your classes, and to ascertain whether there are children in your school who are incapable of making adequate progress in their studies to such an extent as to necessitate special treatment. If there are such children, you will report the fact to the district superintendent, who will request an examination.

The juvenile court and probation system for dealing with young and beginning criminals is attracting the attention of all devoted to social uplifting, and the prevention of crime. There is to be a special juvenile court exhibit at the St. Louis Exposition. The plan that is springing up in many American cities is to save the young offender from drifting into a life of crime, by the probation system, the indeterminate sentence, the suspended sentence, discharge on parole, the segregation of confirmed criminals, and generally by educational influences and kindness. Judge Richard S. Tuthill, of Chicago, is the pioneer reformer in this work, and in 4 years, some 1,500 cases have been handled. In New York, during the last year, the following is the table summarizing and classifying the offences charged against children dealt with:

Offenses.	Boys.	Girls.
Disorderly conduct	167	3
Petit larceny	283	9
Grand larceny	83	. .
Burglary	106	. .
Unlawful entry	13	. .
Begging	2	1
No proper guardianship	38	15
Assault	32	. .

Offenses.	Boys.	Girls.
Indecent exposure	1	. .
Robbery	14	. .
Malicious mischief	8	. .
Ungovernable	3	2
Disorderly children	73	12
Forgery	3	. .
Carrying firearms	1	. .

Disposition.	Boys.	Girls.
Sentence suspended	561	12
Committed for violation of parole	118	10
Discharged	28	10
Now on parole	128	8

The Juvenile Court of Denver is vividly described in *Charities* by a man one would like to know—Judge Ben B. Lindsay. He says that out of 1,500 children brought before the court in three years no parent has objected to any disposition of such cases. There is now a program mapped out with reference to child study and juvenile offenses, and methods of improvement which will take three or four years of earnest hard work to complete.

Judge Lindsay says:

The criminal court method of handling juvenile offenders used to cost our county an average of $42 for each case handled in court, expenses, etc. It now costs about $10. The criminal court convicted and sentenced nearly all for crime, and sentenced 75% to jails or reformatories. The juvenile court convicts no child for crime, and is compelled to send only about 5% of probationers to the Industrial School. It sends none to jail, and the Detention House will about abolish the jail for children. We spent about $50,000 last year (not including, of course, the expense of the police department), for salaries and other similar expenses for officers to convict criminals. We spent practically nothing to save children, and the juvenile court, being already a civil court with officers provided, did not cost the county one cent additional. We now, however, recently have been given three probation officers at a cost of about $4,000 in salaries per year. It is also satisfying to know that the governor of the State, in his last message to the assembly, called attention to the saving to Colorado in this court alone by the different method here employed in dealing with children, of over $80,000 in cash. In addition to this, it may be fairly urged that the saving to the school boards in postponing the necessity for a parental school three years ago, provided for by the legislature, will save equally as much. One hundred and fifty thousand dollars is no small item, but considering the far-reaching effects and influences of one wayward boy, and the awful expense which every State is under in punishing criminals, it demonstrates beyond any other incident, in my own experience at least, in our own jurisdiction, that it really is wiser and less expensive to save children than to punish criminals.

"Dover's Powder" and Its Inventor.—In the history of medicine there are few names so familiar as that of Dover, who immortalized himself by the introduction of the powder which still bears his name. And in the literature of medicine there are few volumes so seldom seen as is the extremely rare one in which he published this remedy. And even more curious is the fact that the use for which he prepared and recommended his famous powder seems to be now utterly unknown to the bulk of the profession throughout the world. Yet the personality of the man, and the style and contents of the book, and the special therapeusis for which Dover's powder was originally prepared are all of peculiar interest. The title of his unique volume runs as follows:

The Ancient Physician's Legacy to his country. Being what he has collected himself in Forty-nine Years' Practice: Or, An ACCOUNT of the several DISEASES incident to Mankind, described in so plain a Manner, that any Person may Know the Nature of his own Disease. Together with the several Remedies for each Distemper, faithfully set down. Designed for the use of all Private Families. *Homines ad Deos, nulla in re propius accedunt, quam Salutem hominibus dando.* CIC. By THOMAS DOVER, M.B.

The author appears to set at least a full value on his personal merits and professional attainments. Referring to the opinion expressed by "the famous Dr. Radcliff:" "That it is very expedient for young gentlemen, entering upon our Profession to travell," he proceeds to observe that: "If travelling be necessary to make an accomplished Physician, I am very sure that I have travelled more than all the Physicians in *Great Britain* put together." Thomas Dover, M.B., during the most active years of his life, "sailed the Spanish main," and like so many other patriots of his age practised as a (pirate or) buccaneer! His special remedy for an acute attack of gout is the one which has descended with his name—but without his therapeutic recommendation—to posterity. The following are his own words:

Take Opium one Ounce, Salt-Petre and Tartar vitriolated, each four Ounces, Ipocacuana one Ounce, Liquorish one Ounce. Put the Salt-Petre and Tartar into a red-hot Mortar, stirring them with a spoon till they have done flaming. Then powder them very fine; after that slice in your Opium; grind these to a Powder, and then mix the other Powders with these. Dose from forty to sixty or seventy grains in a Glass of White Wine Posset, going to Bed.—Covering up warm, and drinking a Quart or three Pints of the Posset-Drink while sweating.

The author's own comment on the effects of his specific powder are as follows:

In two or three Hours, at farthest, the Patient will be perfectly free from Pain; and though before not able to put one Foot to the ground, 'tis very much if he cannot walk the next Day. When it is taken, keep your Bed till next Day Noon. This Remedy may be taken once a Week, or once a Month. . . Some Apothecaries have desired their Patients to make their Wills, and settle their Affairs, before they venture upon so large a Dose as I have recommended, which is from forty to seventy grains. As monstrous as they represent this, I can produce undeniable Proofs where a Patient of mine has taken no less a Quantity than an Hundred Grains, and yet he appear'd abroad the next Day.

This Notion of theirs proceeds entirely from their Ignorance, and from the Want of Knowing the Nature of those Ingredients that are mix'd up with it, for they naturally weaken the Power of the Opium.

Dover—the "Quicksilver Doctor."—The embryonic stage of the eternal fame which the invention of his "*powder*" gave to Thomas Dover was entirely overshadowed by the notoriety which he acquired by his therapeutic uses of *quicksilver*. His version of the views of his professional rivals, as contrasted with his own on this subject, throws considerable light on the medical ethics as well as on the therapeutics of the period (1733):

'Tis a generally-receiv'd Notion, nay, even amongst many Gentlemen of the Faculty, that Quicksilver is Poison: If such Persons are not ashamed of being no better natural Philosophers, I have no Reason to be under Confusion of Face for them.

Their Opinion is a Sign that they have travelled *far* at *home*.

Let them take a Trip to *Hungary*, and visit the Mines where the Quicksilver is dug; there they may see Slaves working

entirely naked, to prevent the Stealing this precious Jelly of Metals, as it may be called; yet every day swallow so much that they buy a Choppin of Drink with it at Night.

Several Physicians have inquired of my Patients, To what End do I give it? Wherein can the Efficacy or Power of it consist? If they do not know, what follows may serve for instruction.

First, it secures the Patient from all Vermicular Diseases, of which no Practitioner can be sufficiently appriz'd, that has not spent some time in hot climates.

Next, it opens all Obstructions, which are supposed to be another general Cause of Diseases.

Lastly, it makes a pure Balsam of the Blood, beyond all other Things in the Creation. Otherwise, why cannot Vene real Ulcers be cured without it? We often see those sores in a Salivation, grow well, without the Help of a Surgeon.

I desire to know, Why I am called "*The Quicksilver Doctor*" by way of Derision? Pray do not you, Gentlemen, Physicians, Surgeons, and Apothecaries, prescribe it every Day of your Lives? I aver, you do: Only you disguise it; and I give it in such an open, honest Manner, that my Patient cannot be deceiv'd in taking it.

Dover's Colossal Doses of Quicksilver.—The inspiring faith of Thomas Dover in quicksilver therapeutics is amply demonstrated by the teachings of his unique volume. The protean powers of this metallic drug are shown in the variety of ailments which were absolutely relieved by its use. A glance at a few will be found refreshing:

The Iliac Passion.—You need go no further for the cure of this fatal Disease, than to take a Pound, or a Pound and half of Crude Mercury.

. . . *Ascarides* are destroyed by the following clyster: Boil Quicksilver in Water in an Earthen Pot for two Hours; give it by way of Clyster.

Numbers of patients who had been lifelong martyrs to spasmodic asthma were completely relieved by ounce doses of quicksilver. An annual fever to which a young lady had been subject brought her at last to a condition in which "her life was despaired of." Her grateful uncle wrote to Dr. Dover:

. . . finding no benefit from all she took, you may remember, Sir, that you was called in, and by taking of quicksilver by your advice for fourteen Mornings together, and afterwards *Mynsicht's* Elixir of Vitriol, with frequent Bleeding, she was restored to, and, by God's blessing, still enjoys a healthy Constitution: I had likewise a Nephew, who lay three Weeks in a most languishing condition; his Body was distorted, his Hip and Shoulder being almost drawn together; no help could be found (though no Advice or Assistance was wanting) till, by your Direction, he took Quicksilver, which in three Mornings set him perfectly strait, and has remained so ever since.

Benj. Benson had

for many Years been troubled with strong Scorbutick Humours, but more particularly so all last Summer: And the Beginning of the Winter the Humour was so strong and violent, in and about my Right Knee that the Joint was almost quite stiff. . . . I immediately took, according to your direction, one Ounce of Crude Mercury every Morning. By the time I had taken twelve or fourteen Ounces, I found myself abundantly better; and before I had taken two Pounds, I was quite well: All the Stiffness, Uneasiness and Pain, I had in my Knee was quite gone, and my Leg as well and as strong, I think, as ever it was in my Life.

Hysteria, hypochondriasis, colic, and a host of other diseases, also yielded to the attacks of the giant Mercury—and with corresponding flexibility. The results indeed forcibly remind the reader of the hypnotism and eddyism of latter years.

The psychology of eddyism, best illustrated in its latest sectarian degenerative end-products, is familiar to all alienists and students of insanity. A healthy mind cannot read the socalled "new thought" journals for an hour or two without the overwhelming conviction that these people are really insane. The wonder is that they have preserved so much commercial cunning. The money aspect, pay-in-advance for reading notices, for absent treatments, for "psychometric readings," for books, for "vibrations," for insuring "success," for shares of mining stocks, for letter pads, for journals and lectures, and all that—this is never forgotten. It goes on, however, at the same time and in the same columns with the dreariest swash of reverberating words, words, words,—utterly without meaning, and utterly without end. There are tons of such printed stuff as this going out every month:

Unity is Non-ethical. It simply Is. God is! Energy is! Power is! Light is! Life is! Thought is! Love is! Attraction is! Electricity is! Man is! Existence is the beginning of our search for happiness. Existence is non-ethical. It is a mistake to call God good.

I see that my strength is God, and therefore I know no weakness or tired feeling. I am eternal energy. My peace is God, and therefore I am eternal harmony. All presence is God, and there is no presence of sin. All existence is God, and there is no existence of evil. I affirm the allness of truth. I am the truth, for there is not anything for me but truth to be. I am the whole truth, as it is undivisible unto parts. I see that I am truth and all goodness there is. I can not be sick, for my life is the almighty.

Grammar and spelling are matters of indifference also. Prior to Mrs. Eddy the fashion of scorning the accepted meanings of words had been well set by inflamed egotism and transcendental enthusiasm. But to call an unfaith "Christian," and an idiocy "science," was left to that daring lady and her followers. The habit of misapplying words, of making any word express any fact at pleasure, is characteristic of insanity, and when words themselves lose all meaning and become a jargon of monolog—then the end is not far. In the same sequence of sentences a mental healer will claim that all drugs are violent *poisons*, POISONS, POISONS, and that they are also inert, dead, wholly without effect on the system. Left without support of religion or government, relieved from duty and poverty, with not a scrap of knowledge, the wrecked mind must feed upon its own vanities and fancies, call itself God, and sell "healing vibrations," "cash always in advance."

How to Check the Ravages of Pneumonia.—The Bulletin of the Chicago Health Department for the week ended November 7, in considering the reported increased prevalence of pneumonia and a probable still further increase, says: Considered from this viewpoint, attempts to restrict the ravages of pneumonia seem to be a hopeless undertaking. And yet, hopeless as it seems, it is clearly the duty of the sanitarian and the worker in the field of preventive medicine, to do what in him lies, toward education in the precepts of healthful living. A simpler housing, with abundant facilities for the access of sunshine and fresh air, and space enough for each individual; a simpler raiment, which shall preserve the natural power of the skin to resist the effects of draughts and chills and "colds"; a simpler dietary, which shall not overtax the digestive system, and less cookery, so that the teeth may have sufficient exercise to prevent their premature decay; more exercise in the open air, and, in general, a resort to the simpler and more natural modes of life to which each and everyone of us was born, and out of which each and every one of us is removed as promptly as civilization can act.

BOOK REVIEWS

Modern Surgery.—By JOHN CHALMERS DACOSTA, M.D. Fourth Edition. Published by W. B. Saunders & Co., Philadelphia, New York, and London.

This work, as it appears from the publishers, is a handsome volume of 1,100 pages, with more than 700 illustrations. No one can read more than a few pages without being impressed with the practical character of the work, and the clear, terse diction of the author. Beginning with a chapter on bacteriology, the author covers the range of general and operative surgery, omitting the correlated specialties of gynecology, laryngology, rhinology, etc. The fourth edition is revised, largely rewritten and much new matter has been added, including over 200 appropriate illustrations. A larger type-page has been adopted, which renders the work less cumbersome than in former editions. The author's wide experience as a clinician and teacher in surgery has enabled him to marshal in a concise, systematic and instructive manner, the vast array of facts in this great and rapidly growing branch of medical science. The work is entirely up to date; the obsolete has been cast aside; the tried and trustworthy has been retained; and from the new a conservative presentation has been made of those facts, methods, and procedures which are esteemed of value. The reviewer deems it a feature of merit that more than the customary space is occupied in the chapter dealing with fractures and dislocations, and that devoted to surgery of the genitourinary apparatus. The work is especially suited for students and practitioners, being written from the standpoint of teacher, practitioner, and clinician. Its previous popularity will be much enhanced by the present edition, and we predict for it a wide circulation and an increased appreciation on the part of the profession. The volume should be in the library of every one interested in the subject of surgery.

Lessons on the Eye: For the use of Undergraduate Students. —FRANK L. HENDERSON, M.D. Third Edition. Philadelphia: P. Blakiston's Son & Co. 1903.

This volume consists of 28 lessons on the common anomalies and diseases of the eye. Minute anatomy, the fitting of glasses, skiascopy, ophthalmoscopy, and kindred subjects have been intentionally omitted, as the author believes that they properly belong to special postgraduate instruction. His aim has been to include the necessary knowledge of practical ophthalmology for the general practitioner, and to omit purely technical data that he will never be called on to use. In his rather unique field Dr. Henderson has succeeded admirably.

The Structure of the Glands of Brunner.—By R. R. Bensley, M.D. Reprint from Vol. x of the Decennial Publications of the University of Chicago. The University of Chicago Press, 1903.

This is an extensive treatise upon the histology and microchemic reactions of the glands of Brunner, and a comparison of the results obtained by the most approved methods from the examination of the glands from 19 different genera. The author reaches the conclusion that in 18 of these genera the glands are of the pure mucous type, while in the rabbit there is an admixture of serous tubules. The possibility is not excluded that the glands of Brunner also secrete small amounts of digestive ferments. The embryology of the organs has not been materially furthered.

Atlas and Epitome of External Diseases of the Eye.—By Dr. O. HAAB, of Zurich. Second Edition. Edited with additions by G. E. DESCHWEINITZ, M.D. W. B. Saunders & Co., Philadelphia, New York and London.

In the second edition of this popular atlas many valuable additions have been made, including 8 new colored plates. In the revision of the text there have been included the most recent drugs and methods employed in ocular therapeutics. The value of the text has been enhanced by the editorial comments enclosed in brackets. The editor has forcibly presented his own views even when they are at distinct variance with those of the author. For instance, Professor Haab's statement that cold compresses should be absolutely forbidden in the treatment of all wounds of the eyeball, on account of the great liability to infection is followed by the editor's expression of the greatest confidence in sterilized ice compresses in all noninfected wounds, provided, of course, that great care is exercised that the compresses themselves shall not carry infection. In the new edition adrenalin is spoken of favorably, and is suggested as a useful adjunct in the treatment of lacrimal affections. Boroglycerin, a most efficient and generally neglected remedy, is recommended in trachoma and visual conjunctivitis. The use of the Röntgen ray and the electromagnet in the diagnosis and treatment of foreign bodies in the eyeball is given full consideration. Sympathectomy in glaucoma is mentioned, but not highly commended. The plates, especially the newer ones, compare very favorably with those in the more expensive ophthalmic atlases, but in some instances there does not seem to be correct proportion of the parts depicted. Generally speaking, the work deserves the highest commendation, and will be especially useful to the student and general practitioner.

Bacteria in Milk and Its Products.— By H. W. CONN, Ph.D. Forty-three illustrations. Philadelphia: P. Blakiston's Son & Co., 1903.

This book is designed for the use of students in dairying and for all others concerned in the handling of milk, butter or cheese. Its 290 pages are full of practical information put in a very clear and readable style. The first chapters deal with the nature of bacteria, the sources of bacteria in milk, their types, growth, and relation to health and how the consumer of milk products is to be protected. The three last chapters consider bacteria in butter, in cheese, and the bacteriologic examination of milk. A lengthy bibliography of articles pertaining to the above-named subjects is appended. This book can be heartily commended. It will be of distinct aid in advancing sanitation as regards the handling of milk.

Obstetrics: A Manual for Students and Practitioners.—By W. P. MANTON, M.D.. Edited by V. C. PEDERSEN, A.M., M.D. Illustrated with 82 engravings. Lea Brothers & Co., Philadelphia and New York.

This volume is one of "The Medical Epitome Series," and presents in a clear, concise and comprehensive manner the essentials of modern obstetrics. Students preparing for examination and practitioners desiring to review the subject will find a help in this little volume which contains the important points in this branch of medicine condensed and readily available. For convenience in quizzing a series of questions is given, but in order not to break up the continuity of the text the questions appear at the end of each chapter. This is a decided improvement over the old quiz-compend arrangement.

Progressive Medicine.—A Quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences. Edited by HOBART AMORY HARE, M.D., assisted by H. R. M. LANDIS, M.D. Volume II, June, 1903. Lea Brothers & Co., Philadelphia and New York, 1903.

Volume II of this wellknown publication for this year comprises a critical digest of the recent literature on the surgery of the abdomen, including hernia, by Dr. William B. Coley; on gynecology, by Dr. John G. Clark; on diseases of the blood and ductless glands, the hemorrhagic diseases, and metabolic diseases, by Dr. Alfred Stengel, and on ophthalmology, by Dr. Edward Jackson. The position in medical literature attained for this publication by previous volumes is fully sustained by the present volume; the literature is well covered, and the critical comments of the different department editors add considerably to the value of the digest of the literature itself.

Progressive Medicine. — Edited by HOBART AMORY HARE, M.D., assisted by H. R. M. LANDIS, M.D. Volume III, September, 1903. Lea Brothers & Co., Philadelphia and New York.

Volume III, for 1903, of this justly prized publication includes a critical discussion of the recent literature on diseases of the thorax and its viscera, including the heart, lungs, and bloodvessels, by Dr. William Ewart; on dermatology and

syphilis, by Dr. William S. Gottheil; on diseases of the nervous system, by Dr. William G. Spiller; and on obstetrics, by Dr. Richard C. Norris. The literature of the subjects is well covered, and the critical comments of the editors add much to the value of the work.

BOOKS RECEIVED.

[Prompt acknowledgment of books received will be made in this column, and from time to time critical reviews will be made of those of interest to our readers.]

The Structure of the Glands of Brunner.—By ROBERT R. BENSLEY, M.D. Reprint from the University of Chicago Decennial Publications. First series. Volume x, 50 pages, with six plates. Net $1.00, postpaid, $1.10. The University of Chicago Press, Chicago, Ill.

Clinical Talks on Minor Surgery.—By JAMES G. MUMFORD, M.D., Assistant Visiting Surgeon to the Massachusetts General Hospital, and Instructor in Surgery, Harvard University Medical School. The Old Corner Bookstore, Boston, Mass.

Johns Hopkins Hospital Reports, Vol. xi, Nos. 1-9. The Johns Hopkins Press, Baltimore, 1903.

Lea's Series of Medical Epitomes: Epitome of Histology. A Manual for Students and Physicians.—By JOHN R. WATHEN, A.M., M.D., Professor of Surgery, etc., formerly Professor of Histology and Pathology, Kentucky School of Medicine, Louisville, Ky. 12mo, 220 pages, 114 illustrations. Cloth, $1.00 net. Lea Brothers & Co., Philadelphia and New York, 1903.

Transactions of the Association of American Physicians, Eighteenth Session, held at Washington, D. C., May 12, 13, and 14, 1903. Vol. xviii. Printed for the Association. Dornan, Philadelphia, 1903.

A Textbook of Pathology.—By ALFRED STENGEL, M.D., Professor of Clinical Medicine in the University of Pennsylvania. Fourth edition, revised and enlarged. Philadelphia, New York, London: W. B. Saunders & Co., 1903. Cloth, $5.00 net; sheep or half morocco, $6.00 net; pages, 983; illustrated.

The American Pocket Medical Dictionary.—Edited by W. A. NEWMAN DORLAND, M.D., Assistant Obstetrician to the Hospital of the University of Pennsylvania. Fourth edition, revised and greatly enlarged. Philadelphia, New York, London: W. B. Saunders & Co., 1903. Flexible leather, $1.00 net; with thumb index, $1.25 net; pages, 566.

The American Illustrated Medical Dictionary: For Practitioners and Students. A Complete Dictionary of the Terms Used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry, and the kindred branches, etc.—By W. A. NEWMAN DORLAND, A.M., M.D. Third edition, revised and enlarged. Philadelphia, New York, London: W. B. Saunders & Co., 1903. Price, $4.50 net; with thumb index, $5.00 net; pages, 800.

A Textbook of Obstetrics.—By BARTON COOKE HIRST, M.D., Professor of Obstetrics in the University of Pennsylvania. Fourth edition, revised and enlarged. Philadelphia, New York, London: W. B. Saunders & Co., 1903. Cloth, $5.00 net; sheep or half morocco, $6.00 net; pages, 900; illustrated.

A Textbook Upon the Pathogenic Bacteria: For Students of Medicine and Physicians.—By JOSEPH MCFARLAND, M.D., Professor of Pathology and Bacteriology in the Medico-Chirurgical College, Philadelphia; Pathologist to the Philadelphia Hospital and to the Medico-Chirurgical Hospital, Philadelphia. Fourth edition, revised and enlarged, and entirely reset. Philadelphia, New York, London: W. B. Saunders & Co., 1903. Cloth, $3.50 net; pages, 629.

Clinical Treatises on the Pathology and Therapy of Disorders of Metabolism and Nutrition.—By CARL VON NOORDEN, Physician-in-chief to the City Hospital, Frankford-on-Main. Authorized American edition translated under the direction of BOARDMAN REED, M.D., Professor of Diseases of the Gastrointestinal Tract, Hygiene, and Climatology, Department of Medicine, Temple College, etc. Part IV. **The Acid Autointoxications.**—By Professor CARL VON NOORDEN and Dr. MOHR. E. B. Treat & Co., New York, 1903. Price, 50 cents.

Infectious Diseases. Their Etiology, Diagnosis, and Treatment.—By G. H. ROGER, Professor Extraordinary in the Faculty of Medicine of Paris, etc. Translated by M. S. GABRIEL, M.D., New York. In one octavo volume of 864 pages, with 43 illustrations. Cloth, $5.75 net. Lea Brothers & Co., Philadelphia and New York, 1903.

Stories of a Country Doctor.—By WILLIS P. KING, of Kansas City, Mo. Illustrated. The Clinic Publishing Company, Chicago, 1902.

Textbook of Operative Surgery.—By Dr. THEODOR KOCHER, Professor of Surgery and Director of the Surgical Clinic in the University of Bern. Authorized translation from the fourth German edition by HAROLD J. STILES, M.B., F.R.C.S., Edin., Surgeon to the Royal Edinburgh Hospital for Sick Children; Late Assistant Surgeon, Edinburgh Royal Infirmary; Examiner in Anatomy, Royal College of Surgeons, Edinburgh. The Macmillan Company, New York, 1903.

Mammalian Anatomy: With Special Reference to the Cat.—By ALVIN DAVISON, Ph.D., ex-Fellow of Princeton University; Professor of Biology in Lafayette College. With over 100 illustrations made by W. H. REESE, A.M., from the author's dissections. P. Blakiston's Son & Co., Philadelphia, 1903. Price, $1.50 net.

The Streptococcus and Streptolytic Serum. Published by the Scientific Department of Frederick Stearns & Co., Detroit, Mich.

Quiz Compends: Gynecology.—By WILLIAM H. WELLS, M.D., Chief of the Gynecologic Staff of the Mount Sinai Hospital, Philadelphia; Demonstrator of Clinical Obstetrics in the Jefferson Medical College, Philadelphia; Fellow of the College of Physicians and of the Gynecologic Section of the same, etc. Third edition, revised and enlarged, with 145 illustrations. P. Blakiston's Son & Co., Philadelphia, 1903. Price, 80 cents net.

Saunders' Medical Hand-Atlases: Atlas of the External Diseases of the Eye.—By PROFESSOR DR. O. HAAB, of Zurich. Second Edition, Thoroughly Revised. Edited with additions, by G. E. DE SCHWEINITZ, A.M., M.D., Professor of Ophthalmology in the University of Pennsylvania. With 98 colored lithographic illustrations on 48 plates, and 232 pages of text. Philadelphia, New York, London: W. B. Saunders & Co., 1903. Price, $3.00 net.

AMERICAN NEWS AND NOTES.

GENERAL.

Birthrates.—In the United States the excess of births over deaths was 28 per 1,000 in 1830, today it is 13; the French rate was 25 in 1874, 22 in 1894, and 21 today, or a drop of 4.3 during the period for which returns were available. During the corresponding period, the English rate has fallen 6, the Italian 3.2, in Germany 4.2. In Russia the rate is advancing. It was 47.7 in 1892, and is over 49 today. In Australia the rate is falling most alarmingly; in 1861 it was 41.9, and today it is but 27.35.

Sanitation in Cuba.—The report of the chief sanitary officer of Cuba for August continues the good account of Cuba's sanitary condition. The rate of mortality is even lower than during the American military occupation, and it is remarkable that nearly 2 years have now elapsed since any case of yellow fever or of smallpox has originated on the island. The only case of yellow fever recorded was one imported from Mexico, which was taken to the hospital, and discharged cured.

Vaccination Against Plague.—An exchange says: The assuring news comes through consular sources that vaccination is effective against the historic plague. In Hongkong, where superstition prevails, the efforts of the authorities to stamp out the trouble have been ineffectual and the scourge is unabated. On the other hand, in Manila, where preventive vaccination is compulsory and carried out conscientiously on a large scale, the plague is almost stamped out. It is asserted that the vaccination in use there, if repeated in intervals of 10 days, is as certainly effective as vaccination against smallpox.

Miscellaneous.—PHILADELPHIA: Dr. William Osler, of Baltimore, will deliver an address under the auspices of the Henry Phipps Institute, at 8.30 p.m., December 3, in the Auditorium of Witherspoon Building. Subject, "The Home in Relation to the Tuberculosis Problem." PITTSBURG: Dr. M. Allen Starr, of New York, was the guest of the Allegheny County Medical Society at its regular scientific meeting November 17. Two papers on "Brain Tumors," one by Dr. T. M. T. McKennan, the other by Dr. T. Diller, were read. Dr. Starr opened the general discussion of "Brain Tumors and their Operative Treatment."

What Makes a Doctor.—The skill of a physician is in part similar to that of any other man of science. Primarily he should have a mind for detail and exact thinking. The method of exclusion, "It cannot be anything else, so it must be typhoid," or malaria, is the sign of vagueness, and has diminished with the progress of the laboratory spirit. The able diagnostician recognizes each disease not by loose obvious symptoms, but by a variety of exact details, often discoverable only on analysis, and peculiar to that disease. Of recent years malaria has been made to cover more ignorance than any other disease, and in former times there were other words, such as the vapors, which cloaked the entire failure of the doctors to form concrete images of physiologic conditions. This exact mind for detail makes the physician on the side of diagnosis. When it comes to acting on his understanding, to removing a condition which he understands, other qualities become requisite. Some of them are traits of mind, such as fertility of invention, resourcefulness in thinking of schemes, but others are traits of character, moral attributes, such as will, sympathy, tact, and infinite patience. No profession in our day has made such progress as the medical, counting surgery as part of it; and its unexampled improvement is part of our progress in science, the field of thought in which the nineteenth century was most notable. In many professions there has been no progress at all, certainly not in law or in the pulpit.—[*Collier's Weekly.*]

The Senn Prize Essay for 1904.—The Committee on the Senn Medal begs leave to call attention to the following conditions governing the competition for this medal for 1904: A gold medal of suitable design is to be conferred on the member of the American Medical Association who shall present the best essay on some surgical subject. The award will be made under the following conditions: 1. The name of the author of each competing essay must be enclosed in a sealed envelope bearing a suitable motto or device, the essay itself bearing the same motto or device. The title of the successful essay and the motto or device is to be read at the session at which the award is made, and the corresponding envelope is to be then and there opened and the name of the successful author announced. 2. All successful essays become the property of the Association. 3. The medal shall be conferred and honorable mention made of the two other essays considered worthy of this distinction, at a general meeting of the Association. 4. The competition is to be confined to those who, at the time of entering the competition, as well as at the time of conferring the medal, shall be members of the American Medical Association. 5. The competition for the medal will be closed on, and no essays received after March 1, 1904. Communications may be addressed to any member of the committee, which consists of the following: Dr. James H. Dunn, chairman, Minneapolis; Dr. M. L. Harris, 100 State street, Chicago; Dr. Floyd McRae, Atlanta, Ga.

Insects and Disease.—A somewhat alarming discovery is reported from Hongkong in relation to the bubonic plague. It was learned at Manila and also in Japan that rats are susceptible to plague infection, and have been responsible for the extension of epidemics. When typhoid fever raged at the military camp near Washington at the time of the war with Spain the flies, as was subsequently shown, were the chief agents in the spread of the malady. Also it is well established that the mosquito is the common carrier of the microbes of malaria. In Hongkong the plague breaks out each spring, in scattered sections, some of which have had no cases before. This led to the investigation which showed that not only rats, but also fleas, cockroaches, and spiders carry the germs, and that the bite of these is enough to introduce the microbe. The fact must increase the labors of the public sanitarian in his struggle with the plague. Whether, in the case of diseases which are less virulent than the plague is known to be, rats, flies, fleas, cockroaches and spiders become agents for transmitting the infection is still to be determined, but it is highly probable. Hitherto it has been considered enough for the sanitary officials to disinfect premises where there has been a case of infectious disease, but it may become necessary to wage war on vermin and insects. At any rate, the experience with the plague has shown that an epidemic of that malady can be restricted only by the extermination of the rats of the neighborhood. Probably it would be less difficult to destroy virtually all the dangerous insects and other small forms of life which infest a house than most persons would think. There are powders and gaseous poisons which will destroy all the flies of a room in a few minutes, and a persistent effort would make a very great reduction in the swarms of a neighborhood.—[*Philadelphia Record.*]

EASTERN STATES.

Typhoid at Williams College and Brown University.—A number of cases of typhoid fever have been reported at Williams College and at Brown University. Fears are entertained that an epidemic may become prevalent at these institutions, and active measures are being taken to prevent it.

NEW YORK.

New Dispensary and Dormitory for Bellevue.—The old building formerly used as the Bellevue Medical College has been opened as a dispensary for the outdoor patients. The building, which is constructed of brick and stone, has been entirely renovated and made fireproof at a cost of $53,000. The first floor of the present dispensary building will be used for the dispensary proper and the bookkeeping departments; while the remaining 3 floors will be used as sleeping apartments for the female employes of the hospital.

Treatment of Criminals.—The first session of the conference of Charities and Correction of New York State, on November 18, was devoted to a discussion of the treatment of criminals. In the report of the Committee on the Treatment of the Criminal, recommendation was made that the parole term of discharged prisoners be extended to 1 year, a length of time now only set in exceptional cases. It was argued that the feeling of the man on probation, that he still had the influences and help of the institution about him, would be of great benefit to him in resuming his place in society. It was suggested also that prisoners should not be paroled until satisfactory positions could be found for them.

Nurses' Law Interpreted.—In answering to an inquiry as to whether the graduate nurses of the State Hospital training schools are obliged under the registered nurses' law, passed by the last legislature, to make application to the State Nurses' Examining Board for certificates as registered nurses, to cost them $5 each, Attorney-General Cunneen, in an opinion, holds that the statute does not limit the right to practise nursing to registered nurses only. It does not require a regent's certificate or even a course of study in a training school for nurses as condition precedent to the right to practise nursing. It prescribes the conditions upon which one may obtain the right to the title of "registered nurse," but does not require unregistered nurses to discontinue their occupation. The statute merely prohibits persons who are not registered nurses from assuming the title or using any abbreviation, word, letter or figure to indicate that they are so registered. So long as the nurses employed in State hospitals for the insane neither assume the title of "registered nurse" nor in any way hold themselves out to the public as being registered nurses, they do not violate the provisions of the statute.—[*New York Sun.*]

PHILADELPHIA, PENNSYLVANIA, ETC.

Diphtheria in Montclair, N. J.—Under date of November 12, it was reported that there were 20 known cases of diphtheria in the town.

To Prevent Smallpox Spread.—The Camden Board of Health has ordered a general vaccination among the employes of factories, to prevent an increase in smallpox.

Schools Closed for Disinfection.—Eight schools, with a total enrollment of 5,300 children, were closed October 18 for disinfection, because of smallpox and other contagious diseases in the families of pupils.

The Mütter Lecture on Surgical Pathology, College of Physicians, for 1903, will be delivered in the hall of the college, December 1, at 8.30 p.m., by Dr. C. N. B. Camac, of Cornell University. Subject: "Some Observations on Aneurysm and Arteriosclerosis."

The Philadelphia Neurological Society held a stated meeting at the hall of the College of Physicians of Philadelphia, on Tuesday evening, November 24. Dr. M. Allen Starr, who read a paper entitled, "Is Epilepsy a Functional Disease, and is it Ever Curable?" was the guest of honor of the evening.

Trolley Cars to be Heated.—The Philadelphia Rapid Transit Company, it is promised, will heat more of its cars this winter which run on long trips than were ever before operated. Heat will be first supplied to the cars running to the city limits and coming from correspondingly distant points. Long runs within the city limits will be provided for as rapidly as possible. This news will be heartily welcomed by all the citizens of Philadelphia, particularly those living in the suburbs.

The Probation System.—An exchange says the Committee on Probation Officers of the New Century Club of Philadelphia has issued a most instructive pamphlet entitled "What the Juvenile Court and Probation System Has Done in Philadelphia." From June 14, 1901, to November, 1902, there were 1,793 children's cases, of which 1,112 were delinquents and 681 dependent. In all, no less than 1,008 were returned home on probation, of whom but 24 came into court a second time and 3 a third time, while only 104 had to be sent to a house of refuge. These figures are by all means the most favorable to the probation system which we have yet seen.

Increase in Smallpox.—Of the 373 new cases of contagious diseases reported to the Bureau of Health of Philadelphia last week, 34% were from wards surrounding the Municipal Hospital. The new cases of smallpox were double the number for the week before. This condition is due, Director Martin says, to "a leak in the Municipal Hospital." He then adds: "The reason it is hanging on is due to the fact that most of the persons falling victims are those who, through ignorance or intentionally, neglect to call in a physician, and, therefore, keep the health authorities from learning of them. Our only hope of stamping out smallpox entirely, lies in immediate isolation as soon as a case occurs and in the vaccination of every person in the city."

Typhoid Fever Suit against the City, Fails.—The question whether typhoid fever may be contracted by breathing noxious air was decided negatively in Common Pleas Court recently. A man who brought suit to recover damages from the city because of the illness of his wife and son, contended that they had contracted fever as a result of foul gases arising from refuse matter that neighbors had dumped in their yards after the city had raised the street grade. It was contended that the city should have prevented the deposit of this obnoxious matter. The defense produced expert witnesses to prove that typhoid fever germs cannot be absorbed by breathing impure air, and that they must be taken into the system with food or drink.

Concerning the crusade now being made against smallpox in Philadelphia, the *Public Ledger* editorially says: The health authorities are to be commended and in every way supported in their insistence upon vaccination among the ignorant classes, which are always a main source of peril in the community. There is no general prevalence of smallpox in Philadelphia, but it breaks out from time to time in particular spots, most frequently among the negroes, whose nomadic habits and squalid living make them an easy prey for contagion and a center for its propagation. These people cannot be expected to know anything of vaccination or go in search of it; the only thing to be done is to go to them and vaccinate them—be they willing or unwilling. If this can be systematically and thoroughly done, smallpox will disappear from lack of susceptible subjects.

Roof-garden Suggested for Tuberculous Prisoners.—Dr. L. F. Flick, the tuberculosis expert, in discussing the ravages of the disease in the prison, is quoted as saying: It is a fact borne out by scientific search that about three-fourths of the criminals who are sent to prison have tuberculosis. It may not be in the advanced stages, but it is there. Consequently, in many instances, where the intention is to send a man to prison for punishment, in effect it means a sentence to death. Among certain classes, notably in the slums, continued ill-health produces crime. Generally speaking, if many of the prisoners can be restored to health, crime will be reduced. We have seen that at White Haven. It would be a good plan, if, when a prisoner is received, an examination were made for the especial purpose of discovering tuberculous symptoms. Instead of putting this man in a cell, put him on a farm, as they do in Georgia. The roof-garden could be utilized in the prison when the disease has developed there, and the person is in the advanced stages of the disease, or upon being received is in that condition. The question of drainage and the sterilization of the cells should be attended to at all times. By following this plan I believe the progress of the "Great White Plague" would be materially checked.

SOUTHERN STATES.

Diphtheria Near Baltimore.—The residents of Mount Washington, a suburban section of Baltimore, are alarmed over the serious outbreak of diphtheria, the spread of which puzzles the physicians who have been taking every precaution to stamp it out.

Quarantine against San Antonio Raised.—The governor of Texas has issued a proclamation raising the State quarantine against San Antonio, which has been in effect for several weeks because of the appearance of a few cases of yellow fever in that city. The recent fall in the temperature to 30° makes it impossible for new cases to propagate.

To Prevent Yellow Fever.—Dr. George R. Tabor, Texas State Health Officer has signified his intention of extending invitations to United States Surgeon-General Wyman and the representatives of the Health Departments of Louisiana, Mississippi, and Alabama to accompany him to Mexico next January for the purpose of holding a conference with the Superior Board of Health of that country to determine upon a concerted plan of action that would prevent another epidemic of yellow fever in Mexico and the spread of the disease to Texas and the South next season.

Baltimore Barbers to Organize.—It is reported that the barbers of Baltimore are determined to effect an organization in the city which will have for its basis the merit system and preclude those from work at the trade until a proper apprenticeship has been served. They propose as an organization to endorse the regulations adopted in New York, which are as follows: 1. Barbers must wash their hands thoroughly with soap and hot water before attending any person. 2. No alum or other astringent shall be used in stick form. If used at all to stop the flow of blood, it must be applied in powder form. 3. The use of powder puffs is prohibited. 4. No towel should be used for more than one person without being washed. 5. The use of sponges is prohibited. 6. Mugs and shaving brushes shall be thoroughly washed after use on each person. 7. Combs, razors, clippers and scissors shall be thoroughly cleaned by dipping in boiling water or other germicide after every separate use thereof. 8. No barber, unless he is a licensed physician, shall prescribe for any skin disease. 9. Floors must be swept or mopped every day, and all furniture and woodwork kept free from dust. 10. Hot and cold water must be provided. 11. A copy of these resolutions is to be hung in a conspicuous place in each shop.

WESTERN STATES.

The thirtieth annual meeting of the Mississippi Valley Medical Association will be held at Cincinnati, O., October 11, 12, 13, 1904. Dr. B. Merrill Ricketts has been elected chairman of the committee of arrangements. The following resolution was offered by Dr. S. P. Collings, of Hot Springs, Ark., at the Memphis meeting:

WHEREAS, The value of perfect sight and hearing is not fully appreciated by educators, and neglect of the delicate organs of vision and hearing often leads to disease of these structures, therefore, be it

Resolved, That it is the sense of the Mississippi Valley Medical Association that measures be taken by Boards of Health, Boards of Education, and school authorities, and where possible legislation secured, looking to the examination of the eyes of all school children, that disease in its incipiency may be discovered and corrected.

The Tsetse Fly Cultivated.—At a meeting of the Kalamazoo Academy of Medicine held on November 3, Dr. F. G. Novy presented the results of work carried on, with the cooperation of Mr. McNeal, in the Hygienic Laboratory of the University of Michigan relative to the cultivation of the trypanosome of Nagana or the tsetse fly disease of South Africa. They have succeeded in cultivating this flagellata, *in vitro*, for the past 2 months (68 days), through 6 generations. The fresh active cultures reproduce the disease in animals, modified cultures are without virulence and may possibly serve as vaccines. The method of cultivation is the same as that employed for the cultivation of rat trypanosomes, published in the Vaughan *Festschrift*. The rat and Nagana trypanosomes are the first pathogenic protozoa cultivated in pure condition outside of the body.—[*Science.*]

Hard Pneumonia Problem. — Concerning the great increase in pneumonia and the difficult problems of prevention and cure, the Bulletin of the Chicago Health Department, for the week ended November 14, says: The difficulty of indicating any special measures for the prevention of the disease was again illustrated in a paper by Dr. Klebs. Beyond pointing out that of every 100 alcoholics attacked by pneumonia 70 will die, while of every 100 nonalcoholics so attacked only 23 will die, there was no suggestion of prophylaxis or prevention. The figures are, however, in themselves a strong argument for "the simpler life." While the difficulty is recognized it should not be a cause of despair. Rather, in view of the marvelous results of the efforts for the restriction and prevention of pulmonary tuberculosis—its deathrate cut in two in 50 years—it should be an incitement to similar effort against this new captain of the men of death. Without abating one jot or tittle of the crusade against tuberculosis, let us also have a similar crusade against pneumonia. There need be no magnifying the one or belittling the other. As the 2 most destructive diseases of modern life each is worthy the best energies of all workers in the field of preventive medicine.

FOREIGN NEWS AND NOTES

GENERAL.

Surgeon Gets $10,000 Damage.—A jury in the Lord Chief Justice's Court has awarded Dr. Bayliss, a professor of the London University College Hospital, $10,000 damages for libel against the Hon. Stephen Coleridge, honorary secretary of the National Antivivisection Society, and son of the late Chief Justice Coleridge. Mr. Coleridge publicly charged the plaintiff with torturing a dog while carrying out vivisection experiments without proper anesthetics. Mr. Coleridge's charges rested on the statement of 2 Swedish women students, who gave a horrible picture of the laboratory of the college and the inhumanity of the operators, dogs howling in agony from the tortures inflicted on them while they were fully conscious. Strong evidence was submitted against the allegations.

Character of the Growth Removed from the Kaiser's Throat.—The *London Lancet* has the following to say in reference to the mooted question concerning malignancy: "The clinical details are too meagre for dogmatism, but the report of the medical advisers is very clear that in the piece removed nothing justifies a suspicion of malignancy. Orth would have expressed himself more guardedly and would not have spoken of the growth as benign if he had had the least doubt. Schmidt is the surgeon who pronounced the late Emperor Frederick's condition cancerous, and he would certainly not have operated upon Emperor William without consulting other advisers if he had not felt certain the growth was innocent. The family history must cause anxiety, but the medical opinion is clearly favorable."

New Serum for Tuberculosis.—News from Paris, under date of November 17, says: Dr. Marmorek, an Austrain bacteriologist, who was until recently the leading chemist at the Pasteur Institute, has communicated to the Academy of Science the results of his experiments in curing tuberculosis. His researches led him to discover a serum of vaccine which he believes is efficacious. He has used it for more than a year, obtaining favorable results in tuberculosis, although he did not succeed in cases of tuberculosis meningitis. Local abscesses were observed in only 3 out of 2,000 injections. Dr. Marmorek claims several absolute cures, beside effecting distinct improvement in some advanced cases. It was in order to be able to devote himself to his discovery that he resigned from the Pasteur Institute. The difference between Dr. Marmorek's horse serum and Professor Koch's tuberculin is that the latter is a toxic substance, while Dr. Marmorek's is an antitoxin prepared outside the human organism.

Claims to Cure Pulmonary Tuberculosis. — News from Moscow has it that remarkable cures of pulmonary tuberculosis have been effected in Russia recently by Kisel Zagoranski, formerly a mining engineer and now specially licensed by the Russian Medical Department to practise medicine in cases of tuberculosis. Zagoranski was sent to Siberia 30 years ago to superintend extensive mining works. The medical facilities there were extremely limited, and an old foreman of the mine always took care of the tuberculosis cases. He almost invariably cured them. The foreman died, confiding his tuberculosis specific to Zagoranski, who continued to use it. Hearing a rumor that John D. Rockefeller had offered an immense prize for the discovery of a pulmonary tuberculosis cure, he consulted American Consul Smith, who, with his brother, W. E. Smith, began a systematic observation of the cases of several patients. Cures were noted. Zagoranski's treatment, according to Mr. Smith, consists merely in the drinking of his specific in large quantities, together with life in the open air and the observance of careful dietary.

German Sick Insurance Law.—It appears to be compulsory in Germany that workmen shall carry an insurance against sickness. The law of 1883 made it compulsory on all persons in a dependent position working regularly for wages in manufactures, commerce, and trades; and further gave local authorities the power to make it compulsory on other classes not coming under this description, such as persons temporarily engaged, apprentices, domestics, and agricultural laborers. The law has subsequently been amended and extended. The idea is to encourage the internal administration of the business by those who have a common interest either of locality, occupation or class. The aggregate number of authorized sick insurance funds in the empire is over 23,000, and of persons insured in them between 9,000,000 and 10,000,000. The rate of contributions depends on the rate of earnings. It varies from 2% to 3%. Two-thirds of the amount is payable by the person insured, and one-third by the employer. The benefit is payable for not more than 13 weeks; it includes medical treatment, drugs, etc., free, and sick pay beginning from the third day of incapacity, or free treatment in a hospital with half pay for the sick person's family. Mothers are entitled to the same for 4 weeks after confinement. The legal minimum of sick pay is one-half the previous earnings.

OBITUARIES.

R. D. Murray, the famous yellow fever expert, died as the result of an injury received in a runaway accident, at Laredo, Texas, November 22, aged 58. He was a graduate of Cleveland Medical College, in 1868, and of Jefferson Medical College, Philadelphia, in 1871; for a number of years he held the chair of anatomy in the Cleveland Medical College, and associated himself with the Marine Hospital in 1872, with headquarters at Key West, Fla. He was temporarily stationed at Laredo, Texas, as an expert in combating the yellow fever epidemic in that vicinity when the accident occurred. His work through the various yellow fever epidemics in the South during the past quarter of a century, had especially endeared him to the people of that region. At the time of his death he was senior surgeon of the United States Marine-Hospital Service, and his splendid work as a yellow fever expert was known all over the world. He was a Civil War veteran, and member of the Grand Army of the Republic. The remains were interred at Bluffton, Ohio, the place of his nativity. He was a founder of *American Medicine.*

Charles Schaffer, at his home in Philadelphia, November 22, of heart disease, aged 66; a graduate of the University of Pennsylvania, in 1859. He was especially interested in natural sciences, and was active in the management of the Academy of Natural Sciences, Philadelphia; a member of the American Philosophical Society, the Historical Society of Pennsylvania, the Franklin Institute, the Photographic Society of Philadelphia, etc. It was especially in the field of botany that he was known in this country and abroad. He was a founder of *American Medicine.*

Emile Sarpy, well known in medical circles in New Orleans, November 16, age 73. For some time the venerable physician had been suffering from bronchopneumonia, and his death was not unexpected. Dr. Sarpy was born in New Orleans. After studying in his home city, he completed his medical education in Philadelphia. The passing of this physician will be felt by many in New Orleans, where he was well known and respected by thousands.

Henry C. Bolton, Ph.D., the eminent chemist and scientist, November 19, aged 61; a graduate of Columbia College, and one time professor of chemistry at the Woman's Medical College and Trinity College, New York. Since 1887 he devoted himself to literary scientific pursuits, his contributions of scientific literature and bibliography being numerous and notable.

Allen Hazen, at his home in New York, November 19, after an operation for appendicitis; a graduate of the College of Physicians and Surgeons of New York, in 1895, and member of the Society Alumni of the City Hospital, where he served as resident for 2 years.

Charles A. H. DeSzigethy, at his home in Brooklyn, November 17, aged 65; a native of Hungary and a graduate of the Vienna and Zurich universities. He came to this country in 1865, since which time he has lived and practised in Brooklyn.

J. A. Tucker, at his home in Toledo, Ohio, recently, aged 84. He took an active part in the anti-slavery agitation, and delivered many lectures on geology in northern Ohio. He retired from the practice of medicine in 1895.

August C. Sapper, at the Lutheran Hospital, St. Louis, November 8, from malignant disease, aged 35; a graduate of Missouri Medical College, St. Louis, in 1893, and chief of the medical staff of the hospital in which he died.

William Wallace Seely, at his home in Cincinnati, November 8, aged 66. a graduate of the Medical College of Ohio, Cincinnati, in 1864, and professor of clinical ophthalmology and otology in his Alma Mater.

Emil Rosenberg, at his home in New York City, November 4, aged 74; a graduate of the University of Berlin, in 1855; a senior medical examiner of the Northwestern Mutual Life Insurance Company.

John A. Weidner, at his home in Gowans, Baltimore, November 22. He was a member of the Shield of Honor, Magnolia Lodge, No. 6, and the Escaville Lodge of the Independent Order of Odd Fellows.

Lucius Gillett Thompson, at his home in Lacon, Ill., October 30; a graduate of the Starling Medical College, Columbus, Ohio, in 1849; one of the founders of the Illinois State Medical Society.

Samuel Talmadge, at his home in Brooklyn, November 20, of paralysis. He had practised in Brooklyn for 38 years, and was a graduate of the University of the State of New York.

Herbert A. Starkey, of Kingston, N. Y., November 23, aged 35. He was formerly of Philadelphia, and one time surgeon for the Pullman Company, at Pullman, Ill.

Carrie L. Heald, at her home in Osceola, Neb., November 18, from typhoid fever; a graduate of the Northwestern University Woman's Medical School, in 1897.

Noah D. Jenkins, at his home in Mark, Iowa, November 5, aged 55; a graduate of the College of Physicians and Surgeons, Keokuk, Iowa, in 1886.

E. C. Walters, at his home in Washington, Pa., November 5, aged 35; a graduate of Jefferson Medical College, Philadelphia.

Morgan Clements, at his home in Tuscaloosa, Ala., November 1, aged 78; a graduate of Jefferson Medical College, in 1848.

CLINICAL NOTES AND CORRESPONDENCE

[Communications are invited for this Department. The Editor is not responsible for the views advanced by any contributor.]

THE SOCALLED STARVATION CURE FOR BRIGHT'S DISEASE AND DIABETES.

BY

CHARLES T. BEESON, M.D.,

of Roswell N. M.

To the Editor of American Medicine:—I wish to report a case which I observed while camping in the mountains of this territory during the past summer. Much valuable data is lacking owing to the absence of apparatus for making tests, urinalysis, etc., and the allowance of the time element for ultimate results, yet much was shown of the danger of the socalled starvation cure for Bright's disease and diabetes. After a careful study of the case, I concluded eyestrain was the real foundation for the sufferings of this patient.

CASE.—The patient, an unmarried male, aged 44, is a teacher. During his last year of college life his eyes failed, and he was troubled with headaches and insomnia, all of which prevented him from obtaining his final degree. This trouble continued becoming better at times, and growing worse at other times. There was also an inability for continued mental application. He has never worn glasses, and never could be induced to do so. He has had no other sickness of consequence, denies venereal disease, and has never dissipated in any way.

Some few years ago an insurance company refused him because a trace of sugar was found in his urine. He has never been under the care of a physician, and has never had his urine examined except this one time. He was never troubled with an abnormal appetite, excessive thirst, nor polyuria. He is satisfied that he has kidney disease because sugar was found in his urine, and therefore decided to try the starvation cure. His plan was to fast 50 days if possible, but to stop at 40 days if severe hunger or threatening dissolution should overtake him. He began his fast at the Gila Hot Springs, in the United States Government Forest Reserve, 45 miles from the nearest post office, and in the heart of what is probably the wildest country in the United States. He fortunately spread his tent on the grounds of the Hot Springs Co., and was taken care of by the proprietor with the understanding that he was to be let alone. He slept in his tent at night and lounged about in the open air during the day. He took sun baths lying on the flat of his back because he believed the earth currents would conserve his strength. He took very little physical exercise. He took an occasional bath, and drank freely of the hot water from the springs, but no food whatever passed his lips. The patient was a man of medium height, healthy appearance, and of a quiet reserved nature, but somewhat erratic. His weight at the beginning of the fast was 175 pounds.

During the first 25 days nothing occurred of any consequence, he lost a little in weight and strength, but slept better. He has had absolutely no hunger since the second day of the fast; bowels moved up to the twentieth day, but not since.

At this time there was slight dizziness, nausea, and breathing became difficult, probably a beginning autointoxication. The sense of hearing is becoming noticeably exaggerated. He suffers no bodily pain.

Thirty-fifth day.—He feels very much weaker, vomits frequently a bilious vomitus, dizziness, dyspnea, and nausea are increased in severity. Sight is beginning to fail. He urinates more frequently, and urine is a dark brown color. Bowels have not moved.

Fortieth day.—He is very weak, must be supported to walk a few feet. General appearance very bad, eyes wild, pupils equal, slightly dilated and active; he is almost totally blind. He cannot talk above a whisper, tongue is coated a dark brown, breath foul, body emaciated, cadaver-like; dyspnea very bad, nausea and vomiting severe, water will not remain on his stomach but a moment, very dizzy, head feels as if constricted by a tight band, which prevents it from bursting; there is no pain in any other portion of body. There is absolutely no hunger, but there is a dread at the thought of taking food. Hearing has become intensely exaggerated, the slightest noise worries him greatly. Pulse 120, irregular and weak. Weight at this time about 120 pounds.

He seems to realize vividly that he is staring death in the face, and somewhat regrets his attempt. It seems as though he will not be able to retain nourishment by the stomach. He is practically helpless. He was now given small quantities of a concentrated food, and beer; fortunately he retained them. An increased quantity was gradually given each day. Improvement began immediately, and on the fifteenth day after the beginning of nourishment he was able to start on a 65-mile journey to the nearest railroad. I saw him 5 days later. He said he felt better and was able to sleep, and that his sight was all right again. He felt that he was cured. About 10 days later my attention was called to an article in the lay press of the

wonderful fast and of the cure it had wrought to this sufferer from kidney disease.

The foregoing case shows very clearly that this man was taking a very dangerous course without sufficient grounds for doing so. Had he had either Bright's disease or diabetes I believe he would be dead today, and I can only attribute his success in passing the fortieth day to a healthy condition of the vital organs.

The cessation of the excretory functions in the latter half of the fast produced an autointoxication which was sufficient to damage a healthy organ, let alone a degenerated one. Eichhorst says in his treatment of diabetes, that the carbohydrates should be withdrawn very gradually in a great majority of the cases, in order to avoid gastrointestinal disturbances and the signs of autointoxication; care must be taken that sufficient calories enter the system, and a diabetic often needs more than a normal man in order to cover the loss of the excreted sugar.

This is also emphasized by Rumpf, who insists that a total withdrawal is dangerous, as a certain amount of carbohydrates is necessary to the maintenance of the individual. Then again, if this man was really suffering from chronic Bright's disease, the intoxication which grew steadily worse after the twentieth day, was a uremic poisoning, which was rapidly relieved by the taking of food, thereby disproving the curative effects of the starvation treatment. In either case, if the symptoms were uremic or diabetic, they grew rapidly worse until food was taken.

The statement in the lay press was misleading, because the man had no sound reasons for thinking he had kidney disease, and besides, the rest to the eyes and brain during his stay in the mountains was sufficient to relieve temporarily a neurasthenic insomnia, and surely the fatty degeneration and hemorrhages in Mueller's fibers and the granular layers of the retina which we have in albuminuric and diabetic retinitis, would not have disappeared so suddenly had a cure of the disease been effected.

INANITION AND EXHAUSTION DUE TO GASTRIC ULCER AND CATARRHAL GASTRITIS.

BY

W. L. KING, M.D.,

of Granville, Ohio.

To the Editor of American Medicine:—Your readers may find the following case of interest:

Mrs. R., aged 27, a physician's wife, was taken sick about July 1. She has 2 children, aged 2 and 4.

Her mother, father, and one brother died of pulmonary tuberculosis. She had pneumonia 8 years ago, and has an abnormally quick pulse.

She has a dark florid complexion; weighs 145 pounds, being heavier than ever in her life; is subject to nose-bleed, which she usually had 2 or 3 times a month. She menstruated very profusely 2 weeks before present sickness, but never afterward. She complained of pain in the epigastric region immediately after eating 2 dishes of raspberries. Physics and digestants were given, but the pain continued for several days. She was then taken with constant vomiting—vomitus consisted of particles of food, a bluish green-yellow material, and mucus streaked with blood. There was no rise of temperature. She was seen at this time by Dr. S., who diagnosed the case the same as her husband had, as acute gastric catarrh. I first saw her August 5, 5 weeks after the onset of her sickness. Her face was flushed, temperature in axilla was 98° and pulse 100. She had an anxious expression, and complained of burning pain in the epigastric region, increased even by liquid nourishment, which sometimes caused paroxysms of pain. There was great tenderness on pressure over a spot about the size of a dollar. She was obstinately constipated, and bowels were moved with difficulty; the discharge was semisolid, dark yellow, and very offensive. Her breath was very offensive; tongue was red and somewhat furred. She vomited from 16 to 30 times a day, and was extremely nervous. She also had a profuse leukorrhea. After attending her a week, giving sedatives and antiseptics, and feeding her on teaspoonfuls of milk and lime-water and teaspoonfuls of beef juice, the vomiting ceased for 4 days, and the tenderness was less. Vomiting began again after she was suddenly awakened by an unusual noise. Temperature every day was 98° to 98.5°, except once, when it was 97° and once 99°. There was at no time any cough, tympanites, or moisture of the skin. I diagnosed the case as gastric ulcer with acute gastric catarrh.

On September 11, Dr. W. was called in. He diagnosed the case as typhoid fever.

On September 15, the temperature began to rise. In the morning it was 99.8°, and in the evening 100.4°; September 16, morning 99.8°, evening 100.4°; September 17, morning, 101°, evening 100.2°, and at midnight 101.4°. The patient died about 6 o'clock the next morning. At no time was there tympanites of the bowels. They were perfectly flat—in fact somewhat retracted at time of death—and there was no bloating afterward.

On the certificate I wrote death was caused by inanition and exhaustion due to gastric ulcer and catarrhal gastritis.

I would be very grateful for the opinion of others in regard to whether I was right or wrong in the diagnosis of this case.

THE KNEE-JERK.

BY

ALBERT ABRAMS, A.M., M.D.,

of San Francisco, Cal.

To the Editor of American Medicine:—There are many maneuvers which have been suggested for eliciting the knee-jerk, but the method here described has not, to my knowledge, been reported elsewhere, although I have employed it for some time. It increases the briskness of the patellar tendon reflex to a degree equivalent to the process known as reinforcement of the knee-jerk, and I have invariably found it satisfactory. The patient is directed to stand as shown in the accompanying photograph. The weight of the body is supported as much as possible by one foot, whereas the foot of the other limb, the reflex of which is to be obtained, rests lightly on the floor with the heel slightly elevated. The hand of the physician grasps the knee in the popliteal space, so that if the reflex is present and escapes inspection, it can be appreciated by palpation. In other respects, percussion of the tendon is made after the conventional manner.



THE ABDOMINAL TYMPANITES PERCUSSION NOTE.

BY

EPHRAIM CUTTER, M.D.,

of New York City.

While percussing recently an abdominal distention in the wife of one of the faculty of the N. E. Conservatory of Music, Boston, he stood by with his tuning fork and without my knowledge made the note of percussion to be 217.5 vibrations per second or the octavo below the concert pitch A, 435 vibrations to the second.

On a previous occasion we had made out the percussion notes of the heart, stomach and abdomen all differing, but I forgot to register them.

This is written merely as a suggestion which some of the bright-minded younger confreres might take up for I have always thought that the varying musical notes of percussion might help diagnosis.

ORIGINAL ARTICLES

WHAT IS THE LIMIT OF SAFETY WHEN MORE THAN ONE OPERATION IS INDICATED ?[1]

BY

ALBERT VANDER VEER, M.D.,

of Albany, N. Y.

This is surely a subject that presents itself with much force to the operating surgeon. In time of battle, when the case of the wounded soldier presents, with the right arm shot away by a portion of shell, the left hand in a somewhat similar condition, and with a minie ball through the left lung, what can be done must be done at once and accomplished cautiously. Bleeding vessels must be controlled with great care; mangled portions of tissue and extruding portions of bone must be properly treated and the wound of the chest looked after in an intelligent manner. To be sure the chances of recovery in such a case are exceedingly doubtful, but a certain amount of surgical work must be done, although it taxes the remaining strength of the patient.

In like manner when the brave fellow has lost an arm, also a leg, other portions of the body being in a normal condition, an earnest effort is indicated to save the soldier's life. Such cases have been known to result in good recovery. Victims of railway accidents that result in the loss of both lower extremities not infrequently make good recoveries, but I am of the impression that this does not apply so thoroughly to the loss of both arms.

I believe this may be looked upon as worthy our respect, and we cannot deny that the nearer we approach the heart and brain the more serious our cases are likely to be, and the greater the mortality. It is true that at times portions of the thorax may be seriously damaged and yet, under aseptic treatment, marvelous results follow. In realizing such conditions, and bringing to our aid modern improved methods, we can attack such dangerous cases almost anywhere for relief, restoration from surgical shock being a factor to be respected and to be dealt with, with the greatest energy. But there are cases in which we have to consider the following: In making an amputation of the limb the point of election, the point of operation, the place of amputation that will give the best result for the patient, in the wearing of an artificial limb, and cases in which the patient may also have one or more hernias or tumors requiring operation.

Again I have often observed that we have this question presented to us in cases that require more than one particular operation; for instance, the woman with a very encouraging carcinoma of the breast, in which you feel you may do a very complete and satisfactory dissection of the lymphatic glands, supraclavicular, and infraclavicular, axillary, and otherwise removing all the pectoralis major and minor muscles, with every prospect of a good recovery, if at the end of this somewhat long operation you stop and do nothing more; but supposing this same patient has also an enlarged thyroid, cystic in character, growing somewhat rapidly, and possibly when considering the condition of the breast there might be a tendency to malignancy, will you also operate upon this at the same time, or will you do this operation first, and then operate upon the breast later? These are problems not always easy of solution. If you do both operations at the same time do you diminish very materially the chances of this patient's recovery from the actual surgical interventions.

Take the case of another patient who comes with multiple fibroids of the uterus. There is evidence of pressure upon the ureter on one side; there are signs of pyelitis on that side; the left kidney is sensitive to the touch; the fibroid is large; it is believed that the kidney is somewhat enlarged; obstruction of the rectum also presents as the result of that portion of the fibroid being impacted in the pelvis; the patient has a lacerated cervix, not serious; there is no evidence of malignancy, yet the fibroid is growing. She has also a well-defined cystic tumor in the left breast, possibly not malignant; no axillary involvement whatever, but following out the thorough operation done upon the breast, it will be necessary to remove all the lymphatic glands. Let us consider now what is the best course to pursue in this case. The patient is more concerned about the tumor of the breast than about the abdominal growth. The surgeon is more concerned about the damage being done to the left kidney than the fear of malignancy connected with the tumor of the breast. In view of the laceration of the cervix will it be desirable to do a complete panhysterectomy, an operation that requires somewhat more time, even in the hands of the ablest operator, or will he do a supravaginal hysterectomy, leaving the cervix to after-treatment, if necessary; will he do either one of these operations and also attend to the breast at the same time?

I have had a personal experience with a somewhat similar case when, at the urgent solicitations of the patient, a double operation was done, removing the tumor supravaginally, and the breast and lymphatic glands at the same time, but the tax made upon her was so great that, while she made a good recovery, still an impression was left that she was an exceptionally sanguine and rebounding subject for convalescence.

While these cases do not present very frequently, yet I have sometimes been very reluctant to remove both breasts at one operation when implicated in a condition of carcinoma.

Conditions may group themselves in such a way that a multiple operation may be done without any apparent taxing of the patient's strength and vitality, but if the lesions are distributed to many distant portions of the body this is not so likely. One can remove a uterine fibroid, operate for the relief of an umbilical hernia and empty the gallbladder of a quantity of gallstones, and, perhaps, not tax the strength of the patient too much. While it is not common, yet these are continued operations in a territory that you have already invaded, and possibly the individual can readily stand the additional demand made upon his strength. I have sometimes felt that we were taxing our patient quite a good deal in doing a double herniotomy, and also an operation for removal of the breast at the same time, yet patients will recover from such a procedure.

The injury to certain nerve tissues, in doing what we may call a combined operation, must not be lost sight of. Operations that approach the stomach—operations that involve small nerve centers—are of a class greatly to be respected, when we consider the recovery of patients and the low mortality list.

The male patient does not bear exceedingly well a continued operation that involves the organs of generation. To a certain extent this holds true of the female, but how often are we astonished by our ablest operators, who begin by dilating the cervical and uterine canal, curet thoroughly, then repair a bilateral laceration, pack the uterus with gauze, then begin an operation for the relief of a cystocele, followed by relief of a rectocele, and lacerated perineum. One feels that such a patient has been called upon to endure about as much as the ordinary system would be expected to tolerate, and now for a moment we are startled by the news that the abdominal cavity is to be opened, a right ovary removed; if the appendix is found diseased, that also is to be removed, and then a ventral fixation of the fundus of the uterus done. If the records were really known as to the results of such successful operations, it would be of great importance to the profession to be informed of the real mortality that is brought about by so extensive and

[1] Read by title at the meeting of the Southern Surgical and Gynecological Association, Cincinnati, Ohio, November 11, 12, and 13, 1902.

continuous operations. This I look upon as the most heroic of all surgery.

Just where should we divide the procedure necessary for relieving a patient suffering from such a number of surgical complications? Would it not be better simply to relieve the endometritis, repair the lacerated cervix, then enter the abdominal cavity, do what is necessary there, and stop, waiting for the patient to recover her full strength, before attending to the cystocele, rectocele, and lacerated perineum? Not infrequently these patients have in addition some rectal complication, fissures, hemorrhoids, rectal polypi, or some such lesion that needs attention. Just where will we make the division before we begin operating?

A patient not infrequently may suffer from such a complication, and is there no settled, fixed surgical law for our conduct in these cases? Textbooks are not altogether clear upon the subject, although some are much better than others.

It may be said that every surgeon is a law unto himself as to the success of his practice, and when doing multiple operations. One surgeon is much more dextrous than another, and his operations are not so exhausting to the patient. Then, again, he may have a method of operating in such a manner that it is no great tax upon his patient. Such experiences should be presented to the profession, that younger men may profit thereby.

Take, for instance, a case in which it becomes necessary to remove one kidney. Will we also in this case operate for an umbilical hernia that is presenting very seriously? Perhaps strangulation may demand such a procedure. Will this lessen our patient's chances of recovery, who may perhaps demand all this necessary surgical invention, when under ether? In such cases operate only when the hernia is in danger of strangulation. I am led to say that when operating in cases of strangulated hernias, do that and nothing more, the exceptions being exceedingly few. This form of surgical lesion, as we all know, exhausts the nervous force of the patient very profoundly; therefore, we should be very cautious in adding to it. The same remarks hold good in operations upon the stomach. As we have all observed, the mere handling or prolonged examination of the latter organ often causes severe shock.

In the operation of nephrectomy, I do not like to do more than one operation upon any one patient, at any one time. This holds good in operating upon the lung, or in opening the pleural cavity.

An operation upon the brain is quite enough at any one time.

In fact, I am desirous of stating that I believe extreme multiple operations, deliberately planned, should not be encouraged, although the surgical technic of today allows us to do more than was even dreamed of in the near past.

THE RÖNTGEN RAYS AS A PALLIATIVE IN THE TREATMENT OF CANCER.[1]

BY

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of Philadelphia.

In spite of the most diligent study, there is nothing known of the etiology and histology of malignant disease that aids in treatment. Its development and fatal termination cannot be retarded, if the diseased tissue be permitted to remain in the body. Total extirpation by surgical intervention has been the only chance of cure. If there is any decrease in the mortality from malignant disease, it is due to earlier diagnosis and earlier operation, and the more general realization that these are essential to relief.

[1] Read before the State Medical Society, York, September 23, 1903.

The admission that recourse to radical surgical removal of the diseased area *en masse* is the best and practically the only method of treating malignant growths amounts to a confession of scientific ignorance. It admits that the cause and nature of the disease are unknown, and that there is no way of stopping its progress without the sacrifice of the normal tissue surrounding it, with the consequent mutilation and loss of function. No agent has been found that will check its progress in the body, alter its nature, or in other words, produce a *real* cure, with a restoration of the parts involved to their normal condition.

The results so far obtained by the use of the Röntgen rays seem to show that they are capable of producing such results. They have demonstrated their power to alter the character of malignant cells, to prevent their spread and development, and to produce retrograde changes that result in fatty and cystic degenerations or absorption, and often terminate in a restoration of the affected part to a nearly normal state. The permanence of these cures has yet to be tested by a longer lapse of time. The results achieved justify the opinion that this is the most potent therapeutic agent known in its influence over malignant disease. If the progress of the future equals that of the past, it bids fair to become the cure for these conditions.

Until the permanence of the cure obtained can be proved, it is the duty of every one to recommend primary radical removal of the diseased tissue before employing the Röntgen treatment. For some cases of superficial growths it can be employed primarily without risk and often with better cosmetic results, as in epitheliomas of the face. This agent is so powerful that it cannot be ignored in the rational treatment of cancer. Every patient should receive its advantages.

It should be used in all cases in combination with operation. The results derived from the most radical operations are none too good. The value of a prophylactic postoperative course of Röntgen treatment cannot be too strongly emphasized. The greatest efficiency has been developed when superficial lesions, as epitheliomas, sarcomas, or isolated recurrent nodules are treated. That is, it is most effective when the disease is in the incipient state. All recurrences arise from microscopic foci that have escaped detection and removal in the operation. Their destruction is almost certain by this method immediately after operation. The combination gives the patient all the chances to be derived from the two best methods. There is no need for delay, this treatment hastens healing and the restoration of function to the part.

Aside from the apparent cures already obtained and its use as a prophylactic, the palliation of distressing symptoms secured in inoperable and incurable cases of cancer gives it a permanent place in therapeutics.

The palliation of the distressing symptoms that accompany advanced malignant disease is a duty with which all are more or less familiar. The use of opiates and their effects upon patients are too well known. The Röntgen treatment applied as a palliative in many hopeless, operatively impossible cases, has resulted frequently in cures, that, if not permanent, have at least restored the patient to health and given months and even years of usefulness. Many others have had the progress of the disease checked, their pain relieved, their strength restored, and external lesions removed, so that they are able to be about while yet under treatment. Others, though more rapidly reaching the fatal termination of the disease have had their more distressing symptoms alleviated. Their pain has been relieved entirely or lessened. External ulcerations, with tender bleeding surfaces and unbearable odors have been healed and kept healed. Large external tumor masses have been reduced and the disease confined to its visceral and deep lymphatic involvement, where its hold had been too deep for the present technic of this method to reach. With the

palliation of these symptoms comes an increased bodily vigor, an increase in weight and general vitality. The absence of opiates keeps the mind clear, while the appetite and digestion are improved. This general improvement in the tone of the patient shows the marked stimulus that is given to nature, and the aid which this method renders in the fight against malignant disease.

It must not, however, be imagined that these results can be achieved without careful study of the individual case and the employment in each case of all of this agent the patient can stand. It is an axiom that is as true in treatment of malignant diseases by the Röntgen method as it is in its operative treatment, that the attack must be as vigorous and thorough as the vitality of the patient's normal tissues will permit. Anything short of this courts failure. The greatest difficulty in administering this agent lies in determining and employing the maximum dose the patient's vitality and normal tissues will permit. The results of this method of treatment in a given case can only be fairly judged when such vigorous treatment has been employed. The course must be carefully steered, and it is narrow. The border line between injury to pathologic cells of low vitality and normal cells is not wide. If too little stimulation is used the cells of low vitality are not overstimulated and injured, but stimulated and helped, while the normal tissue does not receive the aid it needs. Too great stimulation, on the other hand, injures the normal tissue.

An expert Röntgen technic is as essential to the valuable employment of this agent in therapeutic work, as it is in diagnosis. Many attempt to employ it who are incapable of making fairly difficult diagnoses. A technic that fails in difficult diagnostic work shows that the operator does not realize when he is developing efficient Röntgen rays. If the operator does not know this, he is incapable of employing this method effectively in the treatment of malignant disease.

The patient's reaction to the dose must be carefully studied. By a gradual course of treatment the skin can be tanned so that the dose can be increased almost indefinitely. The greatest care must be exercised in the case of large tumor masses not to produce sudden degeneration of a large number of cells, or the system may be flooded with more toxins than it can combat and an autointoxication ensue with dangerous results. It is often necessary to combat this tendency by a stimulant tonic course of treatment, and all means should be constantly employed to increase the patient's vitality and resisting powers.

I have seen all of these results demonstrated, and have seen inoperable cases of cancer cured and remain cured thus far. I have also seen hopelessly inoperable patients restored to such health as to resume their ordinary avocations while yet under treatment, while the fatal termination in hopeless cases has been deferred and the patient's sufferings mitigated.

When properly employed this agent is incapable of doing harm, but like all other powerful therapeutic agents, it must be used with due caution and yet with vigor to obtain the best results. Burns can be avoided for the most part by the process of tanning, and when they occur are of only slight moment, but are to be avoided, as they delay treatment.

The results so far obtained are, therefore, very encouraging. An agent has been found which has a greater influence in retarding the growth of malignant tumors than any heretofore known. Many remarkable and apparently permanent cures have been obtained. A prophylactic postoperative course of treatment has been developed that will undoubtedly increase the number of cures, while as a palliative agent there is nothing which is capable of rendering so great relief or adding so much to the comfort of those suffering from malignant disease.

THE DEMONSTRATION OF NUCLEATED RED BLOOD-CORPUSCLES IN ANIMAL SPLEENS.

BY

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About the year 1770, William Hewson, a partner of the elder Hunter, proclaimed the theory that the blood-corpuscles originated in the spleen,[1] yet he failed in producing absolute proof. In 1847 Albrecht Kölliker, of Zürich and Würzburg, brought forward the contrary hypothesis that red blood-corpuscles were destroyed in the spleen.[2] The question has remained unsettled ever since, though Remak, Gerlach, Funke, Tizzoni, Credé, Zesas, Neumann, Bizzozero, Böhm, von Davidoff, Dürck, Masslow, and myself, have taken more or less positive ground on Hewson's side.

The only way to settle such controversies is by experiment.

The whole matter hinges on one simple question; whether or not nucleated red blood-corpuscles (erythroblasts) are normal elements of the spleen. If they are, it is self-evident that they must be formed there, since they are never found in any other organ in adult mammals except the red bone marrow, and there is no possible way in which they could be transported from the marrow to the spleen except by the blood stream. Yet healthy adult blood never contains erythroblasts. Besides, if by any possibility erythroblasts could be carried from the marrow to the spleen they ought naturally to be carried to other organs; which never happens. It follows, therefore, that if we can show that erythroblasts are normally present in the spleen, the office of that organ as a producer of red blood-corpuscles is definitely proved.

My personal experiments on this point have been confined thus far to animal spleens, those of the hog and ox. I have not yet had the opportunity to examine a fresh and healthy human spleen, since such opportunities rarely occur. I should be quite unwilling to place any dependence on results obtained from ordinary dead-house and dissecting-room spleens, for the reason that so many body cells after death undergo a species of degeneration, resembling coagulation necrosis, with clouding of the cytoplasm and dissolution of the nucleus. These facts have been particularly noted by Oscar Israel, of Berlin, whose papers on the subject[3] should be read by all; and I have myself observed the same appearances in numerous cells. In the study of animal spleens I always make it a point to procure them fresh from the slaughter-house. They decompose so quickly that I make it a rule never to handle a spleen which has been kept more than 6 hours after slaughtering.

I have also found that hog spleens contain more erythroblasts than ox spleens, undoubtedly because the blood-making processes are more active in the hog than the ox; and that they are more numerous in young animals than old ones for the same reason.

The technic of the examination is highly important, and deserves to be considered in full detail. The first step is the preparation of the slide. Take a fresh spleen, wash it carefully, and cut from the outer edge with a clean, sharp knife or razor, a wedge-shaped piece, like a piece of pie, about 2 inches long. Take it by the broad end between the thumb and forefinger and draw the raw point across the middle of a clean glass slide, without pressing or squeezing, and as lightly as you would draw a camel's hair brush to dust the surface of a lens. The object is to make a thin smear. It is a good plan to make a dozen or 20 smears, and dry them at room heat under cover.

The best stain for the purpose is hematoxylin eosin, and the best fixative a dilute watery solution of sublimate salt.

My earliest experiments were made with heat fixa-

tion and anilin dyes. I will describe these methods first, in order to bring into stronger relief the special advantages of the hematoxylin treatment.

Eosin and methylene-blue. Fix the smear by half an hour's exposure to dry heat at 212° F. Stain 3 minutes with 3% watery eosin, and 30 seconds with 5% methylene-blue. When properly stained the color to the naked eye should be a delicate lavender. If too blue or too red a second application of the needed color is required. After drying, the preparation should be first examined with a dry lens, afterward by immersion. If successful the field of the microscope will be found scattered over with dark blue nuclei (lymphocytes), and among them large numbers of cherry-colored red corpuscles, about two-thirds the size of the lymphocytes. The erythroblasts are harder to find. They average generally about 3% of the whole number of red corpuscles. The nuclei are very small and very faintly stained. Their average size is about 2 microns. Their color is a very pale baby-blue, sometimes almost imperceptible. In many preparations they are absolutely imperceptible. In fact it is impossible to obtain ideal pictures by this method on account of the comparative weakness of methylene-blue as a nuclear stain. I have had very little success in preserving these specimens. They fade very rapidly when mounted, either in damar or balsam.

The same remarks apply equally well to the orange-eosin methylene-blue stain, which dyes the red corpuscles yellow. The nuclei are very faint and at times invisible. The only important fact I have learned from this stain as applied to the spleen is that eosinophile leukocytes with one or more nuclei are occasionally present in normal spleens.

The hematoxylin eosin method is the only one which gives perfect results. In this method heat fixation must be rigidly rejected. The reason is simple. Heat is not a true precipitant for hemoglobin, any more than it is for peptones, and some other forms of albumin. Urinary analysis teaches this. Hemoglobin, even after heating, is still soluble in water. Now alum hematoxylin is insoluble in alcohol, and must be employed in watery solution. Again it is a slow stain, requiring fully 30 minutes, and often longer, to produce a good nuclear stain. This prolonged soaking in watery hematoxylin is apt to dissolve the red corpuscles, and leave little or nothing behind for the eosin to act on. Or if the eosin is applied first the watery hematoxylin dissolves both eosin and hemoglobin together, and leaves few traces of either. Hence the fact, which I first ascertained by experiment, that, if you apply hematoxylin eosin, separately or combined, to spleen smears previously fixed by heat, you sometimes find no red corpuscles at all.

This showed me the necessity for a better fixative. The formula I have adopted is as follows:

Sublimate	.78 gm. (xii gr.)
Sodium chlorid	.28 gm. (iv gr.)
Distilled water	30 cc. (i oz.)

Dissolve and filter.

One minute's application of this solution makes a perfect fixative for spleen smears, without producing the slightest distortion of the red blood-corpuscles, or the least impairment of their staining properties.

They are then stained half an hour in watery solution of alum hematoxylin, washed, and counterstained from 2 to 3 minutes in a 3% watery eosin. These directions, if carefully followed, will be found to give perfect results.

It is no easy task to find the erythroblasts even in the best preparations. This difficulty is due to the small size of the nuclei, and their extreme paleness. The preparations should be thoroughly dried and examined without cover glasses. They should be first examined under a dry lens and the slide moved about till you find a satisfactory field. Yet I have rarely succeeded in demonstrating the nuclei under the strongest dry lenses. Having found a proper field, place a drop of cedar oil on the uncovered slide, and screw down cautiously till the object glass (immersion) kisses the oil. Then screw up a little, put on your weakest ocular, and work slowly downward till you strike the focus. You may find the field abundantly sprinkled with red corpuscles, and yet at first glance see no trace of an erythroblast among them. But observe carefully. Fix your eye on a particular corpuscle, as near as possible to the center of the field, and focus gently up and down. This maneuver may bring out a nucleus previously unseen. If not, try another and another, till you succeed in finding one. Then put on your strongest ocular, turn on a full light, and examine it at leisure. With patience and practice you will soon learn to detect them, and then you will be surprised to find how many there are. You will also find a fair share of mitotic forms which Bizzozero[4] justly regards as demonstrative proof of an active hematopoiesis. But the search requires the best glasses, the sharpest eyesight, and the utmost care.

After 2 years' careful study of the subject I make bold to declare that erythroblasts are a constant anatomic element in the spleens of cattle and swine. It may still be contended that the same organ in man has lapsed into a rudimentary state, and no longer possesses the faculty of making red corpuscles. We need further evidence on this point. But when a man like Neumann positively states[5] that he has seen erythroblasts many times in the spleens of human adults, and distinctly expresses his dissent from Kölliker, we are evidently nearing the verdict.

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THE SPECTROSCOPIC ELEMENTS OF LIGHT AS THERAPEUTIC AGENTS.

BY

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In the treatment of disease the past decade has witnessed the utilizing of light, in its many manifestations, when it is broken up into its constituent parts.

1. The earliest laborer in this field was Prof. Nils Finsen, of Copenhagen, whose first efforts were directed to utilizing light rays in the treatment of contagious eruptive diseases. He found that by eliminating a portion of the rays of the spectroscope, he could produce effects that were unattainable, when the unbroken rays of light were used. These experiments led to the use of the chemic rays of light in the treatment of lupus. This disease, previous to Finsen's discovery, had defied all the resources of the physician and surgeon. His discovery has brought this slowly fatal disease into the category of curable diseases.

2. Subsequently came the discovery of the x-ray, by Prof. Röntgen. This ray is supposed to lie beyond the blue, violet and ultraviolet rays of the spectrum, which are the remedial rays, utilized by the Finsen apparatus.

Finsen worked for therapeutic effect; Röntgen had no thought of using the x-ray for remediable purposes, otherwise than as a diagnostic measure, to aid the surgeon. However, its prolonged use was found to produce alterations, in the skin first, and subsequently in the underlying tissues. This distinctive effect, which occurred

when it was used immoderately, soon suggested its use as a remedial agent. So the Röntgen ray has now become a recognized remedial agent in every country on the face of the globe.

3. The violet rays of light suggested by Dr. Minim, of St. Petersburg, in the treatment of contusions, ulcers, etc. This form of light is a very valuable agent for therapeutic purposes.

4. Concentrated light, cutting out some of the heat rays with either an aluminum cell or a screen of blue glass. This lamp, as devised by me has proved of great utility in curing pulmonary tuberculosis.

5. A light bath, which is very useful in neurasthenic affections, as well as in the marasmus of children, has been devised by German physicians. The lamps used in the German apparatus are 3 arc lamps of 8 amperes each, making a total of 24 amperes of energy. In our light room we have two 40-ampere arc lamps, which give a total of 80 amperes.

The Finsen Light.—Strange as it may seem, Prof. Finsen's investigation of light in its effects upon eruptive diseases was inspired by reading an article on avoiding the pitting of smallpox by the exclusion of light, written by Dr. Picton, of New Orleans, in the early part of the last century. The accidental discovery of this monograph by Dr. Picton, in a public library, after having lain dormant the greater part of a century, gave to Dr. Finsen his aspirations, and made him the captain of the hosts that are now following his lead, in the investigation and practical application of light, in its effects upon disease.

Dr. Picton proved that the absence of light would prevent the deep suppurations of the smallpox pustule, and hence the pitting of the skin would be avoided. Finsen, having studied the spectroscope, decided that the pitting depended upon the presence of certain colors of the spectrum, and that it was not necessary to exclude all the light rays, but only those that favor suppurative processes; probably those rays that favor the development of the pus bacilli. He therefore experimented on the effects of the different constituents of light upon insects and worms, and concluded that the red ray destroyed the pyogenic bacilli of the smallpox pustule. He accordingly advanced the theory that exposure of patients suffering from variola to the influence of these rays would modify the virulence of the suppurative process sufficiently to prevent the destruction of the derma and would effectively prevent the subsequent disfiguring scars. So confident was he of the truth of his theory that he published the results of his experiments on worms and bacilli, before making personal use of the process.

The matter was first put to a practical test by Dr. Svendson, at Bergen, in Norway, in the month of August, 1893. The period of suppuration did not appear; there was no increment of temperature, and no edema. The unsightly scars were avoided. In November of the same year Dr. Benckert, at Gothenburg, Sweden, conducted a series of experiments. Dr. Benckert remarks: "In grave cases of smallpox the results are most surprising. I can say, as a result of my experience, that suppuration is usually abolished by this treatment. Scars are extremely rare. The duration of the disease is shorter." Tests were also made to see what effect the admission of unfiltered light would have on patients at various periods of treatment. It was found that even a very short exposure to the full rays was very injurious. Having proved that the red rays of light were destructive to the germ of smallpox and other eruptive diseases, Finsen turned his attention to the effect of decomposed light on other germ diseases. His attention was naturally directed to lupus, which was invaliding and carrying to a loathsome and lingering death thousands of his countrymen. Unless you should visit Denmark you can form little idea of the prevalence of lupus in that country. Fortunately, in America it is much rarer.

After years of labor he found that the blue, violet and ultraviolet rays were destructive to the lupus germ. These chemic rays are devoid of heat, and hence can be concentrated upon the surface of the body without burning or blistering.

A practical way of eliminating heat rays now demanded his attention; an alumen cell, or blue glass, accomplished this, but they have not been found very practical in treatment. Quartz crystal, however, was found to have the necessary quality of a heat filter, passing on the chemic rays almost unimpaired. The only objection to the crystal is the difficulty of getting sufficiently large pieces, free from fogging, from which to grind the lens.

The perfected Finsen apparatus, as now constructed, consists of a telescopic tube, with a head-piece furnished with two planoconvex lenses, one with the convexity toward the source of light, to gather the light rays; the other with the plane surface in contact with the plane surface of the first lens to restore the parallelism of the rays and carry them down the telescopic tube. At the distal end of this tube there is a chamber for distilled water, through which the light is passed, and the rays of heat that escape the crystal filter are further diminshed in volume, still not entirely eliminated. The light rays as they emerge from this bath are again concentrated by a quartz crystal planoconvex lens, and impinged upon the surface to be treated.

Dr. Finsen found that these rays did not penetrate very deeply, and was not long in discovering that the blood formed the chief barrier to deeper effect. He therefore devised a compressor of quartz crystal, provided with a small chamber with an inlet and outlet, through which water could be kept flowing continuously to cool down the rays further, thus enabling the patient to bear a greater concentration of light rays.

The light for these tubes just described is furnished by an arc lamp of from 40 to 80 amperes. The lamp which I use is of the latter capacity. There is a sun apparatus devised by Finsen, which, could we depend on having continuous and regular sunlight, would be the preferable apparatus; but sunlight with us is too uncertain to be depended upon for regular and systematic treatment.

I have modified the mounting of the apparatus so that I can adjust the tube and light to suit the comfort of a patient, instead of adjusting the patient to suit a fixed apparatus. I found this necessary, as I have adopted the use of the light to a condition that was not contemplated by Prof. Finsen, in the treatment of uterine carcinoma, and I have found it necessary to change the fixed position of the lamp and tube, and arrange them so as to permit placing the patient in as comfortable a position as possible, and adjusting the apparatus to the patient, not the patient to the apparatus. To accomplish this I have detached the tube from its fixed position and mounted it upon a stand.

My first stand I described in the *Philadelphia Medical Journal*. This was more complicated than was desirable, but the maker of it affirmed that it would be impossible to modify it as I desired, so I looked up another mechanic, and succeeded in getting him to make the modifications that I wanted, and he has produced a stand that leaves nothing to be desired, as its adjustments are complete.

It consists of a cast iron stand with 3 legs, 2 legs of which have castors, the third leg has a lead base to bring it up to a level with the castors. This tripod carries a cast iron tube 21 inches high, and is fitted with a ratchet wheel, on one end of a cylinder rod, to the other end is attached a control wheel. Into the tube is fitted a rod ratcheted on one side to play into the cogs on the ratchet wheel. This enables one to raise and lower this rod with ease. There is a set screw provided to hold it firmly in position after it is adjusted. To the top of the rod another rod is fixed by a hinge joint allowing the distal end to play up and down. To the distal portion is attached another rod which is the segment of a circle, the proximal end of this last rod passes through an opening in the upright rod, that is fitted to the tube; this is controlled by a set screw, so that the straight rod, to the outer end of which this is attached, can be fixed at any desired angle. This straight rod is for the purpose of carrying the tube, which is arranged so as to be moved up and down upon it, and can be

fixed at any point by set screws. Thus we have a very simple and perfectly adjustable tube stand. To meet the varying angle of the tube, I have had to provide for the change of height and angle of the arc-lamp. Were this not provided for, I would be deprived of the greater portion of the actinic rays.

To provide for these adjustments I have removed the 4 wires by which the lamp is hung, in Copenhagen, and attached it to a yoke by a hinged joint, the yoke being the terminus of a rod sliding in a tube. This is attached to the head of the frame which incloses the lamp. A quadrant with a slit in it for a clamp screw, which is attached to one arm of the yoke, controls the angle of the lamp absolutely and we have an easily adjustable tube and lamp.

Prof. Finsen has achieved most remarkable results in the treatment of lupus vulgaris and erythema. I have seen more than a hundred patients he has treated, all of whom were on the road to recovery. Many of them had had the entire face affected. I have had several cases involving the entire facial surface, and have yet to see a case that the light has not benefited.

The treatment is slow, requiring months of daily exposures of an hour each. But the results are so satisfactory that the time is well spent. The diseased surface has to be gone over several times, which makes the treatment very protracted; but with a disease that has been considered incurable by every other known measure, such inconvenience should have no weight.

In rodent ulcer the use of the light is very satisfactory. Finsen has had a number of such patients, and treated them successfully. I have not had any experience with this class of cases.

Alopecia areata is successfully treated by the Finsen light, but the surface covered at one exposure is so limited that we have abandoned it in this disease, and substituted for it the lamp devised by Dr. Minim, with most gratifying results; of this I will speak later. In angiomatous nevi Finsen has achieved admirable results. I have had but one case, but I could see improvement with each treatment. The difficulty of retaining the compression in position for an hour with young children makes this procedure very difficult to carry out, but this is a small matter compared with the results that are obtained.

In all forms of acne this treatment has proved most satisfactory. If curetment has been done, the treatment is rendered more tedious, and the result is not so good.

For epithelioma the Finsen method, combined with the röntgen ray has no equal. I have just discharged a patient after three months' treatment. In this case the nose was badly involved; a large cauliflower growth an inch in diameter, was attached to the ridge of the nose. I gave this man an hour's daily treatment with the Finsen light and ten minutes' exposure to the radiance of a soft röntgen tube daily except Sunday. He has now a perfectly good nose, and a casual observer would not notice the slight amount of cicatricial tissue that is left as a result of the disease along the ridge of the nose, where there is a slight depression.

In cervical carcinoma of the uterus, the benefit of this combined use of Finsen and Röntgen radiance has been most gratifying. I believe that this combined method of curing uterine carcinoma has been practised only by me, and that I am the originator of this method. Four years ago I refused to undertake the treatment of any uterine cancers with either the Finsen light or the röntgen ray. But three years since experience with other and more superficial malignant growths led me to believe that I might attack successfully carcinoma in this locality, where all the arts of the surgeon have failed to effect a cure. I studied a plan, and determined to put it into operation when a case should present itself. I was loath to undertake treatment of the first patient that presented, as the disease was far advanced. The cervix was badly eroded; the cervical portion of the vagina was involved, and the vagina was so narrowed by the deposit that it was impossible to introduce an ordinary bivalve and speculum further than two inches. There was also a profuse hemorrhage from the uterus when the patient made the least exertion.

This was not an attractive case in which to institute a new method of treatment, and I demurred at first, but finally yielded to the earnest solicitations of the patient and her friends, they understanding fully that it was a purely experimental treatment. The patient was carried here on a stretcher, and treatment instituted. She came to me the middle of January, and I discharged her on the first of May. The hemorrhages had entirely ceased; the deposit in the vagina had been absorbed; the erosion of the cervix had entirely healed; the patient had been driving to Coney Island daily for a month before she left me, and spending her mornings on the beach. On the first of June she resumed her household duties. This case was reported fully in the *Philadelphia Medical Journal.*

Mrs. R. F. S., aged 52, was referred to me by Dr. Underwood April 29, 1903. Mrs. S. had never been subjected to operation, and had been in feeble health for the past 4 or 5 years. She had had a vaginal discharge for months, which gradually increased in quantity, the odor becoming more pronounced all the time. July, 1902, she was examined by Dr. Underwood, who diagnosed carcinoma. The doctor did not favor operative interference, and the use of disinfectants in douche was prescribed and continued for 9 months, the conditions becoming steadily and persistently worse.

When she came under my observation there was ulceration of the vault of the vagina with an extensive deposit along the vaginal wall. The cervix was in a fungating, ulcerating condition and had been eaten away by the disease, almost up to the junction with body of the uterus. The discharge was profuse and very foul. Treatment was instituted at once, and has been continued daily except Sunday; an hour of Finsen light and from 8 to 10 minutes the Röntgen ray.

Her condition improved from the start. One of the first effects was the lessening and deodorizing of the discharge. The induration about the vaginal wall has been absorbed, the ulceration of vaginal mucous membrane entirely healed, and the stump of the cervix cicatrized. There now remains a small ulcerated surface about the size of the end of my little finger, probably less.

On June 25, 1903, Mrs. S. H. C., aged 60, but who does not appear to be over 50, though she is a grandmother, consulted me.

She had no suspicion of any serious trouble until March last. She then submitted to an examination, but the matter was not thought to be serious. In May she applied to Dr. Abbe for treatment, and was informed that she had a uterine carcinoma too far advanced for operation.

On examination I found extensive deposits about the vaginal wall, an extensive erosion of the cervix, with a deposit in the wall of the uterus. It was very difficult to introduce a speculum and to dilate sufficiently for the introduction of the light rays. There was a profuse discharge of a very foul odor. Hemorrhages were frequent and the condition was not at all encouraging for beneficial treatment.

Treatment was immediately instituted (June 25). She has now had 63 treatments. She has gained in strength so that she goes about everywhere. She had to come for treatment at first in a carriage; she now walks to my office every day, taking trolley rides several times a week. She says that her back is strong again. Her appetite has improved and she sleeps well and says she feels well. The local conditions are vastly improved. The discharge is very much reduced and she has had no hemorrhage for more than a month and the odor is hardly perceptible. The vaginal deposit has been absorbed and we can use a large speculum and dilate to full extent. The ulcerated cervix has become glazed over. The ulcerated surface is now about half an inch in diameter.

The Röntgen Ray.—In December, 1896, Dr. Röntgen announced his discovery of a peculiar fluorescence in a Crookes' tube which rendered living tissues and many substances transparent. This ray, which is something beyond the ultraviolet ray of the spectrum, is partially obstructed by mineral matters and the metals. It was a phenomenon which Crookes himself almost discovered.

In 1894, in a lecture before the Brooklyn Institute, I showed in a darkened room with an instrument called an electric transmitter, the bones of a hand as clearly as they are now demonstrated by the röntgen ray. But its possibilities were of a limited range.

The announcement of Röntgen set the medical world in a ferment. Such a satisfactory and definite diagnostic instrument for locating foreign bodies in the human system was a great boon to humanity and of inestimable value to the surgeon.

About 3 months later I was enabled to take one of the best negatives of the thorax that I have ever seen.

The patient was a very thin woman, and I suspected an impacted fracture of the surgical neck of the humerus. This picture was taken after an exposure of 40 minutes. The energy was furnished by a 6-plate static machine propelled by hand. This plate was unfortunately broken in transit for publication.

When I think of the danger now of such a lengthy exposure with our improved tubes and increased energizing force, I am thankful that no harm came to my patient, as an exposure of that length of time with our present improved and rapid apparatus would be almost a criminal procedure; we can now get as good pictures in as many seconds.

As with all new inventions, so with this; harm has been done by injudicious and overzealous use. In an article I published in the *Philadelphia Medical Journal* some years ago, entitled "White Gangrene," I sounded a warning note in regard to the possible ill effects that might follow the careless use of this powerful ray. I have seen some fearful results of overzealous work in this interesting department of science. The strange fact about these injuries is that they often are revealed from within outward, the rays having passed through superficial tissues without apparent injury, expending their force on the deeper lying tissues. It has been my good fortune after 6 years' work in this department, never to have caused anything beyond a slight erythema in using the Röntgen ray. The study of the injuries that have been caused by the ray, leads me to consider its possible therapeutic effects on malignant growths.

I have treated in the last 6 years many patients with carcinoma in various portions of the body, and believe that I have cured a sufficient number of them to feel that a way has been discovered that will cure this loathsome disease.

My largest experience has been in the treatment of carcinoma of the breast, and the results have been such as to warrant the statement that mammary carcinoma in its earlier stages is an absolutely curable disease. We may also hope for a cure in cases in which the cervical glands are involved and the tumor is broken down.

In a woman, 7 months pregnant, the gland had been removed. The disease returned in the cicatrix and 5 ulcers resulted along the line of operation, each an inch in diameter. Under Röntgen ray treatment I have seen three of these heal and cicatrize within 2 months. This illustration should prove certainly that we have a curative agent in such cases beyond our most sanguine expectations.

In epithelioma of the lower lip, the results obtained with the röntgen ray leave nothing to be desired.

An old patient of mine who was under treatment for an epithelioma involving half the lower lip, and who was discharged about a year ago cured, came to my office a month ago for another consultation. His lip is in a more natural condition than I have ever seen left after excision of an epithelioma. There is no induration, and the lip is natural in appearance and is soft to the feel, with no indication of disease.

In chronic eczema of the hands, I have attained the most rapid curative results that I have ever seen.

In carcinoma of the tongue the effect of the rays is most powerful. The cases of this nature that have come to me have been very far advanced.

My first patient, with a case of involvement of the tongue and adjacent tissues came to me from Montreal. The man had not taken solid food for a year. In this case I used the Finsen light as well. He first came to me 5 years ago, and in 6 weeks he ate the first piece of beefsteak that he had tasted in a year. He stayed with me a few months and then returned to Montreal as his business required his presence there. He returned in a year, not in as bad a condition as when he came to me before, but the growth had increased so that he could only take semi-solid food. He remained 2 months and improved right along, and was in very comfortable condition when he left me the second time, being unable to remain longer.

He had business troubles and went to Chicago. I heard from him last spring; he was then in a pretty bad condition, using, I believe, the Röntgen ray alone, his son-in-law being a physician.

Another patient with carcinoma of the tongue came under my care about 2 years ago. He was expecting to have his tongue removed the following week, as he had ceased to be able to take any food or even water by the mouth, being nourished entirely by the rectum, and the growth was beginning to interfere with respiration.

This man went back to his business in a month after his first treatment, and gradually began taking nourishment by the mouth, so that at the end of 6 weeks he was taking solid food, and rectal nourishment was discontinued.

All the glands of the neck were involved in this case, and the parotid continued to increase in size; I succeeded in keeping him comfortable for 6 months, but after that he began to lose ground. His general strength retrograded, and he failed rapidly.

However, if this treatment could do nothing more than it did in this case, it is certainly quite worth the undertaking.

The literature of the therapeutics of the Röntgen ray is so voluminous that every one is familiar with the reports of its successful use in many diseases. It will suffice to enumerate the conditions that are suitable for this treatment.

Rodent ulcer seems peculiarly amenable to this remedy.

Eczema in many cases yields to this treatment with remarkable rapidity, while in others it does little, if any, good.

Nævus vascularis is often cured by the Röntgen ray.

Psoriasis, acne, hypertrichosis, alopecia areata, sycosis, and lichen have been cured by this fluorescence.

The Minim Light.—The violet light of Dr. Minim is a light that is not sufficiently known, and is of great utility in the treatment of various forms of ulcers. I know of nothing so satisfactory in the treatment of varicose ulcers as this property of light.

In place of confinement to bed, the patient, with properly bandaged limb, may keep about, and continue his usual occupations without inconvenience. Dr. Minim claims for this light curative effect in syphilitic ulcers, rodent ulcers, and many acute injuries. I have not had any experience with these conditions. He also offers it as a substitute for the Finsen light in lupus, but I have failed to find any confirmation of his claims.

The Hopkins Lamp.—For the treatment of pulmonary tuberculosis I have arranged a 50-ampere search light so as to change the focal point to a distance of about 12 feet. This is accomplished by shortening the portion of the drum posterior to the trunnions, thus bringing the carbon carrier nearer the reflecting lens, and so reducing the focal length of the rays. Thus we get a concentrated light that can be impinged upon the chest of the patient. The heat of these concentrated rays cannot be easily borne by a patient; hence, some means had to be devised for cutting out some of the heat rays. This can be done with an alumen cell, or, if we could afford it, very effectually with a slab of quartz crystal, the most perfect substance for this purpose. The simplest method, however, is the use of blue glass, which passes all the chemic rays, but obstructs a portion of the heat rays. I use a square frame, suspended in front of the patient, filled with strips of blue glass, two inches wide, beveled in opposite directions on their two edges. In this way the strips of glass form a perfect screen to the heat rays of light. If made of one piece of glass, the heat would speedily fracture it.

At first I made hour exposures to this light and some cases did admirably under its use. Further experience has convinced me that this exposure is longer than is necessary, and that half-hour exposures are better. I have had sufficient experience with this method of treatment to feel sure that we have in it a cure for pulmonary tuberculosis in the first stage, as well as many cases in the second stage. It has been of great comfort and prolonged life in a number of patients in the third stage of the disease.

This treatment, to be carried out properly, should be

conducted in a properly arranged sanatorium. It is undoubtedly the treatment of the future, with which we can stamp out the disease, and make the "white plague" one of the rarely fatal diseases, instead of being responsible every year for the greatest number of deaths from any form of disease, throughout the entire globe.

The German Light Bath.—It is difficult to say who originated the idea of treating the denuded body by concentrated light. Sun baths have been reputed to have powerful therapeutic effects from time immemorial. We find in the ruins of Pompeii that all the most pretentious houses were provided with sun baths, as well as water baths. With the introduction of the electric light, the means for the construction of artificial light baths was made possible. Our German brethren soon took up the idea, and constructed various forms of cabinets for the administration of this therapeutic agent.

A number of these cabinets have been introduced into this country. The most luminous one that I have seen was dependent for its light upon three arc lamps of 8 amperes each, making a total of 24 amperes, and, with the incandescent lamps that were added, would make about 26 amperes of light-giving lamps, equal to about 8,000 candle power. I have constructed a light bath, furnished with two 40-ampere lamps, the aggregate of which is 24,000 candle power. The influence of this on malnutrition, as evidenced in the neurotic affections, anemia, dyspepsia, and all forms of debility is very great. I have succeeded in making ill-nourished young children gain a half pound a week when all other methods of treatment had failed to benefit them. It is certainly worth the trial, and not a very expensive apparatus to fit up.

That light is destined in the near future to be a very important branch of therapeutics is evidenced by the growing literature of the subject; the volume of this is large, though its use is of comparatively recent date. The metal radium is a substance furnishing rays which are, in some respects, similar to the rays of the Röntgen tube.

Their action upon the surface seems to be different, as in all cases that I have seen reported, the injurious effects seem to have more similarity to different degrees of burning by heat than do the injuries that are caused by the Röntgen ray.

I claimed, in a thesis on this subject, which I published several years ago, that these injuries of the Röntgen fluorescence bear no resemblance to heat burns. I have some radium of 7000 radiance inserted into a glass tube for use by insertion into the substances of a tumor—this is prepared for use in a cancerous tongue. I have had made a hypodermic needle attached to a conical metal head, of the same size and shape of the tube containing the radium. I can then insert the needle into any tumor which I desire to treat, injecting cocain solution in advance of it, so as to benumb the parts, and admit of dilation, in order to admit the tube containing the radium. By this plan, growths can be reached without too much danger to the surrounding parts, that are inaccessible to the Röntgen ray. Radium of the fluorescence stated has been the most powerful salt of the metal that has reached this country, until within a few weeks. This salt I am now using in the treatment of uterine cancer.

There is now on exhibition at the Museum of Natural History, in Manhattan, a specimen that is of 300,000 radiance, but this is so powerful in its action that it would be dangerous to use it for therapeutic purposes.

Army Death Roll 862.—According to the annual report of acting Adjutant-General Haal, recently made public, there were lost to the army during the year ended June 30, 1903, 29,279 men, as follows: One hundred and thirty-eight officers, of whom twenty-five were killed in action or died of wounds or disease; 28,141 enlisted men, of whom 837 were killed in action or died of wounds or disease, the remainder representing men discharged for expiration of term of service, for disability, by sentence of court-martial, desertions, and retirements.

ABDOMINAL AND PELVIC SURGERY WITHOUT LIGATURES. ELECTROTHERMIC (HEAT AND PRESSURE) HEMOSTASIS.

BY

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The control of hemorrhage has always been the most serious problem in surgery from the early days, when the cautery was used as the agent, down through the periods when the various methods of hemostasis succeeded each other, to the present, when many believe the climax has been reached in the use of the aseptic absorbable ligature. So far as known, surgery began without ligatures, and in spite of the marvelous improvements in materials and methods of sterilization, there is a decided inclination and search for some means of dispensing with their use. Not to enter deeply into the objection to ligation, it is conceded that aseptic hemostasis without the retention of foreign material would be ideal. Torsion and angiotripsy have been tried and proved unworthy of dependence. Torsion as a routine practice is out of place in abdominal surgery. The idea of being able to apply with ease and certainty of effect, a cold pressure instrument, is fascinating. Such instruments being always at hand and easily sterilized would facilitate surgery if the method could be depended upon. But hope of such a thing is visionary. Even the devotees of the angiotribe have never reported its use successively in a series of cases without the frequent use of the ligature. The use of the angiotribe to make a groove in which the ligature can be safely tied is slow, and only offers a strong objection to ligation.

The use of torsion and angiotripsy is cited only to prove the desire on the part of surgeons to dispense with ligatures. The object of the present paper is to indicate that in abdominal surgery, ideal hemostasis is possible by the combined use of pressure and heat, or to coin a term, by the use of thermic angiotripsy.

In 1862, and for some years after, Baker Brown controlled ovarian pedicles by compressing them between the blades of a heavy clamp and applying the actual cautery to the side of the blades until they became hot enough to cook the compressed ribbons within their grasp. In those days of septic surgery his mortality-rate was far below that of his confreres, and secondary hemorrhage was unheard of after his operations. Some years later Keith further developed this method and used it through a series of years with remarkable result. Among those who followed Keith in this practice was Dr. Skene, of Brooklyn, who after quite an experience in the use of the actual cautery applied against the blades of pedicle forceps to obtain heat, conceived the idea, after having seen the electric flat-iron, of including within the blades the heating medium. To Skene, therefore, belongs the credit of instituting electrothermic hemostasis. His instruments being first productions, were imperfect and would never have made this method practical, for they furnished neither sufficient pressure nor heat, and were not practically sterilizable.

The essential elements in this method are first, and of greatest importance, pressure; and second, heat. The instruments of Skene were made in such a way that a practical blade giving the proper amount of pressure and heat was not possible. The heat-chamber was closed on the rear of the active blade by a plate, in the sealing of which, if soft solder was used, the plate warped and loosened during use by the heat in the blade, while if hard solder was used the temper of the blade was lost during manufacture, and pressure thus made impossible on a pedicle of any thickness. Skene also recommended that a temperature of 190° F. only was necessary, and that the heating process should be slow. This, with the above imperfections, accounted for secondary hemorrhage

and disuse of the method. After making at least 15 different instruments, I finally succeeded in making a type of blade retaining all the temper and strength of a cold, highly-tempered instrument. An invisible overlapping plate, covering and sealing, without the use of hard solder, the recessed heat-chamber in the pressing surface of the active blade made this possible. Another great improvement which I developed was the placing of the connecting poles near the active blade, thus insuring cool shafts or handles to the instrument. Another innovation consisted in using the principle of the angiotribe, thus obtaining what is absolutely necessary, the proper degree of pressure and heat between the blades. Finally, the method of insulating and cementing the platinum and its connecting pole making it possible to submit my instruments to the same degree of sterilization by boiling that any ordinary instrument will stand, completed the practical improvements which were absolutely essential to the success of electrothermic hemostasis.

For those unacquainted with this method, the following explanation is offered: Pressure, approximately that of a medium sized angiotribe, is applied to the tissue to be hemostased, and the compressed ribbon thus formed is rapidly submitted to a temperature of not under 212° F., thus coagulating and agglutinating under pressure its albuminous constituents. In addition, the heat even travels a short distance beyond the area compressed into the adjacent tissue and causes a shriveling of the intima of the bloodvessel leading into the compressed ribbon. Clotting, therefore, occurs a considerable distance beyond the ribbon. The possibility of hemorrhage after proper technic is inconceivable.

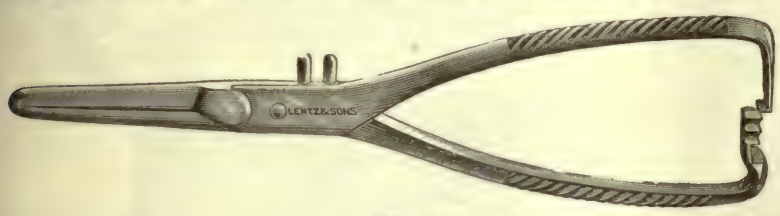


Fig. 1.

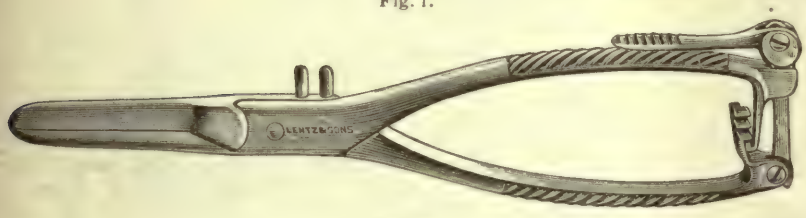


Fig. 2.

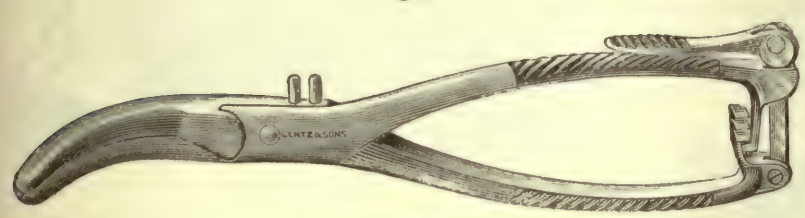


Fig. 3.

In Figs. 1 and 2 are seen my latest type of instruments with straight blades 2¼ inches long, but varying in width, for the different sizes the widths being ¼, ⅜, and ½ inches. In Fig. 3 is seen the same type of instrument with curved blades. The narrow blades have handles releasing on maximum pressure. The ⅜ and ½ inch wide blades have a lever at the ends of the lever. The narrow blades are used on the mesoappendix, on the mesentery, deep in the pelvis on the isolated uterine arteries and its lower branches, or for hemostasing any isolated bloodvessel. The wider blades are for use on ovarian pedicles, the broad ligaments across the appendix, or for occluding the intestine, stomach, or any viscus. These blades are wide enough to give a track through which section can be made bloodlessly. For the curved blade the ⅜-inch width is the most practical. It is used in occluding the vagina in panhysterectomy through the abdomen, in nephrectomy for tuberculosis, or wherever the curved can be used more readily than a straight blade. The improvements in these instruments can be made use of in any type of blade in any forceps or angiotribe.

In these instruments the heating medium is an insulated ribbon of iridoplatinum which becomes red-hot or even white-hot by the resistance it offers to the passage of a suitable electric current. The necessity, therefore, of the electric current in a modern operating-room is apparent. With the electric current in the operating-room there are required controllers to reduce it to the requirements of these instruments. For the alternating current a simple transformer like that seen in Fig. 4 is required. In Fig. 5 the same transformer is seen with a meter in connection.

When the direct current is used there is required a motor, in addition to the above transformer, and mounted with it. In Fig. 6 is seen a motor transformer, the motor of which was recently especially devised for use with these instruments, and is but a third the size and weight of the motor formerly used for this purpose. The same motor transformer can also have a meter in circuit to insure scientific accuracy, but it can be dispensed with practically.

In Fig. 7 is seen the cable for connecting the motor transformer with the blades of the angiotribe. This cable is constructed of mineral and rubber and will stand indefinite boiling. The cable can be in one piece to be boiled for each operation, or it can be made in 2 parts, a long part to conduct the current from the transformer to the operating table and a short part or coupler to connect with the first part. The coupler is to be sterilized for each operation.

While novel, this instrumentarium is not complicated and allowing the generating source of electricity it is quite simple, in fact it is less complicated than the outfit required in ligature work. By this method hemostasis can be effected *en masse* or isolated bloodvessels can be compressed by the points of the narrow blades. Unlike ligature work *en masse* hemostasis by this means is not open to objection since there is no constriction, no nerves are irritated, no exuding surfaces are left, compressed ribbons of coherent, sterile, nonbleeding tissues only remain. It will be readily seen that hemostased tissues of this character lessen the danger of adhesions.

It is impossible to construct an efficient thermic blade that will not become hot throughout, hence protection of the surrounding tissues is necessary. This can be effected by gauze but much better by the shield seen in Fig. 8 which surrounds the heated blades, but comes in contact with them by fine points only and these points transmitting but little heat, the shield remains quite cool, thus making the use of electrothermic blades entirely safe within the abdomen.

For small bleeding points met in incisions, in amputation of the breast, in neck operations or any place where ordinarily fine ligatures would be required, I have devised a platinum loop called an artery forceps electrotherm. This little heater at a bright red heat applied to the tips of the ordinary hemostatic forceps will transmit sufficient in 5 seconds to control any small bloodvessel within their grasp. The tip of the hemostatic forceps against which the heater rests may have a slight groove in it as a point of purchase for the platinum loop. This little heater replaces a number of perishable

small electrothermic forceps. In addition to the above outfit there is required a platinum knife which is seen in Fig. 9. It is similar to the artery forceps heater but made with wide surface like the usual platinum cautery knife.

A complete electrothermic outfit, therefore, consists of a few angiotribes with blades of different widths, including one with curved blades, the shield, the cautery knife, the artery forceps heater, the cable, the electric current controllers, consisting of the motor transformer, for use with the continuous current and a transformer for the alternating current. With this outfit and a sufficient number of ordinary hemostatic forceps any hemostatic problem in surgery can be solved.

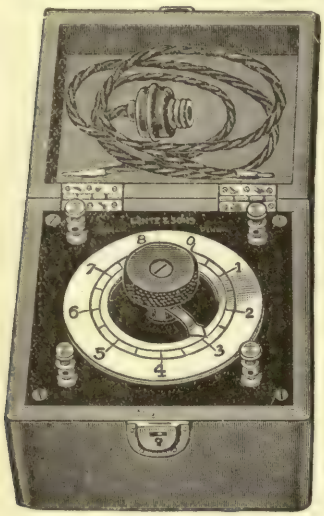


Fig. 4.

For private house operations a storage battery of 100-ampere capacity is very serviceable, and will furnish enough current for at least 4 major operations. These instruments require heavy amperage and should not be used with battery of less capacity.

The platinum in the instruments, the cautery knife, and the heater should be the same in weight and require about the same maximum current, 60 amperes. This is a higher amperage than has ever been used in electrothermic instruments; but the heat developed in a piece of platinum requiring this amperage causes our blades to heat more rapidly and to be more serviceable than when less current is used. There is also less danger of

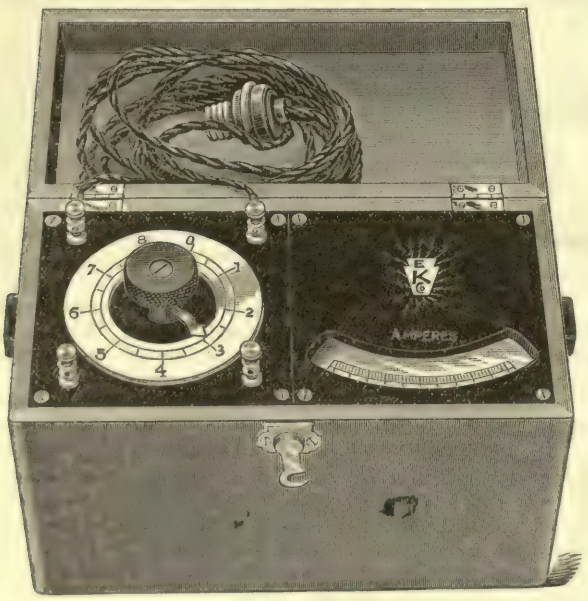


Fig. 5.

burning out the platinum. The same current being required by all the instruments, including the cautery knife and heater, makes it possible to dispense with a meter. The current that will render incandescent the cautery knife and heater is approximately 60 amperes. This is an indication, therefore, that our rheostat is adjusted to the proper point, though the blades will take more current. For each operating-room, therefore, the current can be adjusted so that the cautery knife is brought to a bright heat, and without change this current can be used. The practical way, therefore, without a meter, of judging the proper amount of current necessary to heat the instruments is to turn gradually on the rheostat of the transformer until the platinum in the cautery knife or in the heater is a bright red. For each individual operating-room, when this point is reached on the transformer, it can be set and never changed, the current being switched in from the electric light socket or a foot breaker may be used, so that while working we can turn the current in by the pressure of the foot for the required time. The current that heats the knife, as just described, turned into the angiotribes will cause water placed on the pressing surface of the blades to boil in 10, 15, and 20 seconds for the different widths, $\frac{1}{4}$, $\frac{3}{8}$, and $\frac{1}{2}$ inches. In using the instruments, therefore, it must be remembered that this amount of time 10, 15, and 20 seconds is used before the blades become sufficiently hot, and that we should allow from 10 to 30 seconds after this while the instruments are applied to the tissues to be hemostased. The current, therefore, for the various sizes should act from 20 to 50 seconds. It will be found, however, in practice, that the narrow $\frac{1}{4}$-inch blades can be used on the mesoappendix, on the mesentery, or on any thin tissue in about 12 seconds. As

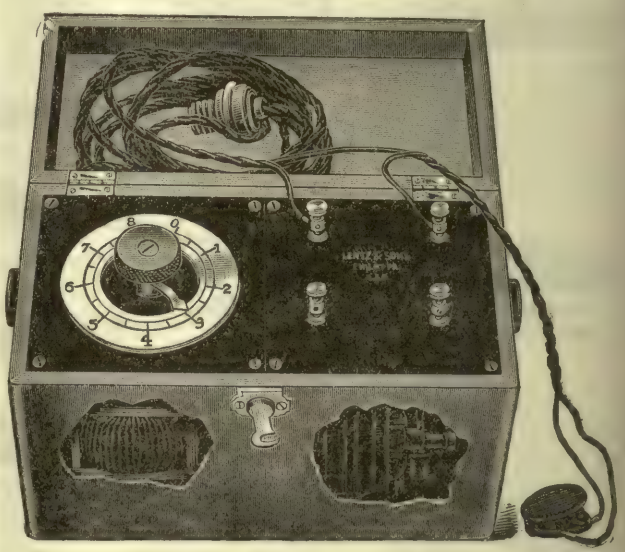


Fig. 6.

one becomes accustomed to the method it will be found unnecessary to count or keep time, for the cooking of the tissues lets us know when we have sufficient heat. The operator should always remember that heat alone without the proper amount of pressure between the blades will not control the bloodvessels, and, therefore, the angiotribes should be used at maximum pressure. There is a minimum amount of time that the instruments should be used, with the proper amount of heat and pressure, but no harm occurs if a little more time than is necessary is consumed by the heated blade. When one has become accustomed to using this method it will be found possible, with the rheostat set at the proper place to have in each operating-room the transformer or motor transformer out of sight, under the operating table, with the cable connected with it and running to the edge of the operating table, and with the short sterilized coupler lying with our instruments near the field of operation, but coupled to the first part of the cable at the edge of the operating table. For each operation the instruments and this short coupler cable can be resterilized. I have lately found a foot breaker very valuable. It dispenses with an assistant; the operator being in absolute control. The current being turned on when required by pressure of the foot.

The following rules will be found useful:

The pressing surface of the blades must be smeared with sterile oil before each application.

The field should be dried and freed from blood and the surrounding tissues protected from the outer surface of the blades by gauze, or preferably by my shield.

After each removal of the blades from the hemostased tract they should be cleaned to remove all charred adhering blood and the pressing surfaces reoiled.

Too short an application should be avoided. No error is committed if the time is some seconds longer than required.

The shield should be applied after the adjustment of the angiotribe and be removed last, so that the compressed hemostased ribbon can be examined before letting it drop from view.

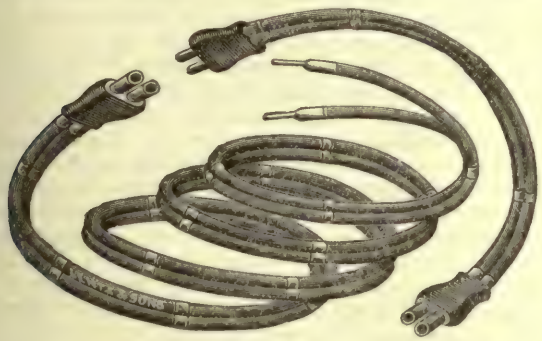


Fig. 7.

Further information concerning this method of controlling hemorrhage can be given to better advantage in the technical description of various electrothermic operations. For this purpose types of the following operations will be briefly described:

Ovariotomy, salpingooophorectomy, hysterectomy, appendicectomy. Operations on the stomach, intestine, and omentum.

In hernia and hemorrhoidal operations and in the freeing of intraabdominal adhesion.

Ovariotomy.—The tumor is isolated and freed of adhesion, as in the usual operation. If necessary, it is tapped. When the pedicle is isolated it is clamped by either the ⅜-inch or ½-inch blade, the shield applied, and the current connected. A temporary clamp can be applied above the thermic blades and sections made along the blades before their removal, or if we have used the ½-inch blade on their removal, section can be made through the track they have caused. In either case the ribbon is left after the removal of the angiotribe in the blades of the shield and can be examined before allowing it to drop into the abdomen. Should the pedicle be a very thick one with large bloodvessels, we should remove the shield and examine to see if any vessel bleeds. Should one be found, it should be grasped by the points of the narrow-blade angiotribe and cooked as an isolated artery. Some pedicles are so thick as to require sectional hemostasis.

Salpingooophorectomy.—In salpingooophorectomy in many cases after freeing adhesions the tube and ovary can be grasped and twisted so that one bite of the blades of the angiotribe can occlude the pedicle thus made. The shield is then applied, the current connected, and section made along the upper side of the thermic blades, thus releasing the tube and ovary. On removal of the angiotribe the ribbon can be examined before allowing it to drop. In many cases it is necessary to make 2 applications of the blade, one from the uterine side near the cornua into the broad ligament, the other from outside the ovary to meet the first track. Section through the white hemostased tracks releases the tube and ovary. The work of numerous investigators and the findings in secondary operations indicate that ligation of the fallopian tube, either with silk or catgut, by no means assures aseptic closure. This method of closure is especially bad when dealing with pus tubes and extrauterine pregnancy. The method here advocated, electrothermic occlusion, is ideal and will rob this class of work of many distressing sequels, including irritable or open stumps and adhesions.

Hysterectomy.—In vaginal hysterectomy for benign disease, the cervix is encircled by the cautery knife and dissected back until the peritoneal reflections are reached and the abdomen thus entered. The fundus is brought out through the anterior incision and the ⅜-inch or ½-inch blade of the angiotribe applied to the broad ligament. Sometimes the whole broad ligament can be included in one grasp of the blades, but usually 2 grasps are required. The first should be applied from the tubal side down, to include the round ligament, the remainder of the broad ligament should then be included in a second grasp. The shield is placed around the blades of the angiotribe and the current turned on for from 30 seconds to 40 seconds. A temporary hemostat is applied to the uterine side of the broad ligament, section made along the uterine side of the thermic blade, the angiotribe released and removed, exposing a white ribbon within the blades of the shield. On removing the shield the hemostased ribbon shrinks back into the pelvis. We have now the uterus free on one side with temporary hemostats to control reflux bleeding. The same procedure is now followed on the opposite broad ligament, and the uterus removed by section along the uterine side of the thermic blades. The usual toilet of the peritoneum can then be accomplished. In those cases in which hemisection facilitates removal, the cautery knife can be used in place of the scalpel, and the angiotribe then applied to the broad ligaments, 1 or 2 grasps to each.

For malignant disease, in suitable cases I use the following method for vaginal hysterectomy: The cervix is encircled by the cautery knife through the mucous membrane quite above the visible evidence of disease and dissected up, using the cautery for searing, until 1½ inches of the cervix is exposed, or until the level of the internal os is reached, when the cervix is amputated by the cautery knife. The cervical canal of the remaining uterus is thoroughly burned and stuffed with gauze.



Fig. 8.

In carrying out the foregoing procedures should any paracervical bleeding occur that the cautery knife will not hemostase, the bleeding points should be grasped by the ordinary artery forceps, which can be heated by applying the artery forceps heater to their tips for a few seconds. In some cases the lower branches of the uterine artery in the base of the broad ligaments may need to be hemostased; in these cases the tips of the narrow-blade angiotribe are very serviceable. It is even possible without opening the peritoneal cavity to apply the narrow blades along the sides of the uterus, so as to occlude the uterine artery. After removing the malignant cervix, the vagina is resterilized, the peritoneal reflections entered and the remaining portion of the uterus removed as in the description for nonmalignant cases. The procedure here advocated is aseptic and removes the danger of contamination.

In malignant cases in which it is preferable to remove the uterus through the abdominal incision, the preliminary amputation of the cervix as described, without

opening the peritoneal reflections followed by the removal of the remainder of the uterus through the abdomen, renders the operation free from the danger of implantation. The abdominal part of the operations in these cases could follow any known technic or that now to be described.

Abdominal Hysterectomy.—In abdominal supravaginal and panhysterectomies a variety of procedures may be carried out, of which the following are types. The ⅜-inch or ½-inch blade of the angiotribe is placed on the broad ligament from outside the ovary to below the round ligament, the shield applied, the current is allowed to act for about 40 seconds, a temporary broad ligament forceps is applied to the uterine side, and section made along the adjacent side of the thermic blades. The angiotribe is removed and a wide hemostased ribbon is seen in the grasp of the shield, on removal of which it shrinks toward the pelvic wall. The same procedure is carried out on the opposite ligament. The broad ligaments are now both hemostased and sectioned to below the round ligaments, the reflux bleeding from the uterine side being controlled by forceps. The bladder is next freed and pulled forward away from the uterus. This puts the ureters on the stretch and makes easier and safer the occlusion of the uterine arteries. The next grasps of the angiotribe are made to include each broad ligament from below the round ligament down to the sides of the cervix so as to include surely the uterine arteries. Section is made on the uterine side of the blades, and the uterus is thus released so that on upward traction it is held only by its vaginal connection in which perhaps are the vaginal branches of the uterine artery. By putting the vaginal tube on the stretch it is easy to include progressively small portions of it in the narrow blades, and thus bloodlessly sever the uterus by section through the vagina below the cervix, but above the blades; or when this stage is reached a curved angiotribe may be used and the vaginal tube clamped in one bite.


Fig. 9.

In cancer of the uterus when entire operation is done through the abdomen, 2 curved clamps can be applied below the cervix to occlude the vaginal tube, the lower one being electrothermic, and the upper any ordinary cold clamp. On section between these curved blades the vagina is occluded below the cervix so that no contamination is possible. We thus carry out Werder's method, using electrothermic hemostasis in place of ligatures. If the operation is a supravaginal hysterectomy, after the occlusion of the uterine arteries, section is made across the cervix, and sutures applied as in the usual operations. Before suturing, the cautery knife should sear the cervical canal. It is possible by making a proper wedge-shape amputation at the cervix to use an angiotribe with blades especially devised that would easily occlude without suture the opposing section of cervix. The technic in abdominal or vaginal hysterectomy may vary from the above description in that the wide blade if used carefully can be made to give a hemostased ribbon in the broad ligament through which section can be made without the necessity of temporary clamps. If this is done, incision through the broad ligaments can be absolutely bloodless. In using the broad clamp thus, a little more time should be used for the cooking process, yet not enough to cook so thoroughly that the tissues adhere too strongly to the blades of the angiotribe. There is no method of hysterectomy that has ever been performed by ligatures in which we cannot use electrothermic hemostasis. We can begin at the top of the broad ligament, go down one side, across the cervix, and up on the other side. We can isolate individual arteries and hemostase them alone by pressure and heat. We can hemisect the uterus from the abdominal side and hemostase from the uterine arteries upward. We can perform Doyen's operation, replacing the temporary clamps on the ovarian and uterine arteries by the blade of the angiotribe.

Appendicectomy.—In appendicectomy the special claim is made that by this method we can eliminate during the operation the infectious canal of the appendix. The operations will vary as to whether the case is acute or chronic, or as to whether the appendix or mesoappendix is easily isolated. In unruptured cases it is often possible to include the appendix and mesoappendix in one bite or grasp of the angiotribe, preferable the ⅜-inch wide blades. Section can be bloodlessly made within the sterile tract thus made. A pursestring suture is then applied in the cecum at the base of the appendix stump and the white sterile stump thus invaginated and covered over by peritoneum. Occasionally it will be found better to occlude the appendix first, pursestring the stump thus made and then hemostase the mesoappendix by the blades of the narrow angiotribe. In other cases it is preferable to hemostase the mesoappendix before occluding the appendix. In ruptured cases, whenever it is possible to obtain sufficient appendix at the cecal side this method is far superior to any other. Even if the rupture has occurred at the junction of the appendix and cecum, the involved cecum can be occluded by the blades of the angiotribe, and the white ribbon thus made be closed in by suture. In appendix operations a pursestring suture to invaginate the sterile stump is absolutely necessary.

Hemostasis of the Omentum.—In pus tubes and other inflammatory pelvic cases and when adhesions to ovarian cysts are to be dealt with, the omentum is often torn and must be removed in fair-sized pieces. Ordinarily either a large bunch is included in one ligature or progressive ligation is required. In the one case the apex of a wedge is left, in both raw surface remains. By the electrothermic method white hemostased ribbons are caused by the blades of the angiotribe through which bloodless section can be made. The proper fan shape of the omentum is left with little or no liability to adhesion on the part of the stump.

Hernial Operations.—When there is an epiplocele the treatment of the omentum as described comes into play. The hernial sac itself as it emerges from the ring can be also hemostased by pressure and heat and be thus bloodlessly removed. To prevent subsequent opening by tension from within, the stump thus made can be included in the suture approximating the edges of the ring.

Intestinal Operations.—Intestinal resection and anastomosis by means of these instruments can be ideal. The ⅜-inch or ½-inch wide blades can be made to clamp the intestine, the blades extending into the mesentery. If the technic is correct a white desiccated ribbon is left where the blades had been applied through which section may be made without escape of intestinal contents, the ribbons occluding the ends of the intestine. The same procedure can be carried out on a distal part of the intestine and the intervening portion be removed after clamping the mesentery. The intestinal ends with the occluding ribbons are brought together by Lembert suture, continuous or interrupted, the sutures uniting bowel surfaces at least an eighth inch beyond the little white occluding ribbons. By this method the fear of contamination is eliminated. The intestine, its continuity restored with the occluded ends within the line of union, may be left with the certainty that within 30 hours sloughing will occur and the caliber of the bowel be reestablished. A better plan, however, after uniting the ends of the intestines is to separate the walls of the intestine, thus opening the little ribbons, and establish the continuity of the canal immediately. When side-to-side anastomosis is to be performed, the ends of the intestines that have been occluded should be pursestringed to invaginate the stumps and then the side-to-

side union made by suture around white ribbons made by these instruments. On March 21, 1903, while operating in a very difficult case of tuboovarian abscess, I was obliged to resect 13 cm. of colon. End-to-end union of bowel was effected as described and the caliber established after union, by invaginating the bowel by the little finger until the ribbons were opened as was proved at the time by pressing gas from above the line of union into the bowel beyond. The abdomen was closed without drainage. The patient did as well as an ordinary easy case, free bowel movements occurring on the sixth day at which time the temperature, pulse and respiration were normal. This case was reported fully in the July number of *American Gynæcology*.

Stomach Operations.—In operations on the stomach there is generally, on incision into the wall of the viscus, free hemorrhage from the mucous membrane. This can be prevented by using the blades of the angiotribe to agglutinate the various layers in the wall of the stomach. Incision in the ribbon thus produced is bloodless. In a variety of operations this method can be used. It should be especially valuable in gastroenterostomy in which operation the following procedure is suggested. The portion of the stomach that is to be approximated to the intestine is grasped double in the bite of the angiotribe, and the intestine that is to be approximated to it is also grasped double. The hemostased ribbon thus made in the double wall of the viscus on separating the walls will open to twice its length as clamped. The ribbons thus made can be opened before suturing the surfaces that are to be joined, or they can be opened just before the completion of the suturing, or better, they may not be opened at all with the certainty that they will slough open in 30 hours. In pylorectomy this method of hemostasis and occlusion should be especially valuable.

Intestinal Adhesions.—In separating bands uniting coils of intestine, or relieving bands around and constricting the intestine, the raw surface beyond a ligature may immediately reunite. By cutting within the compressed ribbon made by these blades we avoid reunion of the cut edges beside doing the work bloodlessly.

Hemorrhoidal Operations.—The sphincter is dilated, a pile is isolated, grasped by forceps, drawn forward, and included in the blades of the ¼-inch angiotribe. The shield is then placed back of the blades and the current turned on. On removal of the blades after the current has acted a sufficient length of time, a white sterile occluded ribbon is seen running parallel with the axis of the bowel. The different pile areas are subjected to this same treatment. There is less danger of these different areas opening on manipulation than if the clamp and cautery operation has been done.

I have considered it better to describe types of the various abdominal operations that can be performed, using this method of hemostasing rather than giving detail descriptions of individual cases. During the last 2 years I have not used a ligature in abdominal surgery. My personal work includes 30 hysterectomies; over 100 salpingooophorectomies; 100 appendicectomies; 10 ovarian cysts; a few myomectomies; 1 case of intraabdominal incarceration of the cecum, the heavy organized constricting band of the omentum being hemostased by section through the track of my instruments. In addition, my work includes hernia, varicocele, and breast operations, beside quite a number of operations for hemorrhoids.

At present over 30 American surgeons are equipped with these instruments and are using them to greater or less extent. The following have written articles on this method of hemostasis: Dr. Keefe, of Providence, R. I.; Drs. Hirst and Noble, of Philadelphia, Pa.; Dr. Bovée, of Washington, D. C.; Dr. Goldsphon, of Chicago, Ill.; Dr. Ricketts, Dr. Zinke, and Dr. Wernig, of Cincinnati, O. I have had personal reports from a number of men, including Dr. Ochsner, Dr. Murphy, and Dr. Ferguson, of Chicago; Dr. Werder, of Pittsburg, and others.

I have been able to collect the following operations performed by various operators, including my own work: Eighty hysterectomies; 200 salpingooophorectomies, 1 nephrectomy; 200 appendicectomies; 20 ovarian cysts, and a number of other operations, and this includes the work of a few only of the operators. The hysterectomies include 16 for cancer; of these I operated on 6 patients.

Dr. Hirst, of Philadelphia, has performed hysterectomy for both cancer and sarcoma.

One of my most interesting cases of hysterectomy was on an apparently moribund patient with pelvic and intestinal tuberculosis. A panhysterectomy was performed, the tubes and ovaries included. The patient at the time of the operation weighed 80 pounds; she now weighs 141 pounds. The mortality rate in this work has been exceedingly light. Excluding the deaths in 2 moribund stomach cases—one a simple exploration for cancer—in neither of which my instruments were used, hemostasis not being required, I have had but 1 death in 16 months, and this death also unconnected with the method of operation. I have yet to hear of hemorrhage after an operation in which these instruments were used. The only accident resulting that I am aware of was the clamping of the right ureter in a hysterectomy for cancer, the operator being Dr. J. M. Fischer, of Philadelphia, assisted by myself. Under salpingooophorectomy is included a large percentage of pus cases. In all of my pus cases during the last 2 years I have closed the abdomen without drainage. A large number of extrauterine pregnancies is included in the list of salpingooophorectomies, of which I have performed eight, seven through the abdomen. In my last operation for extrauterine pregnancy I removed the sac with the fetus in situ through the vagina by means of one of my angiotribes, a difficult test as to the practicability of the method.

In conclusion, I desire to reiterate what I have now many times stated that a proper technic is essential. The perfection of the technic for the individual operator requires a little time and a proper conception of the method. Some of those who are using these instruments seem to have grasped the idea from the beginning; others have seemed to be either indifferent, too well satisfied with ligatures or too busy to study the method. Those who have had the most experience are more and more satisfied with this method of hemostasis and a few have dispensed entirely with the use of the ligature in operating-rooms where the current is obtainable.

THE EFFECTS OF THE SECONDARY STATIC CURRENTS IN REMOVING ALBUMIN AND CASTS FROM THE URINE, WITH REPORTS OF CASES.*

BY

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of Philadelphia.

Among the many cases of gastrointestinal disease observed in my practice, in a considerable proportion—probably a fourth of those which have involved the intestinal tract and been of long standing—there has at times been albumin, and at least hyaline casts, in the urine. With a very few exceptions, these cases have not shown any other renal symptoms, such as dropsy, etc., and have not usually tended to increase steadily in severity, as is so characteristic of true Bright's disease. On the contrary, many of them have proved amenable to treatment, especially when the patients could be induced to persevere with a proper diet and other appropriate therapeutic measures for the primary disease.

The pathology of these cases was at first puzzling to

*Read before the American Electrotherapeutic Association, September 22, 1903.

me, though I have long believed that they depended upon a real structural change in the renal epithelium, however slight. Such changes are apparently attributable to the irritation produced by the toxins resulting from indigestion and a faulty metabolism long continued. There seems to be no longer room for question that the cases described belong under the category of toxic nephritis. Dr. A. O. J. Kelly[1] has made a very satisfactory classification of the various forms of nephritis, in which he places the familiar renal complications of the infective fevers, especially scarlet fever, diphtheria, etc., under the head of "acute toxic or degenerative nephritis." In describing the symptoms of this form of renal disease he says it "may run its usually short and benign course entirely devoid of symptoms and without noteworthy alterations in the urine. The general manifestations of the intoxication or infection that gives rise to the kidney lesions may be not in the least aggravated." Further on Kelly speaks of such a nephritis occurring in the course of one of the infective fevers as febrile albuminuria, adding: "The albuminuria, however, is probably due to the action of a toxin rather than to the fever." This is an important point. Autotoxic conditions can cause a light and usually curable form of nephritis, and toxins are constantly forming in the chronic indigestions, though less violent usually than those produced in the acute infectious fevers. I propose for these cases dependent upon chronic gastrointestinal affections the name autotoxic nephritis without the prefix "acute" or any such prefix as "ephemeral," which would be more appropriate. They are, in fact, rarely or never acute when due to chronic indigestion, and while they are often ephemeral under efficient treatment, they may probably progress on into true chronic Bright's disease when the primary disease is neglected or wrongly treated.

While persistence with treatment appropriate to the primary digestive disorder has now and then been successful in getting rid of the albumin and casts, especially when aided by the use of some mild alkaline spring water or other diuretic, these cases frequently proved troublesome to me until I began about a year ago the use of the static electricity in them. My attention was first called to the value of this agent in renal cases by an article from the pen of Dr. A. D. Rockwell.[2] He reported 5 cases characterized by the persistent presence of albumin and casts in the urine. Four of the patients were apparently cured by the frequent application of either the static wave or high tension faradic currents for months continuously and in one of them for 18 months.

During the past year I have seen 18 cases in which albumin and casts were more or less constantly found in the urine. Nearly all these patients complained of symptoms referable to the digestive system or to disorders of nutrition. Only half of these could be induced to follow with any approach to regularity a course of treatment with the static induced or wave currents. It is important to note here that two of the patients were treated almost exclusively by means of the static induced current—every time except when my static machine chanced to be out of order, and then with high tension faradic electricity.

I will first report the more important cases, in all of which, except one, the albumin and casts disappeared under the treatment, and then summarize briefly the results in the remainder:

CASE I.—The patient, a widow and house servant, aged 57, has not been strong for years past, and has always had a delicate digestion. About 10 years ago she had an apparently tuberculous infiltration at the apex of one lung, but after a summer spent in Canada she returned without her cough and in much improved health. She has had no pulmonary symptoms since, but has been dyspeptic and obliged to live on a very restricted diet in order to be comfortable. In April, 1902, after ailing obscurely for several weeks, she took to bed with a slight feverish attack complicated by some swelling of the ankles, but no other noteworthy symptoms. A sample of her urine sent me at the beginning of this attack showed a trace of albumin and a few fatty casts. Two subsequent examinations of her urine during the same illness revealed slightly increasing quantities of albumin and both fatty and hyaline casts. She later went to Cooper Hospital, Camden, and did not come under treatment at my office until August 7, of the same year. Her weight was then 88 pounds, and her urine contained $\frac{1}{10}$ of 1% albumin and hyaline, fatty and granular casts. September 5 I began giving her 20-minute treatments with the static induced current 3 times a week. The electrodes used were one moist pad 4 inches by 6 inches, over the solar plexus, and one 12½ inches wide and long enough to reach from the left side of the left kidney all the way around to the front of the liver on the right side. A leather belt was buckled rather snugly around over the metal plate and a small cushion or pad placed between the two directly over each of the kidneys, so as to press the metal firmly against the body at those points. My idea was that in such an old dyspeptic case the liver was likely to be involved somewhat as well as the kidneys, and that therefore it would be well to include it also in the applications, but by extra pressure to cause the current to influence the kidneys especially. The analyses made every few days soon ceased to show any albumin, except once or twice a trace, but a few casts were occasionally found up to November 5, after which the urine contained neither albumin nor casts until January 21 of this year. Then a few hyaline casts appeared, but still no albumin. Meanwhile she had been improving greatly in strength and general tone, and had been gradually resuming her work as servant. Some time before this the treatments were lessened to twice a week, and by March the patient felt herself strong and well enough to take her old position as cook, but continued to come to my office once a week until the beginning of the past summer, when she discontinued treatment altogether, but kept on with her work. No albumin or casts were found in her urine from early in February till about the end of August, when it again showed a trace of albumin and a few hyaline casts, though she insisted then that she felt perfectly well and did not see the need of having the electricity again. Her diet has been practically the same as before she came under my care, and she took no medicine while receiving the electric treatments. Her weight is now 104 pounds, an increase of 16 pounds. Since preparing and reading this paper I have given a few more treatments in Case I, and her urine is now, October 13, again free of albumin and casts.

CASE II.—Dressmaker, aged 42, weight on beginning treatment was 127½ pounds, a loss of 15 pounds in 8 months. She was first seen by my assistant, Dr. George O. Jarvis, June 9, 1902. She gave a history of syphilis contracted from her husband and of chronic intestinal catarrh for 15 years. She was anemic, neurasthenic in a high degree, obstinately constipated and unable to eat more than the smallest quantities of liquid diet. Analysis of stomach contents after an Ewald breakfast showed almost no free HCl and a total acidity of 62. Her urine contained $\frac{1}{8}$ of 1% albumin and also casts; urea $\frac{1}{10}$ of 1%. She came under my care July 28, 1902, and shortly thereafter went off on a vacation. Upon her return albumin and casts still appeared in her urine, though the remedies for her stomach and country air had improved her digestion and nerve tone. She was then placed upon treatment with the static induced current the same as in Case I, and, except that the static wave current was given two or three times instead, this was continued throughout the autumn with occasional interruptions of a week or two. After the middle of October it was rare to find by Purdy's very delicate sodium chlorid test even traces of albumin, though at some of the examinations a very few casts were found. During November there was no albumin except at the first examination made in the month and no casts appeared. The same treatment was continued two or three times a week during the winter except that after the middle of January, 1903, on account of its valuable tonic effect the static wave current was given instead of the static induced only the metal belt electrode described under Case I being used. From this date on to March 16, the urine was examined 8 times with a trace of albumin appearing in three of the analyses, and in one of them 2 granular casts. On March 16, before the treatment, the urine showed ¼ of 1% albumin, 2.1% urea, and no casts. Then, within an hour after her treatment another sample of her urine was examined with a finding of the same amount of albumin, but an increased proportion of urea—2.3%—and an abundance of fatty and granular casts, thus showing strikingly the eliminating power of the electric treatment.

The patient meanwhile had many ups and downs in her general condition, often after marked improvement relapsing because of attempts to resume her work; but on the whole her condition averaged markedly better. After March 21, no more albumin appeared till June 3, when there was again a very small amount. Meanwhile treatment had been continued with the wave current at least twice a week and no casts had been found until near the last of May. Shortly before this the patient had been ordered a preparation containing a solution of nucleoalbumin which I have often prescribed with advantage in anemic and nervous cases. By accident she procured instead a modification of the same preparation containing in addition full doses of arsenic and strychnin, the former of which could be only hurtful in such a case. I knew nothing of this till she had taken the wrong preparation some two months during the latter part of which period she had been growing gradually worse. From June 1, until the arsenic preparation was stopped

on July 10, the urine showed almost constantly considerable amounts of albumin and numerous casts, hyaline, fatty, granular and even cellular.

After a withdrawal of the obnoxious medicine, treatment by the wave current was resumed and kept up regularly up to August 28, when she went into the country. On August 26, the urinalysis showed not even a trace of albumin though still a few fatty casts. She was then eating plentifully of a variety of food, her nerve tone was comparatively good and her chronic enteritis with obstinate constipation was so much improved that her bowel movements were normal with the help only of a two ounce enema of cottonseed oil at bedtime, and only at long intervals was there a little mucus mixed with the stools. After a few further applications of the wave current Case II is now, October 13, again free of albumin and casts.

CASE III.—Clergyman, aged 39, weight 182 pounds, had received advice from me a few times previously on account of indigestion, but came regularly under treatment for a severe breakdown in health, August 20, 1902. He had been under a very heavy and prolonged strain, and complained much of impaired digestion, sleep, and nerve tone. His urine contained one-fourth of 1% albumin as well as fatty, hyaline, and granular casts. The static induced current was applied as in Case I for 20 minutes, 3 times a week, with more than usual regularity until about the end of October, when no albumin or casts having been found in his urine for about a month, he began coming for treatment once a week only, and soon dropped off to once or twice a month. Toward the end of the year he felt himself to be restored to health, having no longer any complaints, and there had been no albumin or casts discovered in his urine for 3 months, except once early in October, a trace of the former, and he therefore discontinued treatment, but still brought in a sample of his urine for examination once every month or so. These tests continued to show the urine free of casts and albumin or other evidences of renal disease till the end of last May, shortly before the patient was to sail for Europe, when a trace of albumin and a few hyaline casts were again discovered; these were evidently a result of a return of his indigestion in consequence of another prolonged period of mental and nervous strain with neglect of the hygienic precautions which had been enjoined upon him.

CASE IV.—Clergyman, aged 34 and weighing 154 pounds consulted me February 26, 1903 on account of having been refused a life insurance policy because of albumin in his urine. He had heard of my success in Case III, and desired to be rid of his albumin so that he might be insured. But a careful examination showed him to be otherwise in wretched health. The history revealed an attack of cystitis 6 years before, and there had been recent symptoms of irritation at the neck of the bladder. The analysis of his stomach contents after a test-meal gave the following results: Free HCl .124%; total acidity 58. The patient is a rather heavy smoker and eats many sweets. There was found a movable right kidney and some gastroptosis. Urinalysis February 26, 1903, showed albumin one-fourth of 1% and fragments of casts; urea 1.7%. He received the static wave-current 3 times a week for some four weeks without any noteworthy diminution in the amount of albumin while the casts also persisted, though the excessive HCl in his stomach was controlled by medicines. The static wave current as usual produced a marked improvement in his nerve tone and general health, but becoming discouraged on account of the persistence of the renal signs, he gave up treatment.

The reports of these 4 cases do not call for much comment since they tell so plain a story. The treatment failed in Case IV, but Cases I, II, and III demonstrate beyond question the favorable influence of the secondary static currents, the static induced especially, in removing albumin and casts in what must be admitted to have been at least threatening cases. We know too little of the exact pathology of these autotoxemic conditions to say surely that a serious form of Bright's disease can develop out of them, but I believe that it can.

Case IV was probably one of parenchymatous nephritis due to an extension of catarrhal inflammation upward from the bladder, and might or might not have yielded to a longer treatment. Case II is interesting in showing how harmful our drugs may prove when wrongly chosen or persisted with too long.

Five other dyspeptic patients in whose urine albumin and casts were demonstrable at most of the earlier analyses, received applications of the static wave current for a month or more during the past year with results analogous to those reported in Case III. The albumin and casts rapidly disappeared while they were under treatment with a coincident improvement in their general health; but it should be added that their cases were milder than the 4 reported herein. Two persisted with the treatment for several months in order to clinch the cure and these now no longer show signs of renal disease, though it is likely that exposure to severe chilling or a recurrence of marked autotoxemia from prolonged digestive trouble could produce again a disturbance in the kidneys with a reappearance of albumin and casts in the urine.

Nine other albuminuric cases have been seen by me during the year and all of these patients with one exception have had occasional applications of one of the secondary static currents through the region of the kidneys; several of them received many such applications at long intervals, but nearly all of these patients live out of the city so that it was inconvenient for them to come in for regular treatment, and since they have been doing fairly well with the help of diet and medicines, they have been content. In all of these who have continued to report themselves and have examinations of the urine made, the renal trouble has been kept under control and in some instances either caused to disappear altogether or much improved by attending to the digestive fault; but there is no doubt in my mind that applications of static electricity continued for several months would render their condition very much safer and greatly increase their prospects of longevity. In the milder cases I believe that such a course continued long enough, provided the digestive disorders were at the same time properly treated, would result in definite cures.

The restudy of the 18 cases here reported has taught much that, I feel almost ashamed to say, I had at least partly overlooked before. One point especially has been impressed very forcibly upon me and that is, the fact evident from the reports here given, that the static induced current has a decidedly greater curative power in the kidney affection described than either the static wave or the high tension faradic currents. The last-named seemed to be much less marked in its effects upon the kidneys, though I have given it by no means so thorough a trial. The static wave current has proved in so many cases a valuable nerve tonic and as most of these patients with albumin in their urine were also very nervous, I chose it as the preferable form of application in the majority of the cases especially as Dr. Rockwell, whose lead I was following in trying the method, had chosen this form. It is noteworthy that Cases I and III in which I had employed the static induced current almost exclusively pursued a more uniformly favorable course than any of the others; and that Case II made better progress while under this, than later under the static wave form of treatment. So far as known to me, I am the first who has used the static induced current in kidney disease and the results achieved by it seem so much better than those from the other currents, that I shall hereafter give it the preference in such cases. Much might be said as to the way in which electric stimulation acts in renal affections, but this paper is already long enough.

Let me say a few words further apropos of the extraordinary impression, still retained apparently by some physicians who have not found it convenient to make use of static electricity, viz., that the only effects exerted by it are psychic and due to suggestion. Having been promptly cured myself 4 years ago by static sparks, of a neuritis which had resisted for 3 months such energetic measures as hot air, blisters, and nearly all the other forms of electricity, I should seem entitled to a positive opinion upon the subject; but to clinch the matter I had analyses of the urine made before and an hour after a number of the treatments in several of the cases above reported, and in every instance except one, the percentage of urea was considerably increased at the second analysis; in the one exception it remained the same. These experiments certainly proved that the treatments produced a positive physical effect upon the metabolism.

Since the foregoing paper was prepared and read, I have made an experiment upon a new patient with the most extraordinary result as to the influence of the static wave current in stimulating the excretion of urea.

The patient was a professional man of sedentary habits, who had been accustomed to eat rather generously and to drink very little fluid of any kind. He came to me recently complaining of indigestion, and during an interval in my examinations of him, I had him take an electric treatment. In this instance an electrode 1 inch in diameter by some 20 inches long, was passed down in contact with the spine, there being no other connection with the machine. He was then given a treatment with the static wave current for 15 minutes, the spark gap being about 1¼ inches. Shortly before this as a part of my routine examination of the abdomen, he received at different times 2 goblets of water, in one of which was dissolved about 60 grains of soda bicarbonate. A little while previous to the treatment he was asked to pass some urine, but was unable to pass more than an ounce or two, which was insufficient for all the purposes of my usual urinalysis. Therefore, shortly after the electric seance, and within about three-quarters of an hour from the time he passed the former specimen, he was asked to pass as much more as he could. The 2 samples were kept and afterward examined separately. The results were as follows:

BEFORE STATIC WAVE TREATMENT.		AFTER STATIC WAVE TREATMENT AND DRINKING TWO GLASSES OF WATER.	
Specific gravity	1038	Specific gravity	1025
Total acidity	96	Total acidity	52
Indican	small amount	Indican	small amount
Uric acid	about normal	Uric acid	about normal
Urates	about normal	Urates	about normal
Urea	0.8 percent.	Urea	2.0 percent.
Xanthin bases	moderate amount	Xanthin bases	moderate amount
Phosphates, alkaline	excessive	Phosphates, alkaline	lessened amount
Phosphates, earthy	excessive	Phosphates, earthy	lessened amount
Creatinin	excessive amount	Creatinin	excessive amount

Allowing for the dilution of the second sample which resulted from the two glasses of water taken meanwhile, the percentage of urea eliminated was more than 5 times as great as before the treatment. Notwithstanding the contributory part played by the bicarbonate of soda in stimulating excretion to some extent, the above-mentioned result is certainly very striking. The effect of the soda could hardly have been very marked by the end of not more than three-quarters of an hour, and there can be no question that by far the larger part of the result was attributable to the direct stimulation of the nerve centers governing the renal secretion by the electricity. Incidentally, too this experiment emphasizes the great importance of regularly determining the total acidity of the urine, since the total acidity of the first sample was 96, as against the normal of 25; and in all such cases there is an urgent need of administering alkalies in addition to whatever other mode of treatment may be indicated.

BIBLIOGRAPHY.

[1] Wood's Reference Handbook of the Med. Sciences, revised edition, Vol. v., article on diseases of the kidneys, p. 330.
[2] New York Med. Jour., January 18, 1902.

To Improve Vital Statistics.—At the recent meeting of the American Public Health Association, held at Washington, D. C., the Committee on Vital Statistics reported that effective cooperation had been instituted between that Assoctation, the Conference of State Boards of Health, the American Medical Association, the United States Census Bureau, and the United States Public Health and Marine-Hospital Service for the improvement of the vital statistics of this country. Among the objects sought are the extension of adequate methods of registration, the use of uniform and comparable tables and rates in bulletins and reports, and the improvement of the international classification of causes of death. A pamphlet on "Statistical Treatment of Causes of Death" has been issued by the United States Census Bureau, requests for which should be addressed to Mr. W. A. King, Chief Statistician for Vital Statistics, Census Bureau. It has special reference to the difficulties encountered in compiling deaths returned from several causes, and asks for the cooperation of the profession in framing a thoroughly satisfactory method of procedure in such cases.

SPECIAL ARTICLES

STATUS OF SANITARY PROGRESS.[1]

President's Address.

BY

WALTER WYMAN,

Surgeon-General U. S. P. H. and M. H. S., and President American Public Health Association.

It is but fitting here to give some narration of the measures relating to public health considered or acted upon during the past year. Not to burden the reader with a wearisome detail of department transactions, but some facts of interest should be made known, and they may briefly and more conveniently be disposed of before entering upon other considerations.

The hygienic laboratory provided by Congress for the investigation of infectious and contagious diseases and matters relating to the public health, has been completed, is now receiving its equipment, for which an adequate sum has been provided, and will soon be occupied. The building—open to your inspection—is beautifully located on the grounds occupied by the old naval observatory; and the reservation of 5 acres is sufficient for additional buildings which Congress may be asked to grant from time to time as the necessity becomes manifest. The advisory board, now complete, represents the 3 medical services of the Government and the Department of Agriculture, and contains the names of 5 distinguished scientists connected with other institutions. Of the 3 new divisions—Medical Zoology, Pharmacology, and Chemistry—the two former have been provided each with an official head, the last appointment being that of Dr. Reed Hunt, from the Johns Hopkins University, as chief of the Division of Pharmacology. During the year some of the results of the laboratory work have been published in 10 bulletins of scientific importance to the public health.

Yellow Fever Institute. — The Yellow Fever Institute, founded for continuous investigation of yellow fever, and organized to utilize the findings and personal services of any member of the profession at home or abroad, has issued a bulletin (No. 13), the report of a special working party which conducted experiments in Vera Cruz, Mexico, about a year ago.

A second working party is at present engaged in Vera Cruz, repeating and confirming or otherwise, the experiments of working party No. 1, and making such additional experiments as are prompted in the course of their investigations.

Viruses, Serums, and Antitoxins.—In accordance with the Act of Congress to regulate the sale of vaccine and other viruses, serums, and antitoxins, regulations were promulgated, effective August 21, and inspections made of the various establishments in the United States engaged in the manufacture of these products. Ten plants were inspected, six recommended for license and four for refusal. Of the four refused, two were subsequently reinspected, the faults having been remedied. Several establishments, rather than submit to inspection, closed their business. In all, 8 establishments in the United States have received licenses from the Secretary of the Treasury.

Conferences.—The conferences held during the past year are worthy of note.

It will be remembered that the Conference of American States in Mexico in January, 1902, provided for an International Sanitary Convention of the American Republics. This convention met in Washington in December of the same year, 11 republics being represented by 27 delegates. Sanitary and quarantine resolutions of value were adopted, and an International Sanitary Bureau formed, with headquarters in Washington, under the *ægis* of the Bureau of American Republics. The transactions of the Sanitary Convention have been published in Senate Document, No. 169, Fifty-seventh Congress, Second Session. A second convention will be held in Chili next March.

The value of Section 7 of the new public health law has been demonstrated in 2 conferences between the Public Health and Marine-Hospital Service and State health authorities. The first was held last January in accordance with requests from 22

[1] Annual meeting of the American Public Health Association Washington, D. C., October 26-30, 1903.

State Boards of Health to consider the plague situation in San Francisco. The good results are known to most of you, and the transactions of this, the first conference under the law, are preserved in printed form.

The second conference, being the conference which the Surgeon-General of the Public Health and Marine-Hospital Service is required by law to call once every year, was held in Washington last June, 22 States and Territories being represented, and letters of regret being read from others. The results of this conference will be referred to later, and its transactions, making a valuable volume for reference, are now in the hands of the printer.

It may be said that both these conferences have developed a spirit of cooperation of great present and still greater prospective value.

American Public Health Association.—The foregoing may be considered as a report of progress voluntarily made to an association devoted for more than 30 years to every phase—scientific and administrative—of public health advancement. Our American Public Health Association illustrates that individual unselfish devotion to the public welfare on which depends the hope of self-governing people.

Annually it holds its deliberations in widely-separated portions of our land, in Canada, or Mexico, that its very presence may arouse interest and give encouragement to local sentiment and official laborers in the same broad field. Its discussions and reports of committees preserved in its 28 volumes of transactions form a library creditable to its membership and of great public utility.

On joining this Association in 1884, my first impression was that of the earnestness of its members and the evident thorough study of the subjects under discussion. As a whole, the meeting seemed to me an exhibition of educated patriotism —of time and labor given for nothing but the public welfare.

Since then the Association has widened its territory, constantly preserving in its annual meetings these same characteristics.

In 1885, we were strengthened by the addition of our representatives from Canada, whose scholarly attainments have since constantly added to our meetings. Their hospitality will make ever memorable our meetings at Ottawa, Toronto, and Montreal.

In 1890, our power was further augmented by accessions from Mexico. Its superior Board of Health has so frequently been represented in our meetings that its learned and accomplished president and his colleagues have become familiar and welcome figures. Our meeting in the City of the Montezumas in 1892 forms one of our brightest chapters. And last year independent Cuba, the gem of the Antilles, freed at last from the scourge of yellow fever, joined us. Thus, with widened scope and increasing strength, are we assembled for the thirty-first annual meeting.

Civic Administration and Sanitation.—Current comment of the newspapers and magazines shows something of the place which civic administration has come to occupy in the public mind. "Municipal government," it has been well said, "presents the most serious problems of the social scientist of today; it is our political life at its source. When the secret of good municipal government has been found, the whole political problem of good government will be solved." I believe, continuing this idea, that the insanitary condition of our cities presents a condition parallel to that of their political corruption. Municipal betterment would proceed faster if its promoters realized that an achievement may fail when too much at one time is attempted, but may succeed by efforts in detail. By seizing upon one highly important element of municipal reform and for the time being concentrating all energies upon it, good citizens would achieve a success not only invaluable in itself, but one which would serve as a point of vantage for other efforts.

The relation of sanitation to municipal reform is not duly appreciated. Like many a penitent told by his clergyman that he needs a physician rather than a confessor, the stricken municipality might often be told that its first immediate necessity is better sanitation. Moral reforms would more easily follow.

The Need and Effect of Sanitation.—The good effects of sanitation on the moral and physical condition of people have been the theme of many able writers and statisticians. It goes without saying that crime lurks in the dark, unwholesome parts of our cities. Diminution of disease and remarkable decrease in the deathrate have been amply demonstrated as the results of sanitation. "The span of life," says Dr. Kober, quoting from Mulhall's Statistics, "has been lengthened six years since 1880." The annual mortality of London, between 1660 and 1678 was 80 per 1,000; from 1801 to 1835, it was still 29; it now averages between 17 and 19. The annual deathrate of New York in 1875 was more than 29 per 1,000, and is today only about 18.

Large cities here and abroad have shown the effect on health and commercial prosperity of purely sanitary measures. Among others, may be named New York, with its tenement house victories; San Francisco in its sanitary struggle in Chinatown; and Memphis, with its sewerage reformation in the warfare against yellow fever. Other and smaller cities are exemplars of this great truth, not to mention Havana, so near our coast as to be a factor in our own health conditions It is peacefully resting today almost within sight, a remarkable lesson to all the world of what sanitation will do.

But such results only emphasize the wickedness and folly of neglected sanitary measures. I could name great cities in this country not provided with sewerage; others with bad water supply; and still others paying no attention to insanitary dwellings or overcrowded tenements, with little public sentiment demanding different conditions. Speaking of public sentiment, said Dr. Keen of Philadelphia, in a recent address, and referring to a late atrocity abroad, "The slain and the injured number nearly 1,000. But where has a voice been raised in indignant protest against the massacre of 50,000 persons in the year 1902 in the United States alone by typhoid fever, a preventable disease which ought to be stamped out were a proper water supply and proper sanitary precautions taken. Have you heard any national denunciation of the massacre last year of 150,000 persons in the United States by tuberculosis, a disease which could be reduced to a minimum by proper sanitation?" And referring to the holocaust from measles, mumps, chickenpox, scarlet fever and diphtheria, "sometimes called the usual diseases of childhood," he declared "It is a mark of low grade of civilization that any disease should be 'usual.'"

One hardly knows which to regard the more appalling, the popular ignorance of the masses or the indifference of the intelligent. Safe to say, present popular ideas of sanitary living hold about the same relation to the perfected sanitary state of the future as the sanitary condition of the middle ages holds to that of today.

Notwithstanding the foregoing statements, the work already accomplished, the influences now prevailing, give encouragement. Two forces are at work, voluntary and official. The former consists of societies, congresses, the daily press and current magazines. The voluntary or auxiliary forces are manifest in the great attention paid to engineering, the development of the sanitary expert, by the establishment of sanatoriums, the sanitary settlements in our cities, and by the sanitary efforts of labor unions. The life insurance companies are natural allies. They have a direct interest in everything that prolongs the life of the insured, and also collect vital and mortuary statistics. Popular lectures on sanitation are well attended. Certain branches of the national government, although not created in the interest of sanitation, are nevertheless most valuable auxiliaries.

Some time ago I addressed a circular letter to the proper authorities in the several States, asking information regarding their volunteer and auxiliary sanitary associations. Thirty answers were received. Time will not permit their reading, but their number and wide distribution was a pleasing surprise, showing a leaven of sentiment destined to pervade the whole body politic.

LIST.

Following is a summary in which however the names of many societies do not indicate the sanitary work in which they are actually engaged:

California.—State, County, and Municipal Sanitary Confer-

ence (meets yearly); Antituberculosis League of Southern California.

Connecticut.—Bridgeport and Danbury Civic Clubs, composed of ladies; Danbury Good Government Club; Willimantic Women's Club; City and County Health Officers hold occasional joint meetings.

District of Columbia.—Society for Prevention of Sickness; Medical Societies; Committees on Public Health of Board of Trade and Business Men's Association; Committee on Housing Conditions and Committee on Prevention of Consumption of the Associated Charities; Instructive Visiting Nurse Society, which seeks to teach proper sanitary domestic practices.

Illinois.—State Board of Health Auxiliary Sanitary Association.

Indiana.—Bloomfield Public Improvement Club; Bedford Village Improvement Society; South Bend Progress Club; Farmers' Meetings; and a great many women's clubs throughout the State interested in sanitation.

Iowa.—Organization of women to promote sanitary, civic, and esthetic improvement. Organization of mayors and municipal authorities to promote municipal interests, including sanitation.

Maryland.—Public Health Association (400 members); United Women of Maryland; Arundel Club (also women); Baltimore Reform Club; Medical and Chirurgical Faculty; Committee on Sanitation; Maryland State Tuberculosis Commission.

Massachusetts.—Association of Boards of Health, which meets quarterly and publishes a quarterly journal; Massachusetts Emergency and Hygienic Association (established 1884), composed of ladies and gentlemen, gives courses of lectures on hygiene, receives complaints of unsanitary houses, and assists occupants or owners by cooperating with Board of Health, maintains public playgrounds.

Montana.—Helena Improvement Society.

Minnesota.—State Sanitary Association.

New York.—New York Sanitary Association; Women's Municipal League; 30 different social settlements; New York Association for Improvement of Condition of the Poor; the nurses' settlement in tenement districts; County Medical Societies; Committee on Prevention of Tuberculosis of the Charity Organization of the City of New York; Rainy Day Club.

New Jersey.—The New Jersey Sanitary Association.

North Dakota.—Three county medical societies.

Ohio.—Conference of State and local Boards of Health; Ohio Society for Prevention of Tuberculosis; Municipal League.

Oregon.—Clatsop County Medical Society.

Pennsylvania.—Citizens' Health Institute of Philadelphia (founded 1893); United Charities and Town Improvement Society of Wilkesbarre; Susquehanna River Improvement Association; Associated Health Authorities and Sanitarians of Pennsylvania; The Woman's Sanitary League.

Rhode Island.—Commission to establish State Sanatorium for Tuberculosis; Newport Sanitary Association.

South Carolina.—Conference of Boards of Health; Ladies' Benevolent Society of Charleston (nearly 100 years old); Ladies' Auxiliary Leagues; Little Sisters of the Poor.

Texas.—Civic Improvement Clubs, principally of a sanitary nature.

Vermont.—Vermont Sanitary Association; Vermont Association for the Prevention of Tuberculosis.

Sanitary Laws.—Having thus briefly summarized the auxiliary forces, let us now survey the official forces in active operation. These may be classed as county, municipal, State and national. These official organizations are the creation of the laws of the land, laws passed in obedience to public sentiment. When public sentiment appears sufficiently crystallized, how then may we best prepare the laws, secure their adoption and their enforcement?

First, regarding national operations. The act of Congress, July 1, 1902, provides for an annual conference between the Public Health and Marine-Hospital Service and the State and Territorial health authorities. Our first annual conference was held last June. It was agreed that special committees should be appointed to remain in organization during the year, and to receive for consideration matters referred to them from the Service. The findings of these committees are to be reported to and passed upon by the whole conference at the annual meeting. A measure which has thus received the favorable consideration of the conference between the State and national health authorities would naturally be given a great degree of importance; and should it be deemed advisable to embody the same in form for Congressional action the Treasury Department would then pass upon the wisdom of its introduction, viewing it from an administrative standpoint, and in the light of all practical and political considerations which present themselves.

Once introduced, the sentiment to support it might be greatly enhanced through the cooperation of the American Medical Association, whose organization under able management has been so perfected that its influence, through its affiliated State medical societies, through their affiliated county medical societies, may be extended to all the members of the Association; and through them to the people and their representatives.

There exists a Legislative Committee of the American Medical Association which, like the Medicopolitical Committee of the British Medical Association, passes on proposed national health legislation.

The plan just outlined is already established, and its successful development appears more probable, in that cooperation and coordination of medical influences exist today as never before in the history of our country. Congress is always reasonable when measures offered by the medical profession give evidence of careful thought and of the support of the profession itself.

State Laws.—An equal care in preparing legislation should be exercised by the medical authorities of the States, and like influences utilized for arousing public sentiment.

The growth in number and power of our State Boards of Health has been continuous, until now there is no State or Territory without its health organization.

Yet many of our States are backward in sanitary legislation. Their responsibility with regard to municipalities should be more clearly felt. State laws can materially assist effort in the great cities toward tenement house reform and elimination of slums, as well as the establishment in the rural regions of proper sanitation. In granting charters, particularly to new cities, the State Legislature has the power to demand compliance with certain sanitary requirements. The first qualification for a new municipal or village charter should be an assurance of its proper sanitation, and the first boast of each new community should be its water supply, sewerage, and drainage; churches, school houses, and theaters may well come after.

Cities.—With our great overcrowded cities the subject is apparently more difficult, but the vigorous work of earnest men and women, assisted by good laws created through an aroused public sentiment, is demonstrating the success that may come from apparently hopeless conditions. Tenement house reform is so full of incident and interest as to require an evening for its most elementary treatment. The same may be said of the related subject, the suppression of tuberculosis. In the words of the thrice-honored Jacob A. Riis, "From alleys where the sunlight never enters comes that growing procession that fills our prisons; where the sunlight does not enter, deeds of darkness naturally belong." "The slum landlord must stop building houses that kill his tenants. Murder is murder whether it is done with an ax or a house."

Mr. Riis himself, and a hundred other writers, might be quoted in support of the direct causative relation between slums—and crime, disease, and premature death.

While each large city has its own peculiar problems, I would suggest two thoughts applicable to some, though possibly not to all. One relates to the destruction of insanitary tenements by municipal ordinance. If a landlord has erected a house in violation of the law, or if he fails to equip the house, after it is built as required by law, there is no question as to the right of the municipality to demand reconstruction or demolition. But if years ago, houses were erected, whose construction at the time did not violate the law, and now, suddenly, a municipality determines to rise to a higher plane of living,

passing ordinances which make these tenements illegal, should not the city consider its own culpability?

Another suggestion relates to the renting tenant. It is very easy to say to the poor tenant: "Depart, your place is not fit for habitation." But where shall he go? Attempts have been made, particularly by the London City Corporation and by the benevolent rich of the United States, to provide sanitary dwellings for the poor. Invariably these are promptly filled on completion, but not with the poor who have been evicted. They, in most instances, have simply moved to other slums.

In my opinion, no eviction of a tenant should be permitted until he is provided with a sanitary dwelling of equal size, and generally to make it sanitary requires *more* space.

If economically possible, his rent should not be more than the rent he has been paying for his insanitary quarters. Who is to provide the new tenement? Here is an opportunity for the really philanthropic—not to give, for alms are not desirable, but to build for investment. This may yield only a small percent, but it will surely be safe and substantial. This is not giving to the poor; it is simply lending them secured money at a low rate of interest. The good to be accomplished can scarcely be overestimated. Perhaps the poor should not depend upon the rich, and if philanthropic capitalists are not ready to invest, it may be the duty of the municipality to give encouragement to others by remission of taxes, concessions, or otherwise. Sanitary tenements are not in the interest of the very poor alone; they are in the interest of the well-to-do. The life and health of every part of a community is affected by the life and health of every other part.

I see no reason why questions of sanitation, particularly the elimination of slums, the requirement of good paving, good drainage, sewerage, light and air for all, and water supply, should not become issues in municipal politics. No more efficient way of educating the people in these matters could be devised than making them the subjects of platform oratory. What more telling speeches could be made than those appealing to the voters in behalf of their helpless children and in behalf of health-giving conditions.

Popular interest in sanitary reform might be enlisted through the agency of labor unions, which have already manifested their own interests in sanitation, and are nearer to the great voting public than any other organized bodies in cities. To awaken the interest of the poor in measures for their own betterment is preferable to seeking the aid of philanthropic millionaires. To my mind, it would not be advisable, even were it possible, to induce any multimillionaire to come into any city to eliminate its slums with his wealth. Some help would be limited to certain cities, and would simply lethargize the individuality and resourcefulness of some poor people and be offensive to others. Municipalities should depend on self-effort.

CONCLUSION.

These agencies suggested for acquiring a higher degree of sanitation, which would mean a higher plane of living, are somewhat different from those usually associated with this work. Heretofore, with the exception of governmental agencies, sanitation has been popularly considered as closely allied with the medical profession and with charity. It is true that those subjects have engaged the attention first of the medical profession, but they are in reality the concern of others as well. In calling attention to them year after year, the medical profession gives additional evidence of the unselfish character of its devotion to humanity. In the language of another, "medical men, for the good of science and a sense of civic pride, have repeatedly carried out investigations in the interest of the public health, and there has never been a time when the medical profession has not been ready and willing to render its services free of charge for the good of the public."

Were it influenced simply for personal profit it would consistently let the matter drop. The profession can continue in its treatment of scarlet and typhoid fever, mumps, tuberculosis, and the whole list of these domestic preventable diseases, and enjoy the occupation. The office of family physician is one of honor and reasonable profit, and there is, moreover, a scientific side to it which is of surpassing interest. Therefore, why seek to prevent that which gives this occupation? That no such thought has ever found lodgment in the medical profession lessens in no degree the responsibility for prevention resting upon the public, which primarily and largely benefits thereby. Nor is the work one of charity. Much of the charity of today is but the individual or corporate atonement for the lack of proper charity on the part of the community. The best charity in any community is a public spirit which will demand the enforcement of proper sanitary laws.

And then, again, I would caution you against being placed in the role of reformers. A reformer is too often one who seeks one worthy object, and would attain it at the expense of many other objects no less meritorious. Our dependence upon public sentiment, which in the main is correct, and the careful scrutiny of every proposed measure, forefend us against inconsiderate, spasmodic, or overzealous action. But we may exhort others in behalf of these measures which will insure to the rich protection from the dangers due to the conditions surrounding the very poor, and which will insure to the very poor sanitary dwellings, pure air, good water, and sunlight in abundance, the God-given blessings of the human race, which should be inalienable. There will then be an aristocracy to which all may belong; the aristocracy of sunshine.

THE WORLD'S LATEST LITERATURE

Journal of the American Medical Association.

November 21, 1903. [Vol. XLI, No. 21.]

1. The Surgical Treatment of Traumatic Hemorrhage of the Spleen. N. SENN.
2. Experiments with Rennet and Anti-Renene, JOSEPH MCFARLAND.
3. The Protoplasmic Activity of the Renal Epithelium, as Determined by the Elimination of Pigments Injected into the Circulation. WILLIAM S. CARTER.
4. The Pharmacologic Action of Drugs: Is it Determined by Chemic Structure or by Physical Characters? ARTHUR R. CUSHNY.
5. The Pharmacologic Action of Drugs: Its Relation to their Therapeutic Indications. MAURICE VEJUX-TYRODE.
6. Nonabsorbent Gauze: The Proper Material for Tamponades in Surgical and Obstetric Hemorrhages: A Preliminary Paper. RUDOLPH WIESER HOLMES.
7. Destructive Sterilization by Cataphoresis of Cancer of the Uterine Cervix. G. BETTON MASSEY.
8. Empyema of the Frontal Sinus. C. A. THIGPEN.
9. The Cultivation of Trypanosoma Brucei: A Preliminary Note. FREDERICK G. NOVY and WARD J. MCNEAL.
10. An Analysis of 1500 Cases of Tuberculosis Discharged from the Adirondack Cottage Sanitarium from Two to Eighteen Years Ago. LAWRASON BROWN.

2, 3.—See *American Medicine*, Vol. V, No. 20, p. 782.

4, 5.—See *American Medicine*, Vol. V, No. 20, p. 780.

6.—See *American Medicine*, Vol. VI, No. 1, p. 11.

7.—See *American Medicine*, Vol. VI, No. 1, p. 12.

9.—Cultivation of Trypanosoma Brucei.—F. G. Novy and W. J. McNeal report the results of their work on the parasite of nagana, comparing it with that on the rat trypanosoma, presented by them at the New Orleans meeting. *T. brucei* dies out rapidly in the cadaver. The longest any one has kept it alive *in vitro* is 6 days. The culture medium employed by the writers was nutrient sugar, containing variable amounts of defibrinated rabbit blood. In the water of condensation which accumulates *T. lewisi* grows luxuriantly, but *T. brucei* does not take readily to it. When, however, an initial culture is obtained, subsequent cultivation is easier. Only 4 cultures could be made from 50 animals. One of these was in its seventh generation at the time of writing. The cultures may be developed at room temperature or 25° or 34° C. In the first, growth is slower and life continues longer, sometimes 45 days. Fully developed and motile cultures placed at 34° C. rapidly lose their virulence and die out. While *T. lewisi* grows readily on media containing agar and blood in the proportion of 1 to 2 up to 1 to 10, *T. brucei* cannot be cultivated on less than 1 to 1. This fact differentiates them. An extremely minute amount of *T. brucei* from blood causes death, but the virulence can be altered by culture. The authors are still experimenting on immunization. *T. lewisi* has almost homogeneous contents, but *T. brucei* contains two or more bright, highly refracting globules, usually near the flagellar end. The motion of the 2 organisms is different, the former darting quickly in straight lines, the latter

having a slow, wriggling motion. The colonies of the former contain hundreds or thousands of cells, of the latter only 10 or 20, arranged somewhat like a jeweler's "sunburst." [H.M.]

10.—Fifteen Hundred Cases of Tuberculosis.—L. Brown defines what he means by the terms used for the various stages of the disease and its cure. The general summary of results is as follows: 497 (33%) are alive; 569 (38%) are dead; 434 (29%) are untraced. Of the 497 living 329 (22%) are well; 69 (4.6%) are arrested; 44 (3%) relapsed; 55 (3.7%) are chronic. If we deduct the untraced it leaves 1,066. Of these 31% are well; 6.5% arrested; 4% have relapsed; 5.2% are chronic; 53.3% are dead. Of the traced incipient cases 66% are well, 21% are dead. Of the traced advanced cases 28.6% are well; 52% are dead; of the far advanced 2.5% are well and 90% are dead. [H.M.]

Medical Record.

November 21, 1903. [Vol. 64, No. 21.]

1. Traumatic Locomotor Ataxia. ALLAN MCLANE HAMILTON.
2. Intravenous Injections of Colloidal Silver in the Treatment of Erysipelas. WARREN COLEMAN.
3. Chronic Cyanosis of the Extremities Associated with Polycythemia and Splenomegaly. JOSEPH COLLINS.
4. The Prognosis and Treatment of Chronic Deafness. PHILIP D. KERRISON.
5. Internal Administration of Ichthyol in Pulmonary Affections. MAURICE ROSENBERG.
6. An Extreme Case of Bradycardia. L. E. NORFLEET.

1.—Traumatic Locomotor Ataxia.—Allan McLane Hamilton states that there is almost unanimity of opinion that genuine tabes, that is the form with arthropathies, optical nerve atrophy, Argyll-Robertson pupil and gastric crises, cannot be of traumatic origin. Traumatic locomotor ataxia may simulate true tabes, but it never manifests all the classic symptoms of that disease. Traumatic ataxia often has a history of comparatively sudden onset and is never accompanied by true arthropathies. The examples that are apt to be met with are of 3 kinds: 1. Hysteric and neurasthenic forms—the pseudotabes of the French writers. 2. Residual cases in which, after laceration of the cord, there remains a lesion of the posterior columns. 3. Cases in which, through wrench or twisting of the body, there is tension or actual torsion of the posterior spinal nerves, traumatic neuritis with predominating sensory symptoms. 4. Cases due to initial injury with a recurrent hyperemia and pressure. While the knee-jerk may be lost in traumatic ataxia, the writer has never found the lost pupillary reflex, and in no case has he seen optic atrophy or neuritis; the gait is far more disorderly in traumatic locomotor ataxia than in that of true tabes. The author reports, in detail, 2 cases of recurrent traumatic ataxia, the predominant symptoms recurring in one the second time, making 3 attacks of the disease. Both patients, under appropriate treatment, completely recovered. [A.B.C.]

2.—Intravenous Injection of Colloidal Silver for Erysipelas.—Warren Coleman reports a series of 5 cases of erysipelas in which colloidal silver was used intravenously in doses of from 5 cc. to 10 cc. of a 1% aqueous solution, with what he assumes were beneficial results. All who have used colloidal silver in this way, agree that it is at least harmless. Formerly a chill suddenly followed the injections, but it is claimed that this does not occur with the colloidal silver as now manufactured. The fluid is placed in an Edson antitoxin syringe, with a capacity of 10 cc., all aseptic precautions being used. A large vein of the arm being distended, the syringe is held in the line of the vein, and the needle is plunged directly into the vessel, no previous incision having been made, the contents are forced into the vein, and a slight dressing is applied. The dose may be repeated as frequently as indications warrant. It is important that all air should be excluded from the syringe before the injection is made, and none of the colloidal silver should be allowed to escape into the tissues, as it produces intense pain for one or more hours. The author has used the drug in the manner described in some 20 cases of various ailments, including those of erysipelas, and is sufficiently encouraged to continue its use. [A.B.C.]

3.—Chronic Cyanosis of the Extremities Associated with Polycythemia and Splenomegaly.—Joseph Collins reports 2 cases, one of which, he says, certainly belongs to this rare affection which has been pointed out by Vaquez, Cabot, McKeen, Russell, Osler, and others, and the other probably belongs to this group. The patient, which the writer has grouped certainly with this class, was a girl of 24, a domestic, who enjoyed good health until 21. She then began to complain of pain in the left side; gradually other symptoms appeared until finally, when seen by the writer, she exhibited various symptoms, the most important of which were: 1. Pain of a neuralgic character in the left side and less often in the back of the head. 2. Vertigo, occurring paroxysmally and sensations of syncope. 3. Occasional attacks of vomiting and continuous constipation. 4. Myasthenia during the cold weather. The objective symptoms were: 1. Acrocyanosis. 2. Polycythemia. 3. Tachycardia. 4. Gigantic enlargement of the spleen. In the absence of emphysema and heart disease, this state of chronic cyanosis was quite unaccountable. Of the 13 cases so far reported, 7 were in males and 6 in females. All except the case of the girl which the writer reported were in the middle period of life—that is, if Hall's first case is not included. So far the symptom-complex is not attributable to any cause. Of the cases reported 3 have died, 1 in collapse, 1 in coma from cerebral hemorrhage, and 1 in coma of unknown dependency. The autopsies of these cases did not contribute to an interpretation of the symptoms. [A.B.C.]

4.—The Prognosis and Treatment of Chronic Deafness.—Philip D. Kerrison states that the large majority of cases of chronic deafness are of tympanic origin and may be considered under the following heads: 1. Chronic tubal. 2. Chronic hypertrophic catarrh of the middle ear. 3. Suppurative processes within the middle ear, resulting in partial or complete destruction of the drum membrane, malleus and incus. 4. Chronic hyperplastic otitis, also spoken of as "dry catarrh," or sclerosis of the middle ear. He considers these various conditions at length and in reviewing treatment his conclusions are: 1. That there are certain cases of advanced catarrhal deafness—even among those in which no evidence of serious labyrinthine involvement can be found—which do not respond to treatment. 2. That in the large majority of cases the power of audition can be distinctly improved. 3. That in the early stages of catarrhal, or tympanic, deafness the majority of cases are susceptible of practical and complete cure. 4. That in advanced stages of catarrhal deafness rational treatment often results in an improvement, which adds greatly to the patient's enjoyment of life, though the normal hearing power may never be regained. 5. That where but slight improvement of hearing is accomplished, the result of treatment is often of value to the patient in arresting a process which might otherwise lead to very marked or total deafness. [A.B.C.]

5.—Ichthyol in Pulmonary Affections.—M. Rosenberg, in treating patients on the border-line of pulmonary tuberculosis, and also those in which the lesions are not much advanced but bacilli have appeared in the sputum, has tried ichthyol with great satisfaction, and reports 5 cases cured by its use. He uses it mixed with water—never in capsules—before meals. There has been no disturbance, except a slight diarrhea, which is easily relieved, or some eructation, ceasing when the patient becomes accustomed to the drug. It increases assimilation, improves nutrition, checks waste, increases weight, and acts as a germicide. He begins with 5 grains or drops 3 times daily, increasing by 3 drops each day until 30 drops 3 times daily are reached. [H.M.]

6.—Bradycardia.—L. E. Norfleet reports a case in which the patient had noticed for over a year his pulse was seldom over 45 and intermitted. When first seen after a fainting fit it was only 30, soft and flowing, and could scarcely be counted. Two days later, after a convulsion, it was found to be strong but beating in a most peculiar manner. For 10 seconds it would beat 5 times, then stop for 20 seconds, then there would be 3 or 4 beats scattered about in the last 30 seconds. During the convulsive attacks, which affected only the head and neck, lasting from ½ to ⅔ of a minute, the pulse ceased and the heart could not be felt or heard to beat. It is remarkable that any one should live and remain cool and conscious on an intermitting pulse of 8 or 9 per minute for 24 hours. Alcohol, belladonna, and strophanthus proved to be injurious. Morphin and nitroglycerin caused marked improvement by determining the blood to the brain, the convulsions and irregular heart action

seeming to be due to a species of epilepsy from anemia of that organ. [H.M.]

New York Medical Journal.

November 14, 1903. [Vol. LXXVIII, No. 20.]

1. Urinary Hyperacidity. THOMAS R. BROWN.
2. A Plea for the More Frequent Use of Antitoxin. C. F. WELDEN.
3. Acute Intestinal Obstruction and Necrosis of the Bowel Caused by a Gallstone. F. L STRAUSS.
4. The Fable of the Egg. WILLIAM S. ELY.
5. Prostatic Hypertrophy and Similar Conditions. WILLIAM B. JONES.
6. A Case of Rupture of Quadriceps Extensor Femoris Muscle. A. J. RONGINSKY.
7. The Operative Treatment of Chronic Bright's Disease: A Second Communication, Based on Reports of 120 Cases. RAMON GUITERAS. (Concluded.)

1.—Urinary Hyperacidity.—T. R. Brown again calls attention to this condition. Within the past two years he has met with 10 or more cases in which the chief complaint was frequent, painful, burning micturition, where a careful urinary examination demonstrated that the bladder was not infected, but that the cause of the symptoms lay in a marked hyperacidity of the urine. All these cases were in neurasthenics with one exception, this last being also the only man of the series. He believes that this condition is by no means rare and that it is frequently mistaken for cystitis. In such cases the most deplorable results follow where irrigations and topical applications are advised, unless the technic is absolutely perfect, and under any circumstances, he says, such treatment is absolutely wrong and unnecessary in this condition, and never does good. The cases most difficult to cure are those in which there is considerable irritation of the trigonum, due to the presence of marked symptoms over a long period of time. Beside keeping the urine bland and nonirritating and general hygienic treatment, local treatment under the strictest aseptic precautions may be necessary in some cases. [C.A.O.]

2.—A plea for the more frequent use of antitoxin is made by C. F. Welden. He believes that by giving 2,000 units every 3 hours we are able to keep the activity of the organisms under control, and more easily and permanently to saturate the system in a shorter time. He thinks the use of this method will serve to lessen the quantity of antitoxin used, the length of the disease, and the time the alarming symptoms remain, as well as to have a mortality rate not exceeding 2%. One case is reported. [C.A.O.]

4.—The Fable of the Egg.—W. S. Ely urges the free use of eggs as food in selected cases of acute and chronic disease. He says beside milk and beef juice, he has frequently prescribed a raw egg an hour in serious conditions of nervous exhaustion; and in the progress of pneumonia, diphtheria, and fevers marked by high temperature and rapid waste. This number is at times well borne, and has often lessened the necessity for alcoholic stimulants. In every instance they were used for their supporting and restorative influence. Several cases are reported in which the results are very satisfactory. [C.A.O.]

5.—Prostatic Hypertrophy.—W. B. Jones advises the operation of perineal prostatectomy for this condition and gives the technic in detail. He says that this operation can now be done in a few minutes, in less time than any other operation, with loss of no blood that need be considered and without shock. When finished the patient has had the prostate almost entirely removed, or, if preferable, the operation can be modified to any extent, taking as much or little as is required and taking or leaving any part. If only a small pedunculated middle lobe is in the way it can be removed without disturbing the gland at all. Urethral stricture in any situation can be cured at the same time and vesical calculi or tumor can be removed. During convalescence there is continuous drainage of the bladder from its most dependent portion, the best possible cure for cystitis, and the greatest contrast to all the other operations which leave the condition within the bladder temporarily aggravated, and with poor drainage or none. Perineal drainage is so surely a cure for cystitis that, in these cases, the worse the cystitis, the more need of perineal incision and the more haste about getting it done. That, if anything, will stop the extension of the process into the kidneys, and even after it has reached them it will help the patient. He says it enables the surgeon to cure every complication that is amenable to treatment, and is the only operation that does. [C.A.O.]

6.—A case of rupture of the quadriceps extensor femoris muscle is reported by A. J. Ronginsky in a man of 58. The lower end of the muscle was at a point about 3 inches above the knee-joint; the patella was in front of the tibia below the tuberosity. A marked depression existed between the bones. [C.A.O.]

7.—See *American Medicine*, Vol. V, No. 22, p. 854.

Medical News.

November 21, 1903. [Vol. 83, No. 21.]

1. Experiments to Determine the Value of Formalin in Infected Wounds of the Eye. J. H. CLAIBORNE and EDWARD B. COBURN.
2. "The Heart Cure": Its Terminology, Purposes, and Achievements, Including the Etiology of Fatty Degeneration. HOMER WAKEFIELD.
3. The Relation of Mild Types of Diphtheria to the Public Health. THOMAS W. SALMON.
4. Chronic Villous Arthritis, with Special Reference to Its Etiology and Pathology. (Continued.) CHARLES F. PAINTER and WILLIAM G. ERVING.
5. Eclampsia Hemorrhagica: Report of a Case. RALPH WALDO LOBENSTINE.
6. Who May Benefit by Altitude Treatment? J. N. HALL.

1.—Formalin in Infected Wounds of the Eye.—J. H. Claiborne and E. B. Coburn detail a number of experiments with formalin in streptococcus infection of the ciliary region and vitreous chamber in rabbits, and reach the following conclusions: Formalin, 1–500, may be injected into the vitreous with only momentary disturbance of the eye. Three minims of a turbid solution of streptococci in the vitreous will cause panophthalmitis. The same result is produced by penetrating wounds in the vitreous with infected instruments. Infections of the vitreous and ciliary region do not necessarily destroy the eye. At times recovery is spontaneous. Formalin, 1–1,000, when injected in the vitreous has no influence on streptococcus infection. The results reached warrant the treatment of beginning infections by injections into Tenon's capsule of 1–1,000, or even 500 formalin solution. [H.M.]

2.—"The Heart Cure."—H. Wakefield discusses the tissue changes occurring as the result of stasis of katabolic oxidation and the presence of a continuous anabolism. The collagen of the cells is first set free during the general protoplasmic gelatinization (which characterizes its structural dissolution), part of which exudes and part combines with the protoplasm, the ultimate change being a fatty or putrefactive one, or a combination of the two. Many toxins are formed by this metamorphosis. Fatty degenerations are invariably the consequence of suboxidation, whether in living tissue, dead and decayed flesh, or in the ripening of cheese. Hypercombustion as in the hyperpyrexias deprives the tissues of sufficient oxygen causing the fatty degeneration of high fever. Both active katabolism, as in normal muscular activity, and passive katabolism, as in diabetes, may be attended by an increased output of urea. In the advanced stages of the latter the cells are broken down so rapidly, both nitrogenous and carbon elements are eliminated together. The fatty degeneration is an intermediate stage. Oostruction of the coronary arteries causes fatty heart, but suboxidation from overwork and fatigue is a more prolific source. The writer while temporarily stimulating the heart in advanced cases, restores oxidations by inhalations of nascent oxygen made fresh several times daily. If this is not sufficient he gives iron with enemas of sodium bicarbonate, and if the condition is low, peroxid of hydrogen fl3i, every 3 hours until the urine increases. After the patient sits up frictional brushings and massage are given, then foot baths, followed later by the full bath with carbonic acid or what is as good, capsicum, mustard, ginger or pine needles. Ergot and adrenalin restore relaxed tissues, but the latter should be administered by the physician only. Doping with alcohol should be discouraged. [H.M.]

3.—Mild Diphtheria and the Public Health.—T. W. Salmon notes that during epidemics of diphtheria there is usually an increase in the prevalence of simple sore throats. These, though not clinically diphtheria, are of essentially the same nature, and may cause diphtheria in a susceptible person. Physicians and nurses are particularly likely to have these

throats. Such persons are a common cause of the spread of the disease. Relatively, insusceptible persons may become infected with virulent bacilli, and susceptible persons may become infected with feebly virulent bacilli. In both the resulting condition is simple sore throat. "Catarrhal diphtheria" is as good as any name for this condition. The diagnosis depends entirely on bacteriologic examinations. In the Willard State Hospital, out of 2,700 patients, 19 such contagious cases have been found. The affection should be included under notifiable diseases, and the same regulations as those for diphtheria should be extended to it. [H.M.]

5.—Eclampsia Hemorrhagica.—R. W. Lobenstine reports a case of eclampsia of interest because of uncertain etiology, severity and rarity of the type. The patient, a nullipara, aged 22, 6½ months pregnant, had excellent health until 3 days before admission to hospital. She had a severe convulsion 3 hours after admission. Labor was then induced by means of the Voorhees bag followed by accouchement forcé. There were no more convulsions but the following day nausea and vomiting set in. This continued daily for a week; some days the vomiting of a dark brown fluid was very frequent with occasional expectoration of blood. The treatment for the general toxemic condition was hydrotherapy and stimulation; for the hemorrhage, suprarenal extract. At the end of a week she began to improve and tonics were used during the convalescence and she left the hospital in fair condition. In this case we have an eclamptic with only 1 convulsion, but with hemorrage into the skin, pharynx, stomach, liver and intestine, accompanied with jaundice. [W.K.]

6.—Who May Benefit by Altitude Treatment?—J. N. Hall finds that a large percentage of physicians recover from tuberculosis in Colorado because they fall early into expert hands and are sent away on first suspicion. If all patients were sent on the appearance of a few crackles in one apex, without waiting for dulness or a positive bacillary examination, there would be 90% of recoveries. Fibroid cases rarely attain the complete arrest so often seen in early catarrhal cases. The type seen in young adults, with moderate loss of weight, normal temperature, little or no dulness, but a constant cough, abundant bacilli, great dyspnea, and lungs bristling with fine, moist rales, lasts much longer than in lower regions. After pleurisy with effusion the crippled lung expands much more in the rarer atmosphere, and tuberculosis is rendered less likely. Glandular tuberculosis progresses more favorably than at sea-level. Asthma is often permanently relieved on account of the purity of the atmosphere, and in spite of the altitude. Malaria and the anemias benefit rapidly, also some cases of hay-fever, although in other instances the affection develops from the cottonwood tree and alfalfa. There seems to be no difference in behavior in cardiac disease from that at the sea-level. [H.M.]

CLINICAL MEDICINE

DAVID RIESMAN A. O. J. KELLY

REVIEW OF LITERATURE

Unusual Case of Acute Yellow Atrophy.—L. Adler[1] reports a case in which icterus with gastrointestinal catarrhal symptoms appeared in a girl of 18. The icterus and other symptoms underwent a remission, but finally returned with increased severity, and led to death. Histologically the liver showed the typical picture of acute yellow atrophy, together with evidences of regeneration, shown by the formation of young biliary passages, and an increase in connective tissue. The original parenchyma, together with the liver cells which were probably formed in the beginning of the illness, were all destroyed. The regenerative processes no doubt took place during the remission in the illness. [B.K.]

Influence of Hospitals for Contagious Diseases.—F. Farnarier[2] has made an elaborate study of the deaths in Paris due to certain of the contagious diseases, with special reference to the effect upon the people in the vicinity of hospitals treating such cases. The diseases investigated were measles, scarlatina, whoopingcough, and diphtheria, and particular attention was given to 2 hospitals in populous wards—the hospital of Enfants-Malades and the hospital Trousseau. As the result of this study, Farnarier states that diphtheria undeniably, and scarlatina probably, radiates from the hospitals where are kept patients suffering from those diseases. The increased deathrate in these wards comes from the immediate vicinity of the hospitals. The propriety of removing such hospitals to suburban districts is negated, as it is believed that modern hygienic methods are capable of preventing the spread of infection from them. Among these methods are the use of small isolated pavilions surrounded by trees, and the enclosure of a large "dead space" by the wall around the entire institution. [A.G.E.]

Analysis of Smoke from Drugs used in Asthma.—F. Netolitzky[1] examined the smoke from belladonna, hyoscyamus niger, datura stramonium, lobelia, inflata. The smoke from the dried leaves was drawn by a suction pump through a system of vessels. One hundred grams of the dried leaves of belladonna were smoked in a pipe during a period of 5 days. The contents of the vessels were acidulated frequently with HCl, and at the end of 5 days were added together, agitated with ether, rendered alkaline with ammonia, treated again with ether, and then evaporated. The smallest drop of a watery solution affected the eyes of dogs and cats in the characteristic manner. In spite of the fact that 200 grams of the leaves of hyoscyamus niger were used, only traces of a mydriatic substance were obtained. Two hundred grams of datura stramonium were burned in the pipe. A small drop of an aqueous solution of the residue obtained by a somewhat similar procedure as the above, produced dilation of the pupil in dogs, which lasted for an hour. Experiments were also made to test the amount of atropia found in stramonium cigarets. In experimenting with lobelia inflata, 5 grams of this drug were burned in a porcelain vessel beneath a glass cover enclosing also a frog. Incoordination and disorder of the voluntary movements with increased reflex irritability, and finally complete paralysis were observed. An increase in the respiratory movement was not observed. The smoke from stramonium cigarets directed in a thin stream into the eye of a kitten caused contraction of the pupil. [J.H.W.R.]

An Epidemic of Typhoid Fever Caused by Milk.—K. E. Linden,[2] of Helsingfors, reports an epidemic of typhoid fever that affected 6 families. There were 13 cases of the disease in these families between September 19 and October 29. In addition to the typhoid fever cases, other members of these families and of three others that had received their milk supply from the same source, suffered with severe diarrhea. Two other families that used the same milk, but were in the habit of boiling it, did not have either typhoid fever or enteritis. After a thorough investigation, Linden came to the conclusion that the only possible source of infection was the water used for cleansing the cows. For this purpose it was the custom to use rain-water that had been collected in a reservoir near the stable. The ground near the reservoir was contaminated with the discharges of the animals and with other filth, and when it rained a good deal of this material was washed into the water. There had been no case of typhoid fever on the farm, but one of the women that helped in milking and caring for the cows had had a protracted diarrhea. From the water the author succeeded in isolating a typical colony of typhoid bacilli. In addition to this, he found many typhoid-like organisms. [D.R.]

Multiple Inflammation of the Joints in Childhood.—M. Reiner[3] reports 3 cases which are of interest as showing 3 different types of chronic joint inflammation in the same individuals. These types are: (1) Chronic fibrinous articular rheumatism; (2) a form of arthritis deformans; and (3) a form of arthritis nodosa. These processes commenced in early childhood, and resulted in skeletal changes, consisting of (1) advanced concentric atrophy of the long bones; and (2) evident division of the epiphyses of the short medullated bones into several parts. The various types of joint inflammation must be con-

[1] Zeit. f. Heilkunde, 1903, Bd. xxiv, Heft vii, Abth. f. Path., Heft iii.
[2] La Semaine Médicale, August 19, 1903.

[1] Wien. klin. Woch., 1903, p. 583, No. 20.
[2] Finska läkaresällskapets Handlingar, July 3, 1903.
[3] Zeitschrift für Heilkunde, 1903, Bd., xxiv, Heft vi., Abth. für Chirurg. Heft ii, p. 157.

sidered as arising from a common cause, which is still unknown. The consequent skeletal changes are probably due to a combination of atrophy from disuse and socalled reflex atrophy. [B.K.]

The Prognosis of Cardiac Arythmia.—E. Rehfish[1] says: If the excitability, which begins automatically near the sinus venosus, is increased, extra systoles are produced, and by noting the length of the pause between beats we are able to tell whether the extra systole is produced at the sinus venosus, at the atrium, or in the ventricle. The prognosis of this form of arythmia depends upon the cause of the increased excitability. The extra systole appears only when there is a misproportion between the strength of the heart and the work required from it. The causes of this form of arythmia are acute fevers, arteriosclerosis, heart disease, and nervousness. Arythmia due to disturbed conductivity is due to disease of the muscle fibers connecting the atrium with the ventricle, the block fibers. Physiologically, their conducting power is poorer, as they retain their embryonal character to a greater extent. They are also the ones to degenerate first and may check the impulse of the heart-beat completely, producing the socalled "block heart." This variety is easily distinguished. The interval between 2 pulse-beats, between which one pulse-beat has been lost, is always less than 2 pulse periods, and the period following this interval is always longer than the next one. This variety of arythmia occurs in grave cases of cardiac disease and during grave infections. While present it is a grave prognostic sign. The third cause—interference with contraction—is characterized by pulse-beats getting gradually shorter until a pulse is dropped, when they again start their cycle. This is the pulsus myurus. The pulsus alternans—strong contractions alternating with weak—is rare. Both varieties present a very grave prognosis, being produced by grave cases of myocarditis and endocarditis. [E.L.]

Relation of Tuberculosis in Children to Bovine Tuberculosis.—In a paper read before the British Medical Association, N. Raw,[2] agrees with Koch's statement that human and bovine tuberculosis are separate diseases, but disagrees with the opinion that bovine tuberculosis cannot be transmitted to man. Raw believes that man is attacked by 2 distinct varieties, the human and the bovine. The former occurs in young adult life, and is essentially confined to the lungs. The latter occurs in children, is conveyed by milk, and exhibits itself as intestinal tuberculosis, scrofulous glands of the neck, tabes mesenterica, and other tuberculous affections of the serous membranes. Clinically the 2 forms appear to be antagonistic, as they rarely occur together. In the discussion on the subject it was brought out by Reid that tuberculosis in children is comparatively rare in India, where the natives make a habit of boiling their milk, and where beef is rarely used as a food. This seems to support Raw's contention. [B.K.]

Serum Treatment of Scarlet Fever.—T. Escherich[3] reports the effect of this form of treatment in 112 cases treated at the St. Anna-Kinderspital. It is in the very severe cases that full doses and early injections are especially indicated and they have a decided effect upon the symptoms. After 4 to 12 hours the temperature falls, the pulse and respiration are slowed, the blood-pressure is lowered, and the exanthem fades. Somnolence and delirium are strikingly improved. The maximum effect of the serum is reached in 18 to 30 hours after the injection. The temperature remains normal in favorable cases, and the eruption disappears on the following day. In less favorable cases there may be some slight rise in temperature of short duration. The necrosis of the pharynx and the swelling of the lymph glands were not influenced. In complications such as otitis, suppurative lymphadenitis, endocarditis, etc., the injection is without value. Nephritis in the cases injected early was only moderate in grade. These results were not due to the effect of normal horse serum, or to the antistreptococcus serum, as was demonstrated by control injections. There was no death among those who received the injections on the first and second days. In 27 injections on the third day the mortality was 7.4%, in 23 injected on the fourth day it was 17.4%, in 20 injected on the fifth day it was 30%, and with the remaining cases the mortality ranged from 33% to 50%. [J.H.W.R.]

Etiology and Specific Therapy of Hay-fever.—Dunbar[1] reviews the history of hay-fever, refers to its prevalence and gives the characteristic symptoms. He at one time considered this disease to be of mycotic origin, a view which he now believes to be incorrect. His observations show that hay-fever is not contagious, and, that apart from the pollen of plants, he found that susceptibility is an essential etiologic factor. He collected, in sterile vessels, the pollen of plants, microscopic examination of which showed the absence of microorganisms. He then placed some of this dust on the conjunctiva and the mucous membrane of the nose. This was soon followed by itching, burning sensation, capillary distension, swelling and hypersecretion. When applied to the mucous membranes of persons not susceptible to hay-fever, these results were not obtained. He preserved this dust and was able to obtain the same results at all seasons of the year. He also tried the test with patients suffering with nervous coryza, but failed to get any response except in those who also suffered from hay-fever. This with other clinical observations leads him to conclude that hay-fever could in no way be considered a nervous coryza. The fact that this disease always occurs at a specified time of the year and almost invariably beginning on a definite day distinguishes it from all other forms of coryza and, as he believes, proves that hay-fever is not of neurotic origin. Dunbar gives in detail his experiments by means of which he was able to determine that the pollen of plants was not irritative in a mechanical sense, but because it contains a toxin, albuminoid in nature. Pollen also contains other substances which possess the properties of enzymes, which however does not excite the characteristic symptoms of hay-fever when applied to the mucous membranes. By inoculating the lower animals Dunbar succeeded in obtaining a serum which neutralizes the toxin. This antitoxin, when applied locally, will prevent the symptoms which follow the instillation of the toxin in the eyes of susceptible persons. The amount of serum required depends directly upon the time allowed to elapse since the toxin was injected. The author's investigations have been purely experimental, but he hopes soon to perfect a serum which will prevent hay-fever. [W.E.R.]

Stokes-Adams' Syndrome.—In this paper William Osler[2] gives a review of this symptom-complex. It is characterized by (1) true bradycardia, hemisystole and allorhythmia; (2) nervous symptoms—vertigo, syncope, epileptiform attacks, etc.; and (3) secondary symptoms—Cheyne-Stokes' breathing, cardiac asthma, angina pectoris, and the vasomotor accompaniment of profound heart shock. Slow pulse may be encountered in a variety of conditions—physiologic, neurotic, toxic, and cardiac. The Stokes-Adams' syndrome may occur in 3 varieties of cases—postfebrile, neurotic, and arteriosclerotic. It occurs not infrequently in old men, and may be found in a milder form in young men. Osler reports and analyzes the symptoms of his own cases, 12 in number. He is of the opinion that the pathology is still unknown. The prognosis is bad. Treatment can only be directed to the arteriosclerosis and various other symptoms. [B.K.]

Hemisystole.—E. v. Leyden[3] quotes a case which he reported in 1868, and in which the left ventricle contracted first without any perceptible participation of the right, and then the right without any participation of the left. Since then he has been able to observe only 2 similar cases. In spite of the many disputations concerning the occurrence of hemisystole, he holds to his opinion, explaining this difference of opinion with the rarity of its occurrence. It is probably only produced by large doses of digitalis, to which the right ventricle reacts much slower than the left. Openchowski's experiments demonstrate that the right ventricle is almost immune to digitalis, and its beats are not influenced by its injections. This also explains why in mitral stenosis with a dilated right ventricle, digitalis is of so little use. [E.L.]

[1] Deutsche medicinische Wochenschrift, May 14 and 21, 1903.
[2] British Medical Journal, August 29, 1903.
[3] Wien. klin. Woch., 1903, No. 23, p. 663.

[1] Berliner klinische Wochenschrift, June 15, 22 and 29, 1903.
[2] Lancet, August 22, 1903.
[3] Deutsche medicinische Wochenschrift, May 21, 1903.

GENERAL SURGERY

MARTIN B. TINKER

A. B. CRAIG C. A. ORR

EDITORIAL COMMENT

A contrast of the modern and the old surgery will show as great advances both in scientific and practical features of the work as has been made in any of the other numerous paths of human efforts in which there has been such active progress of recent years. Within that time the great discoveries of anesthesia and antisepsis have been developed and put in use in such a way as to make possible all the operations of abdominal and brain surgery, as well as making successful nearly all forms of intervention which previously were either impracticable or extremely dangerous. In an address at the memorial meeting to Dr. John Homans, of Boston, E. H. Bradford [1] referred to the development of surgery during the time of Dr. Homans' practice, and the part which he had in the development of abdominal surgery. A few paragraphs of his address bring to us vividly the condition in those earlier times: "Time has done honor to the bold efforts of the pioneers in abdominal surgery and their successes, and it has laid the hand of oblivion on the ghastly failures of many early and injudicious followers in the movement. If the truth were told it would not seem strange that the conservative surgeons of the preantiseptic days hesitated in giving their sanction of approval to the rashness which was usually death dealing. Owing to conservative traditions, Homans was not cast out among the barbarians in surgery, who injured their calling by recklessness, and who seemed to calmer members of the profession surgical buccaneers without skilled training, licensed thugs, cajoling the public and boasting of their few successes, oblivious of their many failures. Fortunately this feature of surgical practice is now forgotten, only a few remembering its menace to the credit of our profession. It is to the lasting credit of Dr. John Homans, that while he was foremost in the movement which advanced surgery, he avoided rash excess of operative zeal, and learned and taught the lesson of careful preparation and thoughtful undertaking. At that time a surgical procedure was a personal feat; the surgeon, like a toreador, matched his courage, energy, and dexterity in an event. It was largely an attempt of the amphitheater in the mind of the surgeon, even if the spectators were few." Dr. Homans lived to see surgery developed into a science, careful, painstaking, often wearisome to the spectators, rarely spectacular, as beneficial as it is laborious. Even at present the importance of careful preparation for a surgical career is often underestimated. Too many take up surgical work without anything more than a year or two of general hospital experience, and gain most their surgical experience at the expense of their patients. The careful, painstaking, modern surgery at its best is not generally enough accepted; too many give undue importance to speed in operating and not enough to care in antisepsis, which should in every way equal the painstaking work of the bacteriologic laboratory; to careful, clean work, dissections rather than rough separating bruising of tissues; to care in saving blood, that most valuable, vital fluid, even at the expense of a little extra time. We might each one of us ask ourselves with profit, in how far we are following the old, theatrical method of operating, inherited from our surgical ancestors for so many generations, and in how far the more truly modern, scientific, life-saving surgery.

REVIEW OF LITERATURE

End-to-end Anastomosis of the Popliteal Artery for Gunshot Injury.—A. H. Ferguson [2] reports that a man of 38 received a gunshot wound which injured the right popliteal artery. There was no great loss of blood at the time, the limb became swollen, there was pallor of the foot, the superficial veins were engorged, and there was loss of sensation and function. There was diffuse pulsation of the popliteal space, which could be seen and felt, and systolic bruit and thrill could be made out, shock being marked. An elastic tourniquet was placed about the thigh and incision made over the popliteal artery. A large quantity of coagulated blood was removed from the popliteal space, which was thoroughly washed out. A flattened bullet of lead was found immediately upon the injured artery, the artery was severed at the junction of the middle and upper third with the exception of a few shreds of the outer coat next to the veins. Strips of iodoform gauze were tied around the artery above and below the injury. The lacerated ends to the extent of an inch altogether were removed. The upper end was introduced into the lower a distance of a quarter of an inch, and held there by 4 retention sutures of fine silk, and the free edge of the lower end sewed around the upper with a fine continuous suture of the same material. The gauze ligatures were then removed, pulsation was at once restored at the ankle, the pallor of the foot disappeared and it became warm. A broad flap over an inch wide, from the semimembranous muscle, was wrapped around the artery at the seat of union. A large dressing was applied, and the limb fixed at an obtuse angle with plaster bandage and the foot left exposed. Reaction was good. Forty-one hours after the operation a sudden sharp pain was felt in the calf, the foot suddenly became pale and sensation disappeared. Pulsation of the anterior tibial artery ceased. In spite of vigorous treatment gangrene set in, and finally the foot was removed at the mediotarsal joint. Six months after the first operation a subsequent operation was done to remove the scar tissue resulting from the first operation, and which prevented extension of the leg, and the artery was investigated. Pulsation was felt above and below the seat of anastomosis. Explanation of the gangrene is not given. [A.B.C.]

Spinal Paralysis Caused by a Chondrosarcoma.—J. Israel [1] reports a case of a newgrowth of the spine. The patient, a woman of 39, had suffered for 1½ years with continuous pain in the upper right abdominal region, which at times increased in severity and then extended to the angle of the right scapula. The right, and later the left leg became weak. Paresthesia existed, with a feeling as if cold water were being poured over the leg. Three months later both legs became paralyzed and there was difficulty in urination. Other muscles of the body finally became paralyzed. Sensation was lost below the costal cartilages; the patellar reflex was accentuated, ankle clonus present and Babinski's reflex positive. No degenerative atrophy of the muscles existed; the vertebras appeared normal and gave no pain on pressure. The right kidney was enlarged; the urine contained a few hyaline casts and leukocytes. The diagnosis was, the presence of an extramedullary disease upon the right side, causing pressure upon the cord. Syphilis, tuberculosis and spondylitis were excluded. At operation the cord was unchanged; an elastic mass, 3 cm. long, completely covering the cord, was found extending from the lower to the upper end of the right half of the sixth dorsal vertebra. The tumor with the diseased bone was removed, and in doing so the pleura was accidentally opened and the dura of the cord torn. The latter was repaired and the pleural opening packed with gauze. The wound healed by first intention. The gauze was removed on the eighth day. On the nineteenth day the toes of both sides could be moved; on the thirtieth day both motion and sensation were restored in the legs. At present the patient has nearly regained her health. As all of the diseased bone could not be removed, Israel believes the condition may recur. [W.E.R.]

Hepatic Syphilis from a Surgical Standpoint.—C. G. Cumston [2] reports 3 cases of hepatic syphilis. He says that gumma of the liver produces the same symptoms as do other neoplasms of this viscus, both functional and physical. He gives a general review of the symptoms in these cases, and

[1] Boston Medical and Surgical Journal, 1903, Vol. cxlix, p. 397.
[2] Annals of Surgery, May, 1903.

[1] Berliner klinische Wochenschrift, June 1, 1903.
[2] Annals of Surgery, May, 1903.

states that a diagnosis of gummas of the liver is always a matter of extreme difficulty. There are so many other diseases of this organ which may be mistaken for this condition, such as malignant growth, tuberculosis, hydatid cysts, etc. The only means of absolute value in helping one to assume the diagnosis of gummas of the liver is a previous history of syphilis in the patient, either acquired or inherited. The last case which the writer reports was a man of 49, who had led a dissipated life, but denied specific infection. For the past year he had been loosing weight, and he noticed a fulness in the upper part of his abdomen, this fulness became more marked, and slight nausea, anorexia, and eructations developed. Percussion showed that the liver-dulness extended to about 3 fingers' breadth below the costal border, and an ill-defined mass could be made out in this region. The mass appeared to be connected with the liver, but was freely movable. Operation was performed, and it was found that the tumor sprang from the under surface of the left lobe of the liver, and was connected with the organ by only a pedicle. It was removed, and microscopic examination showed it to be a gumma. [A.B.C.]

Symptoms and Diagnosis of Stone in the Kidney.—R. C. Lucas,[1] in the Hunterian lecture, calls attention to the fact that pain may be absent, as it depends upon the position and mobility of the stone. If firmly fixed in the fleshy part of the organ there may not be any whatever. The pelvis and its branches are acutely sensitive. Pain to be diagnostic must be unilateral. Sometimes with stone in only one kidney there is general backache. Lucas believes the pain radiates downward and forward along the last dorsal nerve. Transference along the iliohypogastric or ilioinguinal would bring it lower. Colic occurs from a movable stone dropping like a ball-valve over the outlet, striking the most sensitive part, causing also distention and pressure, and a uremic condition which favors vomiting. Pain may be reflected to the thigh, knees, hip, ankle, and foot, along branches of the anterior crural and great sciatic nerves of the same side. Tenderness over the kidney is a sign of value. Pain is increased by jolting. The writer has invented a stamping test. In raising the thigh as high as possible and suddenly bringing down the foot, acute pain is caused. Pelvic clots sometimes bear the imprint of a stone. Hematuria due to calculus is almost invariably excited or increased by exercise. If micturition is frequent the stone is not in the secreting structure, but probably in the pelvis or upper ureter. Retraction of the testis is a more important sign in children than in adults. Total suppression of urine should suggest obstruction of the outlet in the only remaining kidney. Conditions liable to be mistaken for stone are: Tuberculous disease, movable kidney, lithiasis and oxaluria, acute nephritis, villous and malignant growths, biliary colic, carious spine, and colic of the appendix. [H.M.]

Wandering Liver.—N. Ssaweljew [2] says in the 23 cases collected by Böttischer 21 were women, only 4 of which had not been pregnant. Both of his cases were women. The cause of hepatoptosis, as gathered from literature, is nearly always due to diminished intraabdominal pressure; pregnancy is responsible in the majority of instances, but removal of a large intraabdominal tumor, ascites, rapid loss of fat in the corpulent, also play an important role. He says tight lacing and corsets cannot be looked upon as a cause. Wandering liver is differentiated from "lacing liver" by the fact that the lower margin of lower lobe of the right lung and the upper margin of the liver are not changed in the latter; from gallstones by the absence of colicky pains, clay colored stools, absence of gallstones in the stools; from ovarian tumor by its lessened mobility; from wandering kidney by its size, shape, and palpation according to the method of Glénard. Treatment consists of replacing and retaining in position. He advises electricity and cold douches to the abdominal wall, also the wearing of an elastic flannel band so applied that the force exerted retains the liver in place. When excessive mobility prevents replacement of the liver, when the condition produces disturbances in neighboring organs, and when mechanical means fail to relieve the condition, he recommends operation. [A.B.C.]

[1] Medical Press and Circular, April 29, 1903.
[2] Arch. für klin. Chir., Heft 3, Bd. lxx, 1903.

TREATMENT

SOLOMON SOLIS COHEN
H. C. WOOD, JR. L. F. APPLEMAN

EDITORIAL COMMENT

The Therapeutic Uses of Hyoscin.—Of pharmacologic disputes there is, perhaps, none which has led to more confusion than that over the solanaceous alkaloids. One of the unfortunate results of this disagreement among scientists has been that a really useful drug has been too little employed. Alarmed by the statement that the hyoscin of commerce is in reality scopolamin, many physicians have largely ceased to use the drug on the ground that they do not want to give their patients an article that they know is impure. This neglect of the remedy means the loss of a valuable addition to our agents for the relief of suffering. Whether we adopt the German view and consider hyoscin and scopolamin identical or still insist on their separate identities, acknowledging, as we must do, however, that the hyoscin of commerce is in reality scopolamin, the fact remains that in the drug known as hyoscin, be it what it may, we have a useful therapeutic agent. Kochmann,[1] in an interesting review of the advantages and drawbacks of scopolamin, points out that although in cases of idiosyncrasies hyoscin may cause alarming symptoms, not a single fatal result undoubtedly due to its use has ever been reported. In its physiologic action this alkaloid resembles atropin, but differs in not having any effect on the circulation, and in its peculiar sedative effect on the higher nerve centers. In various forms of insanity, especially of a maniacal type, it is perhaps the most valuable somnifacient we possess, not only on account of its power to allay the excitement, but also because it can be administered hypodermically. Its repeated use, however, causes frequently loss of appetite, attributable to difficulty in swallowing. It is also an extremely important remedy for the relief of paralysis agitans. In other nervous affections, save for its hypnotic action, Kochmann does not believe it of much value. We have, however, frequently found it useful in various forms of sexual excitement. J. M. Taylor finds it valuable in exophthalmic goiter. By virtue of its action on involuntary muscle, like atropin, it is often of service in asthma and intestinal colic. Although Kochmann considers ileus a condition for operation rather than medical treatment, a number of authors have recently reported good results in this condition from large doses of atropin; for this purpose scopolamin should be equally useful. As a mydriatic it has been quite extensively employed. Its action here is more prompt and less lasting than that of atropin. Kochmann makes the statement that the intraocular pressure is not increased by scopolamin despite the widening of the pupil. Besides these uses Picardt[2] has found it of value in cases of gastric hypersecretion. In his experience it is preferable to atropin in this condition as less likely to cause unpleasant secondary symptoms.

REVIEW OF LITERATURE

Treatment of Aneurysm by Subcutaneous Injection of Gelatin.—Guthrie Rankin[3] holds there is evidence to prove that the beneficial effects resulting from this treatment are due to increased coagulability of the blood. In 4 cases treated by Rankin 100 cc. (3½ oz.) of a 2% solution of gelatin was injected at each sitting, and the average number of injections was 17. The inner aspect of the thigh was the site chosen for injecting. The best results are obtained by rest in bed, restricted diet, and potassium iodid internally, combined with the use of the gelatin. Three of the patients showed aneurysm of the thoracic type, and one was abdominal. All four showed more or less

[1] Therap. der Gegenwart, 1903, v, 202.
[2] Therap. der Gegenwart, 1903, v, 286.
[3] The Lancet, July 11, 1903.

improvement. Rankin's conclusions are: (1) Gelatin injections given with proper precautions are safe; (2) they produced in his patients alleviation of all subjective, and many objective symptoms; (3) the relief of symptoms is probably explained by the shrinkage of the aneurysmal sac and consequent diminution of pressure on the surrounding parts; (4) such diminution could be demonstrated in 3 out of the 4 cases treated; (5) the after-histories afforded evidence of the permanent nature of the beneficial effects of the treatment. [A.B.C]

Pneumotherapy in Emphysema.—Tissier says that most of the observations reported of asthma treated with pneumotherapeutic apparatus refer to cases of secondary asthma, or of emphysema with asthmatic attacks. The essential nature of emphysema is even at the present time shrouded in obscurity, although the pathologic lesions as well as the clinical symptoms are quite well known. Emphasis should be placed on the fact that the secondary emphysema observed with certain pulmonary lesions characterized by sclerotic changes, such as fibroid tuberculosis, for example, responds only by a temporary improvement to the use of the apparatus. It is not the nature of the initial disease that is responsible for this want of success; for Tissier believes that even the most typical emphysema will be found, on careful examination, to rest on a tuberculous base; in fact, he considers emyhysema as an attenuated, benign form of pulmonary tuberculosis, fibrous in its development from the beginning. But in the cases now under discussion the lesions are coarse and quite easily recognized, and it is indeed their extent that explains the want of success of the method in a disease in which emphysema is, so to speak, a mechanical result—an *emphysema necessitatis*. At the beginning, when the emphysema is slight and is unnoticed even by the patient himself, betraying itself only by slight dyspnea on exertion and a faint change in the respiratory murmur—although even at this time a positive diagnosis is possible with the pneumatometer—expiration into rarefied air gives marvelous results and, according to Kelemen, may even effect a cure. Kelemen, indeed, goes even further, and believes that emphysema and the accompanying bronchitis can be cured whenever the expiratory force (as measured with the pneumatometer) and the vital capacity are not diminished by more than one-half. It is in the emphysema of bronchial catarrh, which this author regards as a special disease, that the effect is most rapid. When, however, the expiratory forces, especially the pulmonary elasticity, have become permanently enfeebled, and when cardiac troubles supervene and bring on passive hyperemia of the lungs, all that can be hoped for is a very transitory improvement. Expiration into rarefied air diminishes the abnormal length of the expiratory act and renders it less labored, assists the retraction of the lungs, promotes expectoration, withdraws a certain quantity of residual air and increases the pulmonary capacity. The cases in which Tissier has obtained good results are so numerous that he cannot for a moment admit that they were due to suggestion, even in the sense proposed by Lazarus and Hoffmann. Following the example of the majority, he has employed only the method referred to; it should be remembered, however, that Waldenburg, whenever he found that the inspiration was deficient—and that is not a rare occurrence—would begin the séance by having the patient inspire for 10 to 15 minutes air compressed from $\frac{1}{100}$ to $\frac{1}{60}$ of an atmosphere; and in America, DaCosta and S. Solis Cohen have likewise reported good results from this combination of expedients.—[System of Physiologic Therapeutics, Vol. x.]

Treatment of Trifacial Neuralgia.—C. Lilienfeld[1] obtained good results by treating trifacial neuralgia with electromagnetism. His list includes 90 cases, most of which had existed for many years; 11 patients were entirely cured, 65 more or less improved, and only 14 were not favorably influenced by it. He relates the histories of 7 patients, who had suffered for from 10 to 25 years; 1 patient was cured after the third treatment, a second after the fifteenth, a third after the fiftieth application. Of the other four, the improvement was still present 6 months after cessation of the treatment. [E.L.]

The Treatment of Gonorrhea.—Whitehead[2] condemns very strongly the irrigation method in the early stage of gonorrhea. He says that it causes an infection of the posterior urethra, leading to the various more serious sequels of gonorrhea. At the same time, however, he does not think it permissible to neglect local treatment. The reason that antiseptics fail to kill the germs in the urethra he believes is because these organisms are deep in the pockets and follicles of the mucous membrane, and these pockets are closed by plugs of mucus. For the purpose of removing these plugs and exposing the cocci to the action of germicides he has found digestants useful in the same way that they destroy a diphtheric membrane. He combines the antiseptic and digestant in the form of an ointment, which is applied only to the penile portion of the urethra by a special applicator. The formula he uses is:

Yellow mercury oxid	20 gr. (1.3 gm.)
Oleic acid	1 oz. (30 cc.)
Silver oxid	2 dr. (7.5 gm.)
Powdered scale pepsin, Powdered caroid, } of each	4 dr. (15 gm.)
Albolene, Water, Lanolin, } of each	2 oz. (60 cc.)

To be applied daily by the physician.

Beside this he gives internally, as a urinary antiseptic:

Sandal oil	6 dr. (22 cc.)
Powdered cubebs, Benzoic acid, } of each	1 oz. (30 gm.)
Pepsin	4 dr. (15 gm.)

Divide in 30 parts and dispense in cachets. One 4 times a day.

The salve is continued until 48 hours after all discharge has ceased, the internal treatment kept up for a week or 10 days longer. [H.C.W.]

The Influence of Bitters on Digestion.—P. T. Borrisow[1] has undertaken to investigate the action of bitter medicines on appetite and digestion. Bitter substances have been employed since ancient times as stimulants to digestion, but the rationale of their physiologic action has so far eluded us. Enough evidence is on hand, however, to prove that whatever beneficial effects the bitters may possess, these are due to their bitter taste. Hence the author has confined his experiments to this property. He found that the bitters render the sense of taste more acute, and excite an increased secretion of gastric juice. The latter resembles in all chief particulars the normal secretion of the stomach, and possesses equal digestive virtues. It follows that the time-honored faith in bitters is sufficiently well founded to warrant their further use. Furthermore, bearing in mind that the appetizing action of bitters is due to their taste, it is obviously useless to administer these tonics in pill form or in capsules, as some authors have recommended. Equally futile is the exhibition of large quantities. The best results are obtained by giving small amounts immediately before meals. [L.J.]

The Antiseptic Value of Lysoform.—Galli-Valerio[2] has made a number of experiments to determine the value of lysoform as a practical antiseptic. He finds that it is without any injurious effect on metallic or soft rubber instruments, although hard rubber becomes scaly after prolonged exposure. Observations on rabbits show that it is practically nontoxic. Its germicidal power is moderate, 4 hours being required to kill *M. pyogenes aureus* with a 5% solution. The colon bacillus is killed in 45 minutes by a 3% solution. Two or three experiments on experimental peritonitis seemed to indicate a possible usefulness of intraperitoneal injections of dilute solutions. Those stronger than 3% were too irritant to be employed locally. [H.C.W.]

Atoxyl in Skin Diseases.—Biringer[3] has employed atoxyl, a new arsenic preparation, in various skin diseases. It was administered mostly subcutaneously in ascending doses of from 0.05 gm. ($\frac{3}{4}$ gr.) to 0.2 gm. (3 gr.). He found it useful in those cases in which the older forms of arsenic are of value. Outside of a lessened liability to disturb digestion when given by the stomach it seems to have but little advantage over the well-tried forms of arsenic medication. [H.C.W.]

[1] Deutsche medicinische Wochenschrift, April 30, 1903.
[2] Therap. Gaz., 1903, xxvii, p. 586.

[1] Russki Vratch, August 9, 1903.
[2] Therap. Monatsh., 1903, xvii, p. 452.
[3] Therap. Monatsh., 1903, xvii, p. 389.

Aspirin in Chorea.—R. T. Williamson[1] has given aspirin in 35 consecutive cases of chorea, and believes that the drug is of distinct service in diminishing the duration of the affection, especially in the severe and persistent cases. He commences with 65 cg. (10 gr.), in powder form twice a day, for children over 7 years of age, and rapidly increases it to 65 cg. or 95 cg. (10 gr. or 15 gr.) four times a day. Toxic symptoms (noises in the ears, etc.) occur rarely, but occasionally gastric irritation is produced. [B.K.] [Aspirin is capable of producing great cardiac depression in certain susceptible persons, and great care must always be used in watching its effects and regulating its dosage. S.S.C.]

Treatment of Liver Affections with Mercury and Remarks Concerning Febrile Liver Affections.—O. Rosenbach[2] advises the early administration of mercury in acute or subacute diseases of the liver. He gives it preferably subcutaneously, or when given by mouth, in doses too small to be laxative. Many cases of liver disease associated with enlargement and tenderness are cured by mercurials, but it must not be concluded from this that such liver affections are syphilitic. If syphilis exists it is a coincidence. The curative action is not due to its causing absorption of syphilitic lesions, but to its being a powerful stimulant toward the restitution of the normal liver formation. [E.L.]

FORMULAS, ORIGINAL AND SELECTED.

For Bronchitis.—De Brun recommends highly the use of ichthyol in chronic bronchitis. It may be employed in pill form, or as follows:

Ichthyol	2 gm. (30 gr.)
Glycerin	15 cc. (4 dr.)
Syrup of orange	15 cc. (4 dr.)
Water	90 cc. (3 oz.)

A half to 1 teaspoonful several times a day. [H.C.W.]

PATHOLOGY.

J. EDWIN SWEET

EDITORIAL COMMENT

Remarkable Longevity of Bacterial Spores.—A. von Székely[3] found in the pathologic laboratory of the University of Budapest some dried-up gelatin cultures of anthrax bacillus that had been prepared 18½ years before. The spores were demonstrated to be alive and capable of cultivation, the cultures proving virulent for white mice. The same thing was found to be the case in cultures of the bacillus of malignant edema of a similar hoary age. These observations illustrate very well the remarkable, almost supernatural vital tenacity of bacterial spores, which seem to retain life under the most adverse circumstances.

The Relation of the Pancreas to Diabetes Mellitus.—Ever since the first complete extirpations of the pancreas by v. Mering and Minkowski, we have known of the connection between the pancreas and diabetes mellitus; the complete removal of the organ is followed by a diabetes of the most pronounced type. The attention of pathologists was directed to this relation, and we have many reports of cases of diabetes where a diseased pancreas was found at autopsy. There have also been a large number of cases reported where a diseased pancreas was found, but no symptoms of diabetes had been observed during life; cases of diabetes have also been reported with an apparently normal pancreas. Some of these latter cases can be explained by the intervention of other factors, in a few, for instance, by the presence of tumors which encroach upon the floor of the fourth ventricle; the greater part, however, await an explanation. The cases of a diseased organ and no symptoms of diabetes seem parodoxical if, as we must, we accept the connection between the pancreas and the disease. The occurrence of aberrant islands of pancreas tissue has suggested to us a possible explanation for some of these paradoxical cases. Since the disease of the pancreas most frequently found in these cases is some form of inflammation, *i. e.*, not a specific disease of the pancreas tissue—why could it not be possible that in some of these cases, at least, the pancreas had become really inactive in respect to its normal function in glucose metabolism, but that an aberrant island exists, which has not become diseased and is sufficient to prevent the diabetes? During the course of an experimental investigation upon diabetes mellitus and its relation to immunity[1] we encountered a case which demonstrates the possibility of the existence of such a state of affairs. The pancreas was removed from a dog, and at the autopsy, 4 weeks later, no pancreas tissue could be found at the normal site of the organ. But no diabetes had appeared, although other cases of the complete removal of the pancreas had been followed by the appearance of a diabetes of the most severe type. The explanation of this apparent complete removal of the pancreas with nonappearance of diabetes, was found to be a very small aberrant island of pancreas tissue, situated upon the greater curvature of the stomach, and extending a short distance into the stomach wall and into the omentum. The occurrence of an accessory pancreas, or more than one, cannot be considered rare. Thorel[2] has found 7 cases during the last 3 years. He gives the histologic description of these cases, a review of the literature, and a discussion of the embryology of these accessory glands. Thorel finds that the islands of Langerhans were absent from all but one of his cases; the presence or absence of these formations is to be explained as dependent from the period of embryologic development at which the accessory glands became separated from their original site, and from which portion of the pancreas they took their origin. We venture the above suggestion because we cannot see why such a condition is impossible—a completely diseased pancreas, but no diabetes, because an accessory pancreas, too small to be discovered unless one's attention was directed toward this point, existed and exerted its function in a normal metabolism of glucose.

[1] Lancet, August 22, 1903, p. 526.
[2] Therapie der Gegenwart, March, 1903.
[3] Zeit. f. Hygiene u. Infectionskrankheiten, 1903, xliv, 3.

REVIEW OF LITERATURE

Histogenesis of Lymphatic Leukemia.—From a patient with typical lymphatic leukemia M. Mosse[3] excised a part of an enlarged tonsil, and examined it microscopically. He found the lymphocytes lying not only in and around the small vessels, but also in their walls. This was true of both the capillaries and the veins. The walls of the vessels showed no signs of having been ruptured. The increase in the number of lymphocytes in the circulating blood must, therefore, in great measure be due to increased diapedesis. [B.K.]

Experimental Examination of Mesenteric Glands, Tonsils and Adenoids.—Allan MacFadyen and Alfred MacConkey[4] of the Jenner Institute report the results obtained in examining the mesenteric glands of 28 children, nearly all of whom were under 5 years of age. The necropsy diagnoses were that 8 had died of tuberculosis in some form, while the other 20 had died of various nontuberculous diseases. In each instance the glands were preserved and disintegrated, in a manner described, and injections of the pulpy mass obtained were made peritoneally and subcutaneously into guineapigs. At the end of 6 weeks the animals were killed and examined. The inoculation experiments showed virulent tubercle bacilli present in the mesenteric glands of 10 of the children, only 5 of which were among the 8 diagnosed at the necropsy as having tuberculous disease. The other 5 were among those believed not to have tuberculous disease. From this the authors conclude that virulent tubercle bacilli are present in the mesenteric glands of apparently nontuberculous children much more fre-

[1] Journal of Medical Research. Vol. x, No. 2, 1903.
[2] Virchow's Archiv, Band clxxiii, Heft ii, p. 231, 1903.
[3] Zeit. für klin. Med., Bd. 1, p. 70.
[4] British Medical Journal, July 18, 1903.

quently than is commonly supposed—with their series in 25% of the cases. In the 10 instances in which inoculation experiments showed the tubercle germs present 9 were examined microscopically by sectioning the glands, 7 being negative. In 34 cases of tonsils, and 44 of adenoids the tissue removed at operation was tested experimentally by inoculating guineapigs; as with the mesenteric glands, and in every instance with a negative result. The examinations microscopically were also negative in every case. Hence they conclude that diseased tonsils and adenoids as a portal of entry of tubercle bacilli have been exaggerated. [A.B.C.]

Pyocyaneus Bacilli in Meningitis.—There is much difference of opinion concerning the character of the *Bacillus pyocyaneus*, whether pathogenic or saprophytic. Experimentally there has not been a question of its pathogenicity for a long while, but the cases of septicemia in man due to it are rare. F. Berka[1] reports such a case. A woman of 52 died with typical symptoms of meningitis 24 hours after admission to the hospital. Cultures were made from pus found in different parts of the brain, and from it organisms were cultivated, corresponding in every detail to the *Bacillus pyocyaneus*. No portal of entrance for the infection could be found. [E L.]

The Agglutinating Quality of Gall and Serum in Icterus.—Robert Königstein[2] mixed cultures of the typhoid bacillus, colon bacillus, and the cholera spirillum with gall taken from the gallbladders of cadavers under sterile conditions, both of which were diluted, the first 1-10, 1-50, 1-100, and the last 1-5, 1-25, and 1-50. In 21 cases there was no positive reaction. In 2 cases there was a partial reaction, but the gall was viscid and of thick consistency, and in the sediment there was found movable bacteria. He injected 2 dogs with small amounts of a hemolytic poison, which resulted in the development of icterus. The serum test gave, before the icterus developed in one dog, a negative result; in the other a positive reaction in the dilution of 1-10, while the results remained unchanged after the development of the icterus. The tests made with the serum from patients affected with icterus gave negative results in 7 cases. In 4 cases there was partial or distinct reaction. These tests were made with typhoid bacilli. The agglutination of the colon bacillus was obtained in 1 case. He obtained negative results in experiments with the acidum taurocholicum. [J.H.W.R.]

The Islands of Langerhans in their Relations to Morbid Conditions of the Pancreas and Diabetes Mellitus.—A. E. Finney[3] reviews the experimental and pathologic researches recorded in literature, and reports his own investigations at length. Study of a series of human and guineapigs' pancreases shows a certain independence between the islands of Langerhans and the pancreatic tissue proper. As evidenced by the almost entire absence of alterations in the islands in glands the seat of extensive morbid changes, and *vice versa*. But that this independence is not absolute, is indicated by the simultaneous involvement of the islands in acute inflammatory lesions of the pancreas, and secondary involvement in more chronic inflammations. Diabetes may occur in the absence of lesion, the glycosuria being of nervous origin or of the type described as "alimentary." It may be accompanied by lesions of limited extent, those islands presenting no lesions being possibly functionally inactive. Diminution of the number of islands in diabetes may occur even up to total disappearance, and when diminution is slight, its importance lies in the inert or retrogressive condition which it implies. Lesions of the islands may occur in the absence of diabetes, being then slight and never primary. Diabetes may be associated with lesions apparently primary and even confined to the islands themselves. These consist in hyaline transformation and specific necrobiosis. [H.M.]

Deposits of Urates in the Bodily Tissues.—K. A. Krause[4] maintains that he has been unable to find areas of necrosis without uratic deposits, and therefore cannot support Ebstein's theory of a primary necrosis causing the deposit of these crystals. Further, his investigations have shown that the peripheral crystals of a deposit almost invariably extend into normal tissue. In fact, the author asserts that there is no true tissue necrosis at all in the seats of the deposit. If the urates are dissolved out there is left a homogeneous, unstained mass of detritus, showing no trace of tissue structure and no gradual transition to the surrounding normal tissue. The author concludes, therefore, that this detritus is mainly an embedding mass and framework for the crystals, such as frequently occurs in crystalline deposits from the urine. [B.K.]

The Relations of Slight Infections to the Blood-forming Apparatus.—To determine the influence of very slight infections, so slight as not to produce any clinical symptoms upon the bone marrow and other blood-forming structures, F. Freymuth[1] injected varying quantities of a 24-hour old culture of living typhoid bacilli intravenously into rabbits. The very smallest doses produce a very considerable proliferation of marrow cells changing the fat marrow into red marrow; mitosis of cells in both marrow and spleen was marked; leukocytes of all descriptions, but especially the lymphoid cells, were increased in number. Medium-sized doses produced a greater reaction in the bone marrow than large doses, the toxins in such cases overpowering the activity of the structure. As the toxins had the same action as the living bacteria, he sees in this an explanation for the anemias and other inexplicable symptoms of chronic constipation. [E.L.]

Diphtheria Serum.—J. Bandi[2] has prepared a diphtheria serum with high antitoxic powers, and which is also rich in bactericidal bodies. It possesses a remarkable curative value in special cases of diphtheria, but its value is especially great for purposes of prophylaxis. He describes his method of producing the serum very minutely and terminates his article with a long list of conclusions. [E.L.]

Modifications of the Human Tubercle Bacillus.—J. Auclair[3] reports the results of studies made to determine the aptitude of the tubercle bacillus to transform itself into a saprophyte. He gives in detail his methods for obtaining homogeneous cultures, the morphology and staining reactions of those organisms, the results of their inoculations into animals, and the characteristics of the poisons obtained from them. He concludes that it is possible by certain methods, notably by agitation, to transform the tubercle bacillus into a saprophyte. This organism is mobile, strictly aerobic, ferments lactose, liquefies gelatin, and takes the usual stains, but does not hold to the reaction of Ehrlich. Inoculated into animals it has lost its virulence, but retains a certain toxicity. The toxins obtained from the organism have an entirely different action from those of the tubercle bacillus. With them Auclair was not able to cause either pneumonic processes, caseation, or sclerosis. [A.G.E.]

On the Pathology of Nephritis.—Maragliano,[4] in a review of the work which has been done in his clinic by Ascoli and other of his assistants, objects to the view that the symptoms of kidney disease, especially those of uremia, are due to the failure of the diseased organ to eliminate certain toxic products. He calls attention to the following facts, some of which were brought out by the experiments under his supervision. In the first place, except in temporary conditions, the amount of nitrogenous material eliminated in Bright's disease is not less than that eliminated by healthy individuals. The common belief that it is less is owing to the fact that usually only the urea is estimated, the elimination of which is less than in the normal individual, but the total output of waste material, both nitrogenous and nonnitrogenous is not diminished in nephritis. In kidney disease there is a disturbance of the relation between urea and the other nitrogenous-holding products eliminated. Urea normally forms about 80% of the total nitrogen eliminated, but in kidney disease it may represent as low as 55% of the total nitrogen excreted through the kidneys. There occur temporary periods during the course of nephritis during which the total nitrogen is lessened. These periods, however, have no relation to the increase in the severity of the symptoms, and do

[1] Wiener klinische Wochenschrift, 1903, xvi, 308.
[2] Wiener klinische Wochenschrift, 1903, No. 35.
[3] Medical Chronicle, June, 1903.
[4] Zeit. für klin. Med., Bd. l, p. 136.

[1] Deutsche medicinische Wochenschrift, 1903, xxix, 350.
[2] Zentralblatt für Bacteriologie, 1903, xxxiii, 535.
[3] Archives de Méd. Expér. et d'Anat. Path., July, 1903.
[4] Medicinische Wochenschrift, 1903, iv, 313.

not precede attacks of uremia. Maragliano's observations lead him to believe that the diseased kidney is more permeable for the passage of the products of albuminous metabolism than the healthy organ, so that nitrogenous substances normally retained in the blood representing an intermediate stage of oxidation are passed out by the diseased kidney. The nitrogenous substances of the urine may be divided into 2 great groups, those precipitated by phosphowolframic acid, and those not precipitated. The substances precipitated represent not yet perfectly oxidized albumin, and are known as extractives, while the nonprecipitable are the result of completed metabolism. Both urea and these extractives are contained in the blood. The proportion of total nitrogen represented by the urea group in the blood is about 20%, and in the urine is about 80%. These figures are influenced somewhat by the consumption of albuminous foods, but not enough so to materially affect their relation. In nephritis these relations are markedly altered, especially during the uremic and preuremic periods, there being an increase of nitrogenous waste materials in the blood due to an accumulation not of urea, but of these intermediate oxidation products. The experiments of Ascoli show that this accumulation of nitrogenous substances in the blood can occur without any diminution in the excretion of nitrogen, the occurrence, therefore, of abnormally large amounts of imperfectly oxidized nitrogenous material cannot be attributed to failure in excretion, but must be due to alterations in metabolism. The acknowledged causes of nephritis are infectious disease, local infections, irritation by outside poisons, and intoxication by poisons of organic origin, the result of faulty metabolism. Nephritis springing from one of the first three of these causes has a tendency to recover, because the etiologic factor is a temporary one. On the other hand, the most common type of disease, to which, perhaps, should properly be given the name of Bright's disease, is a progressively pathologic condition, and is to be attributed to forms of autointoxication, through disturbed metabolism. Ascoli and Figari have found that the injection of kidney pulp of a dog into the veins of a rabbit produces a substance in the blood of the rabbit which is capable of causing alterations in the kidney of a dog; this substance they give the name of nephrolysin. The injection of nephrolysin subcutaneously causes in the dog the occurrence of albuminuria, tube-casts, and red blood cells. If the serum of this nephritic dog is injected hypodermically into a healthy dog, it will in turn beget similar kidney lesions. [H.C.W.]

Arteriosclerotic Changes in the Aorta in Early Life.—S. v. Simnitzky,[1] in 138 autopsies on persons dying before the age of 25, found sclerotic changes of the aorta in 27.5%. The cases are tabulated, and the results of microscopic examination are detailed. Infectious diseases probably played an important part in the etiology. These observations show that arteriosclerosis cannot be regarded as a specific result of old age. It is probable that insignificant changes in the intima leave no trace, but if the cause is powerful, or if it acts for any length of time, the resulting sclerosis may be as extensive as that which occurs in old age. [B.K.]

The Theory of the Period of Incubation.—Clemens Frh. v. Pirquet and Béla Schick[2] believe the conception that the incubation period depends upon metabolic changes which must reach a given stimulus after the injection of an irritant before the symptoms of disease appear is erroneous. They claim the pathologic substance has in itself no power to immediately produce disease, but that the symptoms develop when the change in the pathologic substance in reaction with the products in the affected organism, reaches a certain grade. The interval between the injection of the pathologic substance and this point is the incubation period. After repeated injections the symptoms appear earlier, this point in the pathologic change having been reached sooner. A clinical difference is observed between the reaction of the organism after the injection of infectious and noninfectious substances (for example, serum) in which the reaction in the first case is weaker, and in the latter stronger the earlier the symptoms appear. This quality of reacting quickly to the introduction of a pathologic substance can be experimentally transferred to one not previously treated with the serum of one organism which has already acquired a certain disease. [J.H.W.R.]

The Exogenesis of Cancer.—A. T. Brand[1] postulates that for the alleged cause of a disease to be acceptable it must necessarily be of universal applicability. Cancer arises by infection under favorable conditions, the latter being produced by irritation, injury, or degeneration from obsolescence or senility, or by chronic disease, or congenital susceptibility. No other theory is applicable to every case. The only characteristic in which it differs from other infections is in its metastases showing the migration of cells. These are dislodged by their overgrowth, from the irritation of the infecting organism, and carried by the lymph stream, or in the case of sarcoma, by the blood stream. The suggested channels of infection are the mouth, respiratory passages, and sweat glands. Infection of the female generative organs may be brought about by the germ-infected skirts and loose, open underwear of women. There is no evidence of hereditary transmission, though infection might lodge in the fetus. Cancerous parentage probably confers congenital vulnerability. Prophylaxis consists in scrupulous cleanliness, Turkish baths, the washing of raw vegetables and fruits, and of the hands before eating. Notification and disinfection of houses, etc., should be required. Bodies, dejecta, and dressings should be burned. The author discusses various objections to the infection hypothesis, especially the negative results of experimental inoculation. A *sine qua non* for success is unhealthy tissue. Irritation or injury might be brought about by feeding spicules of bone, glass, etc. The most suitable material for inoculation is that from an actively enlarging metastatic tumor. The inoculation should be while the material is still warm, and the tissue inoculated should be from epiblast and hypoblast. Cancer is rare in the young, therefore animals should be chosen in the latter third of their lives; and they should not be killed for 6 months afterward. Blood or lymph from the vicinity of tumors has not been exhaustively tried. That cancer is transmissible to the lower animals is proved by its occurrence in domesticated dogs. [H.M.]

Changes Produced in the Animal Body by Cytotoxins.—The basis of O. Czeczowiczka's[2] experiments was the injection into dogs of a serum obtained from rabbits that had been previously immunized by dog's blood. The organs of these dogs were examined microscopically, as were also the organs of rabbits treated with goat serum, with blood-corpuscles from the dog, with goat milk, and with a bacteriohemolysin (staphylotoxin). As a result of his experiments, he found that the hemolysin and other cytotoxins produced fatty changes in the animals experimented upon. In the lymphatic system of the rabbits he found considerable quantities of a lipochrome. A part of the fatty deposits partook of the nature of fatty degeneration, but there was also some exogenous fat formation. [B.K.]

Cerebral Hemorrhage in a Man Hanged.—F. Reuter[3] reports the case of a man who committed suicide by hanging. He strangled himself in a horizontal position. The cerebrum presented the following peculiar state: Corresponding to the posterior part of the right lenticular nucleus a large recent hemorrhage was found, in the midst of a large quantity of brown pigment, indicating the presence of an old hemorrhagic focus. Both lungs were the seat of an acute fibrinous pneumonia. The old focus evidently had at one time produced a hemiplegia. The new hemorrhage, in the author's opinion, was agonal in time of appearance, and due to the intense passive congestion; its special localization was due to the position of the man, it being in the most dependent part of the brain. [E.L.]

Pathology of Smallpox.—W. R. Stokes[4] gives at length the results of a study of the pathologic tissues obtained at autopsies of 5 persons dead from smallpox and of sections and cultures from 6 nonfatal cases. The article is illustrated by 21

[1] Zeit. für Heilkunde, 1903, Bd. xxiv, Heft 4; Abth. f. Path., Heft 2, p. 177.
[2] Wiener klinische Wochenschrift, 1903, No. 26.

[1] Quarterly Medical Journal, May, 1903.
[2] Zeitschrift für Heilkunde, 1903, Bd. xxiv, Heft 7; Abth. für Path. Heft 3.
[3] Vierteljahrschrift für Gerichtliche Medicine, Vol, xxiv, p. 300.
[4] Johns Hopkins Hospital Bulletin, August, 1903.

plates of microscopic sections. Stokes claims that the early skin lesions indicate that the primary infection of smallpox takes place in the lungs, probably by inhalation. The serious and fatal lesions of smallpox are caused by secondary infection from the skin and respiratory tract, the infectious agent being usually *Streptococcus pyogenes*. This organism is so distributed as to explain most of the visceral changes, such as thrombosis, local necrosis, and the various pulmonary changes. The streptococcic septicemia is the most striking feature of fatal smallpox, and if it were possible to overcome this condition by a special serum, the mortality from the disease would be greatly reduced. [A.G.E.]

Antistreptococcus Serum.—According to F. Meyer[1] there are 4 kinds of antistreptococcus serums: (1) Those produced by one variety of organism, which has been made virulent by artificial means (Marmorek's serum and Aronson's first serum); (2) those produced by employing various varieties of organism, made virulent artificially (Denys' serum); (3) those produced by using various unchanged organisms (Tavel's serum); (4) those produced by one unchanged variety of organism (Moser's serum). The author has experimented with all these serums, and finds that Aronson's is the only one which is effectual against streptococcic infections of mice and rabbits. Further experiment showed that the protective power of this serum is due to its power to diminish the virulence of the bacteria, which are then destroyed by the cells of the body. [B.K.]

The Backward Current from the Bladder Contents.—Hugo Marcus[2] experimented upon animals with the view of determining the modus operandi with which disease of the kidney arises from infected contents of the bladder. He reviews the literature of the subject, and gives the results of his experiments, and concludes that the contents of the bladder may be conveyed to the pelvis of the kidney either by antiperistalsis of the ureters or by means of contraction of the bladder forcing the bladder contents back through an overstretched or paralyzed ureter. If there is no trauma of the pelvis of the kidney, then colored fluid can reach as far as the papillas, but it never enters the kidney substance. In those experiments in which the coloring matter was found in the veins, a microscopic examination of the kidneys showed the presence of a trauma in the pelvis of the kidney. Corpuscular elements could be discovered in the removed organs, and in the blood of the heart, though the significance of this was lost in view of the preceding statement. The introduction of corpuscular elements into the collecting tubes of the kidney or into Bowman's capsule was never observed, and it is improbable that it should occur. Experiments with bacteria gave the same result as the experiments with coloring matter. The rapidity of the postmortem extension of movable bacteria from the pelvis of the kidney into the kidney structure depends to a certain extent upon the character of the bacteria. This occurs through the lymph or blood channels, and not through the kidney canals. [J.H.W.R.]

Pathologic Anatomy and Genesis of Tetany.—R. Peters'[3] observations extended over 77 cases, and included 7 autopsies. He concludes that tetany is not a functional, but an organic affection. The pathology is an inflammation of the extradural connective tissue, a pachymeningitis externa, including the roots of the nerves and ganglia, forming an interstitial neuritis and "gangliitis." The pachymeningitis may be hemorrhagic, the hemorrhages occurring from previously diseased vessels. The inflammation occurs especially around the ganglia and nerve roots. The interstitial neuritis is found both on the sensory and motor roots, and does not extend to the peripheral nerves. The gangliitis consists (1) of proliferation of the intracapsular endothelium with marginal vacuolization (2) of infiltration of round cells and leukocytes in the stroma of the ganglion; (3) of degeneration of the protoplasm of the nerve cells. The interstitial infiltrate is characteristic for tetany. The strength of the muscular contractions depends on the severity of the pachymeningitis. The tetanic cramps are complicated reflex acts, resulting from increased impulses conveyed to the motor cells in the cord from the affected sensory roots and ganglia. There also exists an increased irritability of the motor tracts, either from compression, or from the chemic action of inflammatory products. [B.K.]

Hemolysis in Experimental Infection.—O. V. Wunscheim[1] infected 22 rabbits and 2 guineapigs with anthrax bacilli, injecting them intraperitoneally and subcutaneously. The autopsy was performed immediately after death and in every case thus observed a hemoglobinemia was found. Up to 1½ hours before death this hemoglobinemia did not exist. This hemolysis is probably due to what he calls anthracolysin, which is found in the animal organism. Hemoglobinuria was never seen; this is due to too sudden death of the animals. Too many red blood cells are destroyed and the hemoglobinemia is too sudden to allow the hemoglobinuria time to appear. [E.L.]

A New Method of Counting Blood-corpuscles.—W. M. Strong and G. C. Seligmann[2] explain a new method which they have devised for counting the leukocytes and red cells of the blood. The principle consists in diluting a measured quantity of blood with a measured quantity of fixing solution with which there is combined a suitable stain. After a few minutes to allow for fixing and sufficient staining of the corpuscles, a measured drop of the mixture is allowed to evaporate to dryness on a slide, when the cover-glass is applied over the resultant film in the usual manner. The slides may be kept for any length of time if properly mounted in acid-free balsam. The details of the method are given in full and it is claimed to be more accurate than the Thoma-Zeiss instrument. The authors state that the latter instrument from constant usage becomes subject to very considerable error. Two such instruments had been in use for 3 years, the rule lines were perfectly clear, yet they gave results which were fairly constant, being about 10% higher than that obtained by 2 new instruments. They assert that this would be accounted for if the depth of the chamber had increased by .01 mm. Comparisons are made between the instrument and the Thoma-Zeiss in a number of counts and apparently the new method is the more accurate, although from the tables given it appears that there is no great difference in the results obtained in the 2 instruments. [A.B.C.]

Etiology of Yellow Fever.—During 2 successive attacks of yellow fever, J. B. Tombleson[3] found a bacillus in his own blood, which he was subsequently able to demonstrate in 6 other cases of the disease. He immunized a dog with pure cultures of the bacillus and found that the animal's blood-serum would clump young agar cultures of the organism, showing it to be pathogenic. A monkey was then inoculated with the bacillus, developed an illness closely resembling yellow fever, and died after 3 days. The same organism was recovered from the animal's body. The author describes the bacillus, its staining properties and methods of growth. He states that it is very much like the bacillus icteroides of Sanarelli, differing from it, however, in a few points. The organism seems to produce spores, and may produce infection by inhalation, as well as through the medium of mosquitos. In fact the author believes that he himself received his second attack by inhalation from a culture with which he was working. [B.K.]

Verhoogen disputes the conclusions made by Klippel and Lefas who asserted that hematologically general paralysis and tabes are similar. Verhoogen examined the blood in 8 cases of tabes in the second and third stages of this disease. There were 6.2% to 11.7% of leukocytes present; 47% to 70% of the polynuclear forms; 6.5% to 16% of the large mononuclear form; 5% to 10% of the intermediary; 10.5% to 38% of the small lymphocytes; 21.5% to 50.7% of the mononuclear form; 1% to 6% of eosinophiles, and from 4,000,000 to 6,350,000 red blood cells. He found no hematoblasts, poikilocytes, basophiles, nor basophilic elements having the appearance of myelocytes. In 2 cases he observed the presence of polychromatophiles, in 2 other cases a number of plaques, and 1 case an abundance of microcytes. These results were compared with those made by Wiener at the suggestion of Verhoogen[4] upon 6 insane patients affected with insanity of lactation, senile hyphochondria, general pseudoparalysis, degenerative insanity, dementia precox

[1] Zeitschrift für klin. Med., Bd. l, p. 145.
[2] Wiener klinische Wochenschrift, 1903, No. 25.
[3] Deut. Archiv. f. klin. Med., Bd. lxxvii, p. 69.

[1] Münchener medicinische Wochenschrift, June 30, 1903.
[2] British Medical Journal, July 11, 1903.
[3] Lancet, August 29, 1903, p. 594.
[4] Jour. Med de Brux., 1903, No. 34.

and chronic encephalitis respectively. In these cases he found 65.7% to 84.4% of the polynuclear forms; 3.7% to 10.8% of the large mononuclear forms; 2.1% to 6% of the intermediary forms; 16% to 23% of the small lymphocytes; 15.3% to 33.3% of the total number of mononuclear forms, and .2% to 1.3% of the eosinophiles. In comparing this table with the former, Verhoogen concludes that there exists in the latter a slight increase in the polynuclear neutrophiles. He believes that in the cases in the first table which showed an increase in the eosinophiles that the cause must be looked for in conditions outside of the central lesion. Verhoogen also concludes that there does not exist a special hematologic formula for tabes, and probably not for general paralysis. [J.H.W.B.]

Human and Bovine Tuberculosis.—Additional proof of the identity of the human and bovine tubercle bacilli is furnished by D. J. Hamilton and J. M. Young.[1] Experiments designed to test the validity of the assertion that human tuberculosis differs so much from bovine that it cannot be transmitted to cattle were performed on 20 calves. The 4 series into which the experiments were divided are explained at length. The results are a direct contradiction of those obtained by Koch and Schütz. Although human tuberculosis probably is not so virulent for calves as that derived from bovine, it can readily be inoculated upon that animal. This holds good whether the material be derived from tuberculous lymph-nodes, lung, sputum or urine. The human bacillus and that of bovine are identical, but modified somewhat by their environment. [A.G.E.]

The Behavior of the Leukocytes and Eosinophiles in Various Diseases.—P. Reckzeh[2] found in mercurial dermatitis, a mild degree of leukocytosis and an increase in the eosinophiles, dependent on the degree of the cutaneous affection. In scarlatina there was a general leukocytosis and an independent eosinophilia, the latter reaching its height when the eruption begins to disappear. Measles showed neither leukocytosis nor eosinophilia. Erysipelas is characterized by a marked leukocytosis and an absence of eosinophiles from the blood. There was no eosinophilia in diphtheria. Mixed leukemia usually shows an increase in the eosinophiles, while pernicious anemia shows a decrease. [B.K.]

Hemolytic Property of Peptonized Blood.—W. Pfeiffer[3] found that the addition of pepton to the blood of geese and chickens diminished the hemolytic power of their blood-serum; when injected into rabbits, if the time necessary to coagulate the blood was prolonged, hemolytic power was diminished; if it was not prolonged, hemolytic power remained uninfluenced. [E.L.]

Clinical Importance of the Estimation of Iron in the Blood.—L. Bard[4] believes differences shown in the colorimetric test for hemoglobin are often due to variations in its original qualities, the hemoglobin undergoing various stages of evolution incompatible with the stability of composition generally attributed to it. In physiologic states the spectroscopic and colorimetric tests and estimates by Jollé's method furnish almost identical results. In pathologic states it is otherwise. Jellinek attributed the difference in proportion between the iron and the colorimetric value to the iron contained in the serum and white cells; but this theory is untenable, as in certain cases the difference these would be required to make up is enormous; and Mallet has proved the absence of iron in serum in quantities capable of being estimated by the method employed, and its entire absence in white cells, since he found it decreased as they increased in 2 cases of leukocythemia. Generally the iron test gives higher percentages than the color-test in simple chlorosis and posthemorrhagic anemia, and lower in every kind of cachexia, tuberculous, cancerous, chronic anemia, of chlorotic origin or not, associated with a lowering of the general health. After intercurrent hemorrhage in cachectic states iron exceeds color at first, then they become equal, and finally the iron percentage is less. [H.M.]

Cytodiagnosis in Pleural and Peritoneal Effusions.—In the exudate of primary tuberculous pleurisy, Kétly and Torday[5] found a great number of small, confluent lymphocytes, mixed with more or less red blood-corpuscles, and a very few endothelial cells. The same finding occurred in secondary, acute, tuberculous pleurisy. Chronic tuberculous pleurisy can hardly be distinguished from the chronic processes that occur in Bright's disease and heart affections; in all of these conditions polynuclear leukocytes and endothelial cells are found as well as lymphocytes. A large number of endothelial cells point to renal or cardiac disease. In pleurisy due to the pneumococcus, polynuclear leukocytes and endothelial cells are found in great numbers. In abdominal effusions of whatever character, lymphocytes and endothelial cells are often found in considerable numbers; hence, no diagnostic value can be attached to cytodiagnosis. This method of investigation is of value in the first stages of primary tuberculous pleurisy, in which condition a marked degree of lymphocytosis is found. [B.K.]

[1] Public Health, September, 1903.
[2] Deut. Arch. f. klin. Med., Bd. lxxvii, p. 316.
[3] Archiv für experimentelle Pathologie und Pharmacologie, 1903, l, 1, 158.
[4] Medical Press and Circular, August 12, 1903.
[5] Deut. Archiv. für klin. Med., Bd. lxxvii, p. 168.

THE PUBLIC SERVICE

Health Reports.—The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended November 20, 1903:

	SMALLPOX—UNITED STATES.		Cases	Deaths
California:	Los Angeles	Nov. 1-7	1	
Louisiana:	Baton Rouge	Oct. 24-Nov. 7	2	
Massachusetts:	Lawrence	Nov. 8-14	1	
Mississippi:	Natchez	Oct. 25-Nov. 7	3	
Nebraska:	Omaha	Aug. 1-31	3	
New Hampshire:	Manchester	Nov. 8-14	2	
New Jersey:	Camden	Nov. 8-14	1	
New York:	Buffalo	Nov. 2-9	1	
Ohio:	Cincinnati	Nov. 6-13	9	
	Youngstown	Nov. 8-14	12	
Pennsylvania:	Philadelphia	Nov. 8-14	34	1
	Pittsburg	Nov. 8-14	49	5
South Carolina:	Charleston	Nov. 8-14	1	
Texas:	San Antonio	Oct. 1-31	20	
Utah:	Salt Lake City	Nov. 1-7	1	
	SMALLPOX—FOREIGN.			
Austria-Hungary:	Prague	Oct. 25-31	11	
Brazil:	Pernambuco	Sept. 17-30		15
	Rio de Janeiro	Oct. 11-18	40	38
Chili:	Antofogasta	Sept. 1-30		23
China:	Hongkong	Sept. 27-Oct. 3	1	1
Ecuador:	Guayaquil	Oct. 11-31		2
France:	Marseilles	Oct. 1-31		21
	Paris	Oct. 25-31	4	
Great Britain:	Glasgow	Oct. 30-Nov. 6	4	
	London	Oct. 25-Nov. 7	17	
	Manchester	Oct. 18-24	5	
	Newcastle-on-Tyne	Oct. 25-31	6	
Italy:	Catania	Oct. 29-Nov. 5		1
Malta:		Oct. 18-31	3	2
Mexico:	Mexico	Oct. 26-Nov. 1	3	1
Netherlands:	Amsterdam	Nov. 1-7	2	
Porto Rico:	San Juan	Oct. 31	2	
Russia:	Moscow	Oct. 18-24		2
	Odessa	Oct. 11-18	6	
	St. Petersburg	Oct. 18-24	27	1
Spain:	Barcelona	Oct. 18-31		2
Turkey:	Constantinople	Oct. 26-Nov. 1		2
	CHOLERA—FOREIGN.			
India:	Calcutta	Oct. 11-17		3
	Madras	Oct. 3-9		1
Turkey:	Siarbikir	Oct. 8-15	5 deaths daily.	
	Severek	Oct. 8.	Present.	
	YELLOW FEVER—UNITED STATES.			
Texas:	Cannel	To Nov. 18	19	
	Laredo	Nov. 11-19	195	17
	Minera	Nov. 11-13	9	
	San Antonio	Nov. 12-14	3	3
	YELLOW FEVER—FOREIGN.			
Brazil:	Rio de Janeiro	Oct. 11-18	2	
Mexico:	Citas	Oct. 11-24		2
	Cuidad Victoria	Oct. 11-24	23	18
	Linares	Oct. 11-24	412	36
	Merida	Oct. 11-24	20	7
	Nuevo Laredo	Oct. 11-Nov. 14	52	21
	Progreso	Oct. 11-24	1	1
	Salina Cruz	Oct. 11-24	8	2
	Tehuantepec	Oct. 11-24		4
	Vera Cruz	Oct. 24-Nov. 7	66	32
Venezuela:	Barquisimeto	Oct. 12-13		2
	Cagua	Oct. 13	Present.	
	Maracaibo	Oct. 18-24	1	1
	PLAGUE—UNITED STATES.			
California:	San Francisco	Nov. 4-7	2	2

PLAGUE—FOREIGN.

Brazil:	Rio de Janeiro	Oct. 11-18	44	22
British East Africa:	Port Elizabeth	Sept. 20-Oct. 3	3	2
China:	Hongkong	Sept. 27-Oct. 3	2	2
Egypt:	Alexandria	Oct. 11-23	16	11
India:	Bombay	Oct. 14-20		60
	Calcutta	Oct. 11-17	17	17
	Karachi	Oct. 4-18	12	10
	Madras	Oct. 10-16		1
Mauritius:		Oct. 16-22	100	66

Changes in the Medical Corps of the U. S. Army for the week ended November 21, 1903:

APPEL, Major A. H., surgeon, is granted leave for one month, upon surgeon's certificate, with permission to go beyond the limits of the department.

ARWINE, JAMES T., contract surgeon, is granted leave for one month, from about November 20.

WALL, FRANCIS M., contract surgeon, is relieved from temporary duty at Fort Thomas, and will return to his proper station at Columbus Barracks.

SHOCKLEY, First Lieutenant Major A. W., assistant surgeon, is granted leave for one month, from about November 22, with permission to apply for an extension of 10 days.

POLHEMUS, Major ADRIAN S., surgeon, is granted leave for 1 month, with permission to apply for an extension of 1 month.

CHURCH, Captain JAMES R., assistant surgeon, is granted leave for 14 days, from December 9.

The following-named officers will report to Major William H. Arthur, surgeon, president of the examining board at the Army Medical Museum Building, Washington, D. C., for examination for promotion: Captain George D. DeShon, assistant surgeon; First Lieutenants Joseph H. Ford, Elmer A. Dean, Walter Cox, Samuel L. Steer, Willard F. Truby, Llewellyn P. Williamson, Charles E Marrow, Henry S. Greenleaf, assistant surgeons.

The following-named officers will report to Lieutenant-Colonel Henry S. Kilbourne, deputy surgeon-general, president of the examining board at the United States Army General Hospital, Presidio, for examination for promotion: First Lieutenants Percy M. Ashburn, Francis M. C. Usher, Frederick F. Russell, Edwin P. Wolfe, assistant surgeons.

COOKE, ROBERT P., contract surgeon, is relieved from duty at Camp George H. Thomas, Ga., and will proceed to Fort Wood for duty, to relieve George Newlove, contract surgeon, who will proceed to Fort Ethan Allen for assignment to duty with troops of the Second Cavalry en route to the Philippine Islands. Upon arrival at Manila Contract Surgeon Newlove will report to the commanding general, division of the Philippines, for assignment to duty.

HALSELL, JOHN T., contract surgeon, is relieved from duty at Fort McIntosh, and will proceed to Eagle Pass, Tex., for duty, to relieve Victor E. Watkins, contract surgeon, who will proceed to San Francisco, Cal., and report for transportation to the Philippine Islands on transport to sail from San Francisco about December 1. Upon arrival at Manila Contract Surgeon Watkins will report to the commanding general, division of the Philippines, for assignment to duty.

KILBOURNE, Lieutenant Colonel HENRY S., deputy surgeon-general, is relieved from duty as chief surgeon, department of California, and will report for transportation to the Philippine Islands on the transport to sail from San Francisco, Cal., about December 1, and upon arrival at Manila will report for assignment to duty.

GIRARD, Colonel ALFRED C., assistant surgeon-general, is relieved from duty in the division of the Philippines, to take effect upon the arrival in that division of Lieutenant Colonel Kilbourne, and will then proceed to San Francisco, Cal., and report by telegraph to the adjutant-general of the army for further orders.

The following changes in the stations and duties of officers are ordered: Major Louis Brechemin, surgeon, is relieved from duty at Ord Barracks, Monterey, Cal., and will proceed to San Francisco, Cal., and assume charge of the medical supply depot in that city, to relieve Lieutenant Colonel Louis M. Maus, deputy surgeon-general, who will proceed to Fort Riley, in compliance with orders heretofore issued.

TORNEY, Lieutenant Colonel GEORGE H., deputy surgeon-general, is relieved from duty at the medical supply depot, San Francisco, Cal., and will report to the commanding general, department of California, for temporary duty as chief surgeon of that department.

GRUBBS, First Lieutenant ROBERT B., assistant surgeon, is relieved from duty at the United States General Hospital, Presidio and will proceed to Fort Wright for duty, to relieve Captain Irving W. Rand, assistant surgeon, who will proceed to Ord Barracks, Monterey, Cal., for duty.

TREUHOLTZ, CLARENCE A, contract surgeon, is relieved from duty at Fort Apache, and will proceed to Fort Bayard and report at the United States General Hospital at that place for duty.

BAIGENT, Sergeant JOHN, first class, Fort Wadsworth, will proceed to Morro Castle, Santiago, Cuba, to relieve Sergeant First Class Emile Hartmann, Jr Sergeant Hartmann, Jr., will proceed to Fort Wadsworth for duty.

LITTLE, First Lieutenant WILLIAM L., assistant surgeon, now at San Francisco, Cal., is relieved from further duty in the division of the Philippines and will proceed to Camp George H. Thomas, Chickamauga Park, Ga, for duty.

KEEFER, Major FRANK R., surgeon, will proceed to Camp McGrath, Batangas, for duty.

The following changes in the stations and duties of officers are ordered: First Lieutenant Compton Wilson, assistant surgeon, now at San Francisco, Cal., is relieved from further duty in the division of the Philippines, and will proceed to Fort Howard to relieve aptain Edward R. Schreiner, assistant surgeon. Captain Schreiner will proceed to Fort McHenry for duty to relieve First Lieutenant Wm. N. Bispham, assistant surgeon. Lieutenant Bispham will proceed to Fort Logan for duty.

HEPBURN, JAMES H., contract surgeon, granted leave for 20 days.

CROSBY, Major WM. D., surgeon, will proceed to Camp Stotsenburg, Pampanga, for duty.

HODSON, FREDERICK A., contract surgeon, now at Fort Mackenzie, will proceed to his home, Denver, Colo., for annulment of contract.

The following changes in the stations and duties of officers are ordered: Lieutenant Colonel George W. Adair, deputy surgeon general, having reported his arrival at San Francisco, Cal., will proceed to St. Paul, Minn, and report to the commanding general department of Dakota, for duty as chief surgeon of that department to relieve Colonel Charles B. Byrne, assistant surgeon-general. Colonel Byrne will proceed to Omaha, Neb., and report to the commanding general, department of the Missouri, for duty as chief surgeon of that department, to relieve Colonel Joseph B. Girard, assistant surgeon-general. Colonel Girard will proceed to San Antonio, Tex, and report to the commanding general, department of Texas, for duty as chief surgeon of that department, to relieve Major Charles F. Mason, surgeon, of that duty.

Changes in the Medical Corps of the U. S. Navy for the week ended November 21, 1903:

FREEMAN, G. F., passed assistant surgeon, detached from the Naval Hospital, Boston, Mass., and ordered to the Naval Station Guam—November 14.

BROWNELL, C D., surgeon, detached from the Alliance and ordered home to wait orders—November 16.

ANGENY, G. L., passed assistant surgeon, detached from the Essex and ordered to the Naval Home, Philadelphia—November 18.

FISKE, C. N., passed assistant surgeon, ordered to the Naval Hospital, Boston—November 18.

DICKSON, S. H., medical inspector, ordered to the Kearsarge as fleet surgeon of the North Atlantic Station—November 19.

MCCLURG, W. A., medical inspector, detached from the Kearsarge and ordered home to wait orders—November 19.

GILL, J. E., assistant surgeon, ordered to the Naval Museum of Hygiene and Medical School, Washington, D. C.—November 19.

Changes in the Public Health and Marine-Hospital Service for the week ended November 19, 1903:

WILLIAMS, L. L, assistant surgeon-general, to proceed to New York, N Y., for special temporary duty, and as inspector of the Purveying Depot—November 14, 1903.

CARMICHAEL, D. A., surgeon, bureau order of October 5, granting leave of absence for thirty days from October 16, amended so as to read twenty-four days from October 16, 1903—November 14, 1903.

WASDIN, EUGENE, surgeon, granted leave of absence for one month from December 7—November 18, 1903.

MAGRUDER, G. M, surgeon, granted leave of absence for two days from November 17—November 14, 1903.

ROSENAU, M. J., passed assistant surgeon, relieved from duty at Vera Cruz, Mexico, and directed to rejoin his station in Washington, D. C.—November 16, 1903.

PARKER, H. B., passed assistant surgeon, relieved from duty at Vera Cruz, Mexico, and directed to return to the Bureau at Washington, D. C.—November 16, 1903.

LUMSDEN, L. L., passed assistant surgeon, granted leave of absence for ten days from November 15—November 14, 1903.

RAMUS, CARL, assistant surgeon, granted leave of absence on account of sickness, for nine days from October 28—November 14, 903.

STANSFIELD, H. A., assistant surgeon, to report to Director of the Hygienic Laboratory for duty—November 16, 1903.

GOLDBERGER, JOSEPH, assistant surgeon, to proceed to Laredo, Texas, for special temporary duty—November 17, 1903.

BERRY, T. D., assistant surgeon, to proceed to Cleveland, Ohio, and assume temporary command of service at that port, during absence of medical officer in command, upon completion of which to rejoin station—November 13, 1903.

FRANCIS, EDWARD, assistant surgeon, granted leave of absence for fourteen days. Relieved from duty at Vera Cruz. Mexico, and directed to return to the Bureau at Washington, D. C.—November 16, 1903.

BOGGESS, J. S., assistant surgeon, granted leave of absence for one month from December 15—November 16, 1903.

PIERCE, C. C., assistant surgeon, detailed as inspector of unserviceable property on the steamer Bratton—November 14, 1903.

EBERSOLE, R. E., assistant surgeon, to proceed to San Antonio, Texas, for special temporary duty—November 15, 1903.

ASHFORD, F. A., assistant surgeon, to proceed to Chicago, Ill., and report to medical officer in command for duty and assignment to quarters—November 12, 1903.

ROBERTS, NORMAN, assistant surgeon, upon being relieved from duty at Chicago, Ill., to proceed to San Diego, Cal., and assume command of the service at that port—November 12, 1903.

FRICK, JOHN, acting assistant surgeon, granted leave of absence, on account of sickness, for thirty days from July 31—November 13, 1903.

HALLETT, E. B, acting assistant surgeon, granted leave of absence for four days from November 25—November 17, 1903.

MAGUIRE, E. S., pharmacist, granted leave of absence for thirty days from December 5—November 14, 1903.

SOUTHARD, F. A., pharmacist, granted leave of absence for seven days from November 14, 1903, under paragraph 210 of the regulations.

NEVES, GEORGE, pharmacist, directed to proceed to Chicago, Ill., and report to medical officer in command for duty and assignment to quarters—November 12, 1903.

Appointment.

ASHFORD, FRANCIS ASBURY, of the District of Columbia, commissioned (recess) as assistant surgeon in the Public Health and Marine-Hospital Service—October 29, 1903.

American Medicine

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PUBLISHED WEEKLY AT 1321 WALNUT STREET PHILADELPHIA BY THE AMERICAN-MEDICINE PUBLISHING COMPANY

VOL. VI, No. 23. DECEMBER 5, 1903. $5.00 YEARLY.

A Legal Definition of the Term, The Practice of Medicine.—All who have had experience in the courts with illegal practitioners have learned that the entire question of uprooting quackery depends upon the acceptance by juries, judges, and the public, of a proper definition of the expression, *the practice of medicine*. The eddyites, osteopaths, and the rest, have secured their vogue solely on the ground that they gave no drugs, and hence did not practise medicine. Such a definition is, of course, rank absurdity to us, and it behooves us now to avoid this misconception in the future, and to agree upon definitions which will be accepted by legislators, jurists, and the public generally. The National Confederation of State Medical Examining Boards appointed a committee to formulate such definitions, and after careful consideration presents its report, which is published in the latest issue of the *Pennsylvania Medical Journal*. The State controls the regulation of the practice of medicine, and decides whether the graduates of reputable medical colleges shall be licensed or not to practise medicine. The committee says practising medicine is treating diseases, deformities, and injuries. Nothing could be more concise and indisputable. Establish this simple and incontrovertible position, and there can be no quibble or doubt. A legal practitioner of medicine, therefore, is anyone licensed to assume directly or indirectly, the responsibilities, by offering or granting services, for the treatment of diseases, deformities, and injuries.

An item of the cost of smallpox is suggested by the annual report of Dr. Lee of the Pennsylvania State Board of Health. The value of human lives, the cost of death, and of illness have often been estimated, and the results are convincing arguments that the public should, for purely politic and financial reasons, do all in its power to eradicate disease and prevent unnecessary death. In the last year there were, according to Dr. Lee, 6,504 cases of smallpox in the State, with 503 deaths. A somewhat careful calculation, based upon these reports, leads to the conclusion that in the counties reporting, about 1,500,000 school days were lost during the period reported on. This does not include the great cities of the State, which would swell the figures enormously. In Philadelphia, for instance, seven elementary schools, with an enrollment of more than 5,000 pupils, were closed in a single day because of smallpox in the families of pupils. In round numbers we may therefore place the number of lost school days in the State, from smallpox, at not less than 2,000,000. If we take 200 as about the average number of actual school days a year, of each pupil, if there were no loss of time, it follows that the waste of the scholar's time, by smallpox, and of the teacher's salary, interest on the real estate, etc., must be calculated on the basis of a loss of 10,000 school years. As smallpox is a preventable disease, the expense is a preventable expense,—whenever the community cares sufficiently to authorize the prevention.

Tuberculosis Congresses.—The letter of Dr. Knopf, published in another column, makes unnecessary an editorial we had written upon the subject. Nothing is now left except to cry, *Hear, Hear!* to Dr. Knopf's plea. Individualism in this matter can no longer be tolerated. The reputation of the American medical profession is at stake—indeed, of the American people. The promoters of tuberculosis congresses must come to an agreement, both with the leaders, and with the whole rank and file of the profession, in any plan which is called American. We do not question the motives of these promoters, but we denounce the methods of some of them. The folly is amazing, of attempting to hold national or international congresses on tuberculosis in which the greatest physicians, the workers and thinkers of the nations concerned, have no part. Such a "congress" must not be tolerated. A real congress, if one is advisable, can be called only after the most thoroughgoing understanding on the part of the best scientific and professional men, and with the assurance that all individualism, partizanship, and selfishness have been supplanted by true love of humanity, by genuine business methods, and by the highest professional motives. Until the profession speaks through its leaders, with the authority of union, physicians should not encourage individual tuberculosis congresses.

Industrial Hospitals.—This term is given by Dr. Lowman, of Johnstown, Pa., to hospitals in connection with manufacturing or industrial establishments. He thinks that of the Cambria Iron Company at Johnstown, established in 1887 by his suggestion, was the

first in Pennsylvania, if not in the United States. The company at that time had between 3,000 and 4,000 men in its employ. It now has over 13,000. The hospital opened with twelve beds, and in its first year treated 32 inpatients and 363 ambulant patients. During the past year the bed-capacity was 40, the inpatients numbered 640, the dispensary patients, 3,104. The average cost per patient per day was 85 cents. Since the establishment of the hospital, the number of cases has been 24,708, and Dr. Lowman thinks this indicates a lower average proportion of accidents than in other manufacturing institutions. A convincing argument is made that these industrial hospitals would "pay" if established by all large manufacturing companies. From a humanitarian standpoint the fact would not be contested by anyone. But from a financial one, as well, Dr. Lowman argues that they also pay. A kindlier feeling is encouraged between employer and employed, or between capital and labor, litigation is discouraged, the men are returned to work earlier than if treated at their homes, etc.

The spread of infectious diseases by the lack of medical inspection of schools has been demonstrated by an excellent Philadelphia organization—the Public Education Association. In seeking to secure the appointment of most needed medical inspectors the Association made an analysis of the statistics pertaining to the subject from the reports of the Bureau of Health and the astonishing discovery was made that there has been an average throughout the last four years of 1,516 more cases of diphtheria and 1,353 more cases of scarlet fever in the school periods than in the vacation periods. This difference is due largely to the closer quarters in which people live during the seasons when indoor life prevails as contrasted with the less restricted space of outdoor life of summer. But it is the schools that are the main centers for the crowding together during the seasons of indoor life, and it is the schools that bring together the part of the community most susceptible to disease—namely, the young children. It is practically, therefore, the schools that are adding 39% of the cases of diphtheria and 37% of the cases of scarlet fever. The differences between the actual number of recorded cases and the estimated number, when computed on vacation average, supposing for the moment that the latter could also have been the average of the school period, is a difference of 4,547 cases of diphtheria and 4,060 cases of scarlet fever. If the hypothesis is true that school inspections could bring the average number of cases of contagious diseases of September to June nearly down to the average number from June to September, then certainly a majority, or at least a large number of these 4,000 cases each of diphtheria and scarlet fever that have occurred in the last four years might have been prevented had there been a daily medical inspection of schools in practice. By calculating the cases per week, the committee finds that the schools have been responsible during these school periods as compared with vacation periods, for 117 cases of diphtheria and 105 cases of scarlet fever. No more cogent argument could be brought to establish the truth of the Association's contention.

Magazine Science.—We received a note last week asking us to read "the greatest antivivisection story ever written," in the last number of *Harper's Magazine*, by Mark Twain. We are not certain whether the notice was sent to us by the publishers of the magazine or by some of our antivivisectionist critics. Four persons have joined their forces to produce this consummately "greatest story"—editor, story-writer, illustrator, and anti. Leaving aside the literary and social lessons of the tale, which are far below the merits of a hundred good dog stories, the vivisectionist portion is pathetic—but the pathos consists in ludicrous incongruity and blundering. The argument against the vivisectionist is all in one short paragraph and must have been inspired by Mark Twain's osteopathic or antivivisectionist friends, so wholly wanting is it in knowledge, the most rudimentary, of laboratories and science. According to the full-page drawing illustrating the experiment the vivisector holds a nonanesthetized puppy in one hand, in the air, and with the other hand he pierces its brain with some instrument held like a penholder, and produces blindness; he then cries dramatically, "I've won! He is as blind as a bat!" One without the veriest scrap of knowledge of science or of laboratory work can readily see that it is physically impossible to plunge a probe with the fingers of one hand through the skull of a dog, while the animal is held in the air with the other hand of the operator. Such ludicrous childishness characterizes much of the rest of the article of the excellent old humorist. If he had not lost his former juvenile sense of fun, one would suspect he was trying to make game of the antivivisectionists by such nonsense. The psychologic value of the story may be illustrated by the representation of the puppy's mother feeling that her doggie, being buried, was being "planted" and would, like a plant, grow out of the ground and "become a fine handsome dog like Robin Adair." Only a humorist in his dotage would make a dog reason that a "planted" puppy, even a vivisected one, could grow up like a tree and become a fine dog. The imagination of facts without experience or investigation or knowledge is a dangerous proceeding. So long as professional humorists deal only in "glittering generalities" nothing comes of it. Mark Twain and Harper & Brothers should cite actual facts with dates, places, etc. This the Hon. Stephen Coleridge in London did, charging Dr. Bayliss with carrying out vivisection experiments without anesthetics, just as all antivivisectionists have charged and probably will continue to do forever. Dr. Bayliss has just been awarded $10,000 damages by a jury in the Lord Chief Justice's court.

"Ghost-words" in Medicine.—Skeat has given the name ghost-word to a class of words really nonexistent, or without any warrant for existence, and due to misprints, blunders, miswritings, etc. He supplies a list of 100 or more such words. Many have been introduced since then by the growing habit of dictating, typewriting, etc. But the newspaper is the greatest coiner of these terms because of the ignorance and carelessness of the reporter, editor, or proofreader. One of the most amusing instances of this kind of blundering recently

occurred in an editorial in the Chicago *Herald*, which used the word, *endlyopia*, several times in one article. In our issue of October 17, we made allusion to this mistake whereby *amblyopia*, which was, of course, meant, came out in the newspaper *endlyopia*. Strangely enough, a medical journal—we forbear mention of its name—has put the seal of medical sanction upon this ghost-word and seriously reproduces the newspaper article, heading and all, as a new disease of the eyes that has been discovered. One hopes that those makers of medical dictionaries, who "take their own (and other peoples' also) wherever they find it" will not embalm "endlyopia" in their sacred pages.

Death by Hanging.—The identity of the convulsions of epilepsy with those of strangulation has recently been emphasized by Dr. J. W. Wherry.[1] The similarity of the clonic spasms of an epileptic seizure to those of other cases of sudden asphyxia is due to the fact that the tonic spasm, which forms the initial stage of an epileptic attack, includes the muscles of respiration as well as those of the arterial walls. The suddenly established cerebral anemia would by itself suffice to produce such convulsions. Its effects are reinforced by those of the exclusion of oxygen—by arrest of the respiratory movements. The mechanism of the fatal result in hanging depends almost entirely on the length of "drop" given to the subject. It is not generally known that in the good old days of unlimited monarchic power in Europe, when executions—especially political ones—were carried out on so large a scale; when a rebel was "drawn" on a hurdle to the foot of the gallows, and then successively "hanged, disemboweled, beheaded, and quartered"—hanging was really employed as an anesthetic. From time immemorial in some Oriental nations, partial strangulation has been employed for this purpose before the performance of major surgical operations. In the British Isles hanging was especially popular as a mode of execution. In the execution of an English rebel, the hanging was administered by "short drop," and the culprit was cut down while still alive. His body was then ripped open, and the heart and "bowels" were torn out and "burned before his face," in a fire made ready for the purpose. But in Ireland, where the executions were sometimes conducted on an epidemic scale, the "long drop" was nearly always prescribed—it saved time and trouble. If the drop is of sufficient length, the ensuing death must necessarily be instantaneous. One or more of the upper cervical vertebras are fractured, and their connecting ligaments torn; with the inevitable result that the spinal cord is lacerated through the whole thickness at its upper end—the only portion of the human body in which the destruction of a small portion of tissue is necessarily followed by instantaneous death. The first important step in the humanitarian regulation of this form of capital punishment was made in Ireland. The late Dr. Samuel Haughton, of Trinity College, Dublin, who was an eminent mathematician and scientist, as well as a medical man and philanthropist, conducted a series of experiments on dead bodies with the object of calculating the length of drop requisite to effect laceration of the upper part of the spinal cord, by producing dislocation or fracture of one or more of the vertebras close to the base of the skull. The net result of these experiments was that a certain number was fixed on, which, when divided by the number of pounds of the body-weight of the subject, gave the requisite length of drop—in feet. Soon after the publication of this mathematic method of execution, a case came on in a Dublin prison, the visiting surgeon of which was a friend and admirer of the author. Accordingly, the culprit was weighed, the requisite sum in division was performed; the quotient was fourteen. The result was, that the victim when dropped was decapitated by the rope! The author of the philanthropic improvement in jugular suspension had overlooked the fact that while arithmetic numbers are fixed quantities, the resisting powers of animal tissues vary with the individual; and that, accordingly, two criminals of the same weight may require the application of vastly different forces for production of fracture of the cervical vertebras. The gruesome result, however, induced Dr. Haughton to make another ingenious suggestion—of placing the knot of the rope under the chin of the culprit, instead of under the left ear, as in the venerable Jack-Ketch method. With a moderate drop this arrangement utilized the lower jaw as a lever, by whose agency the upper cervical vertebras were fractured or dislocated. The inevitable comment on the ghastly occurrence to which we have referred was, happily, a strong factor in the abolition of the brutalizing spectacle of public executions.

[1] *American Medicine*, August 15, 1903, p. 274.

The telephone in medicine supplies a danger beside those so often bespoken, of the transfer of micro-organisms, of the "telephone ear," etc. This new form arises because of errors in speaking or hearing medical words. A subscriber gives the following illustration. He writes that one of his associates had a portion of a breast to examine microscopically. If carcinoma was found the breast was to be removed, if not, no further operation was necessary. He found an adenocarcinoma. On going to the telephone he communicated with the secretary of the surgeon, reporting that the patient "had an adenocarcinoma." The secretary took it down that the patient "had no carcinoma." The patient was allowed to go home on the supposition that there was nothing malignant, and only after some weeks was the source of error detected. In such cases one can readily see that most serious consequences might ensue from such mistaking of sounds, and it seems of sufficient importance to suggest that repetition of telephone messages is advisable. Whether *adeno* or *had no*, makes a vast difference both to patient and physician.

Definition of "New Thought."—One thousand dollars were given in fourteen prizes by the publisher of *New Thought* for the best definition within ten words of "New Thought." The following were the definitions winning the prizes—the first of $500, the second of $250, etc.:

Being and doing one's best by repeatedly affirming one's ability.

We are what we assert ourselves to be.

Claim that you are what you desire to be.

The cheerful, persistent assertion of the soul's prerogative to rule.

Continuous affirmation of whatever helps us achieve our highest possibilities.

Attaining the ideal in life through thought concentration and assertion.

Mental imagery, personally controllable, governs bodily health and individual circumstances.

Holding constantly before one's thoughts the omnipotence of man's mind.

Human development through recognition and assertion of human divinity.

The control of mental force by positive, concentrated, ideal suggestion.

Realization of ideals by becoming them through force of desire.

Benefiting or injuring others and ourselves reciprocally through thought force.

Fear nothing; love everything; believe you can do anything.

The recognition, realization, and manifestation of the God in me.

It seems, therefore, that the more one claims regardless whether he has it or not, the more egotism one cultivates, the more one ignores facts and lives in indifference to them, the more one ignores disease and treats himself, or hires "absent treatment," by means of "vibrations,"—the more one "realizes the God in me."

"The Mazdaznan Health University" sends us by the hands of the "Rev. Dr. Otoman Zar-Adusht-Hanish," its president, and Adolf Dittman, secretary, instructive circulars and pamphlets. *The Mazdaznan* is its journal. The name has a suggestive likeness to "razzle-dazzle," and the samples of literature, which have been the salvation of "millions of others," as assured, seem to confirm the impression. We regret that we cannot, even in a medical journal, give the best and most characteristic excerpts, but the address of the "University" is 1613 Prairie avenue, Chicago, and application will probably bring samples, especially of "Do You Eat?" "Do You Breathe?" From the books advertised, of the "President," one can learn "all things knowable and unknowable." These are some of them:

The phosphorent flow through exercise of will.
How to raise vibrations and coin.
Corpse-eating a remnant of barbarism.
The delusive idea of the necessity of eating.
Definition of gift of God—God and gab.
To still hunger without food.
Transformation of old age into youth.
Immaculate conception the only means of liberation.

The astonishing titles as to things sexual are not quotable, and suggest the need of Mr. Comstock and the law. One testimonialist asks some trying questions, easily answered, of course by the Reverend Doctor.

I ask, because I have bought a number of books that promised to reveal the secrets of occultism, to tell me how I might acquire all you mention in your table of contents. And yet they are for the most part nothing but advertisements put out at my expense, saying something about these wonderful forces and powers, and ending by telling of a book or a private course yet to follow that will surely reveal to you all the mysterious secrets of life. You invest again, and lo! it is as mystifying and far away as ever, a mirage of the desert—a will o' the wisp, always to be chased but never to be captured. And when generous enough to part with an idea, it is buried in pages of big words and lost in involved rhetoric. Or it is spread out so thinly over a multitude of pages that the uninitiated don't even suspicion the existence thereof. Paper is cheaper at the paper-mill.

John F. Morgan has got "Home at Last," but his trials of getting there are in part thus described:

Over 30 years I have famished (physically) on corpses (dead cells) "a hot bird and a cold bottle" which developed many diseased conditions, among others blood poison, until I became a walking apothecary shop, and I consulted the doctors daily. Death had set in, etc. . . .

I have paid $25 for Ralston Health Club books and which contain much valuable information, with over 300 exercises which would require 3 hours time every day to practise—all of which and much more is condensed in the "Mazdaznan Health Culture." . . .

In fact I think, and have all reason to believe that the Ralston people obtained the basis of their foundation from the sun-worship philosophy (Mazdaznan) but they stopped at "Glame" (the poho or essence according to Mazdaznan teachings) obtained from food and water, while Dr. Hanish goes a step higher and teaches the value of "Ga-Llama," the concentrating life principle obtained, etc. . . .

I have spent hundreds of dollars and much valuable time in investigating spiritualism, theosophy, occultism, mysticism, symbolism, christian, divine and mental science, higher thought, new thought, higher law, and other cults and systems too numerous to mention.

Spiritually I have floated in the clouds from Egypt (neliopolis luxas) and India (yoga philosophy) to Mars and Venus (temple of the magi). By the instructions of Dr. Hanish I have been directed to return home (common sense) to my father's house and mother nature (Mazdaznan Health Culture) and my conclusions are that all there is mystical, occult, and magical is an uncontrolled, drifting and superinduced confusion of the mind, caused by mental and physical stuffing and mental and physical fasting only, will restore one to a healthy hunger for mental and physical food since all the wonders and real treasures are contained within the individual self.

A Busy Vibralogist.—Some time ago an enterprising healer of the Southwest gave much amusement to his friends and enemies by instructing patients all over the world to lie down exactly at a certain hour of the day, and at that minute the absent healer would think of them and send forth the miraculous vibrations to cure each according to his receptiveness and need. The man had forgotten or had never heard of a complicating difference in time between the clocks of Kansas and Maine, San Francisco, and London, whereby his vibrations, instantaneously transferred, would not arrive at all on time. In the latest number of that most humorous of periodicals, *Christian*, the editor, on page 8, says he is sending out 30,000 copies of his paper every month, and to each person he also sends the healing and success vibrations. Also, on page 8, he says the name of each of these 30,000 persons is "called every day in the healing-room." It is strange that the miracle-worker forgot his multiplication table. If at a high rate of speed of the caller, and a still higher rate of the vibrator, surely not over 30 names could be correctly read and called in a minute continuously by one caller. The "healing" would, of course, be easier. At the auctioneer's best, 1,800 names an hour would severely tax the larynx and would be extraordinarily good business. Thus to get through the 30,000 names each day would require at least 17 hours of uninterrupted "calling" and healing. And yet this particular advertiser is the most sane and rational of the entire multitude of these curious people.

AMERICAN NEWS AND NOTES.

GENERAL.

Miscellaneous.—BUFFALO: The medical faculty of the University of Buffalo has invited Dr. Samuel J. Meltzer, of New York, to deliver the Harrington lectures for 1903. The subject being "Edema: A Consideration of the Physiologic and Pathologic Factors Concerned in its Formation." The lectures will be delivered in the Medical College, November 30, and December 1, 2, and 3.

Oldest Woman Physician.—Dr. Amelia Wilkes Lines, the oldest practising woman physician in the world, both in age and period of practice, celebrated her eightieth birthday recently in her quaint, old-fashioned home at 285 Washington street, Brooklyn. She presided all the afternoon at a reception, at which were present 4 generations of her descendants and about 200 old friends, patients, their children and grandchildren.

Railway Fatalities and Injuries in the United States.—Figures recently published by the Interstate Commerce Commission for the quarter and year ended June 30, show that accidents during the 3 months of 1903 resulted in 230 deaths and 2,629 injured, against 300 and 2,834 respectively in 1902. For the 12 months 3,554 persons were killed and 45,477 injured, compared with 2,819 killed and 39,800 injured in 1902. Statistics on railway accidents gathered and published by the commission during the past 15 years show that over 100,000 persons have been killed and more than 615,000 injured.

Health Officers' School.—The Indiana Legislature of 1903 authorized the State Board of Health to require a certain sanitary training of the health officers, and also authorized the holding of a school for health officers. The health officers of the State number 516, and 2 schools are held annually to accommodate this number. The first school was held in June, and to it was summoned all county and city health officers. The second school, which is exclusively for town health officers, will be held December 16 and 17 at Indianapolis. Among the teachers for this school are ex-Surgeon-General Sternberg, Surgeon-General Wyman, Dr. F. G. Novey, of Michigan University; Dr. Chas. O. Probst, Secretary American Public Health Association, and Secretary Ohio State Board of Health; Dr. Frank Allport, Chicago; Professor David Dennis, of Earlham College, and Professor Coulter and Professor Burrage, of Purdue University. The lectures will all relate to subjects pertaining to the practical application of disease prevention measures. The Hon. Wm. L. Taylor, ex-attorney-general, who has written and revised the health and medical laws of the State, will expound the State and United States laws relating to public health and quarantine.

EASTERN STATES.

Boston Mortality.—The number of deaths reported to the Board of Health for the week is 188, as against 210 the corresponding week last year, showing a decrease of 22 deaths, and making the deathrate for the week 16.25.

Jewish Hospital Dedicated.—The dedication of the Mt. Sinai Hospital recently, gives Boston its first Jewish hospital. Although the mission of the institution will be to serve the unfortunate regardless of race or creed, an especial effort will be made to look after the Jewish poor. One of the chief reasons for the opening of this hospital is the inadaptability of the ordinary institution to the strict dietary principles of the Jewish people; and another is their slowness to acquire the English language. The diet kitchen will be one of the chief features of the hospital.

NEW YORK.

Good Work of Elks.—New York Lodge, No. 1, Benevolent and Protective Order of Elks, is about to endow in perpetuity, at an expense of $15,000, 2 beds in the Postgraduate Hospital. The hospital agrees to place the beds in a private room, to give the lodge the right to say who shall occupy them, and also to give these patients everything they need without additional expense. The money is to be paid in installments within a period of 18 months.

Smallpox Prevalent in Parts of New York.—News from Albany, under date of November 28, says: Smallpox has become so prevalent throughout the State that the State Board of Health has determined to issue weekly bulletins until its abatement, calling attention to the localities where it exists. There have been 92 cases in the vicinity of Medina during the past 2 months and 25 cases reported at Clyde, together with smaller numbers from various other localities.

Open-air Treatment of Tuberculosis.—The open-air treatment for tuberculosis started by the Health Department on North Brother Island, has proved a success, say the physicians who have watched the experiments. A hospital for the treatment of the disease was established on the island and out of 127 patients who entered the institution 6 months ago, 84 have been discharged as cured, and only 11 are under treatment now. Eleven have died. The mortality is placed at 25%, which is a low average when it is considered only the worst cases have come to the island. Pure air, sunshine, good food and the absence of worry have been the principal factors in the treatment.

Children's Aid Society.—The recent report made public shows that 15,816 children were enrolled in the industrial schools of the society, their nationality being as follows: United States, 3,157; Germans, 2,128; English, 114; Irish, 1,150; Bohemians, 821; Italians, 5,226; Russians, 2,341; Hungarians, 522; Slavs, Syrians, etc., 357. The daily average attendance in these schools has been 7,841. Children to the number of 10,236 have been given relief in their homes, 4,302 have been sheltered in lodging houses, 692 have attended the farm school, 389 have been in charge of probation officers, 1,522 have been treated by the Sick Children's Mission, and 533 have been placed permanently in family homes during the year, making a total of 1,323 who have been thus provided for.

PHILADELPHIA, PENNSYLVANIA, ETC.

Contagious Diseases in Allegheny.—Contagious diseases reported to the Allegheny Bureau of Health for the week ended November 28, 1903: Smallpox, 32 cases; diphtheria, 15 cases; scarlet fever, 19 cases; typhoid fever, 13 cases.

Would Destroy Garbage.—A proposition has been made to the city of Pittsburg by a private concern to destroy all garbage free of cost, provided the city attends to the collection and delivery of the material. The process is guaranteed to be odorless. The company realizes its profits from the fertilizers and oils secured in the incineration.

Infectious Disease in Pennsylvania.—The following cases of infectious diseases were reported to the Pittsburg Bureau of Health for the week ending November 28, 1903: Smallpox, 32 cases with 6 deaths; diphtheria, 43 cases with 5 deaths; scarlet fever, 69 cases. There were 10 deaths from typhoid fever, 8 from pulmonary tuberculosis, and 26 from pneumonia.

New Eye and Ear Hospital.—A permit has been issued in Pittsburg for the erection of a new building by the Eye and Ear Hospital to cost $50,000. The structure will be 3 stories in height, of brick with stone trimmings, and will be 80 feet by 65 feet, containing 30 rooms. It will be erected on the property recently purchased at the corner of Fifth avenue and Jumonville street.

Smallpox in Pennsylvania.—At the meeting of the State Board of Health, held in Pittsburg November 27, the report of the secretary, Dr. Benjamin Lee, stated that nearly 50% of the smallpox cases in the State during the year were in Allegheny county, and over 75% of the whole were in counties west of the Alleghany Mountains. The record gives Allegheny county 3,010 cases, with 362 deaths. The other counties combined developed 3,016 cases, with 71 deaths. In Philadelphia county there were 948 cases and 138 deaths. Cambria county came next with 445 cases and 25 deaths.

Medical Inspection of Schools.—A meeting was held in Philadelphia on December 3, at 8 p.m., for the purpose of aiding the plan of the Department of Health and Charities to institute a service of medical inspection of schools, with school nurses in this city. The main address was delivered by Dr. Ernst J. Lederle, Commissioner of Health of New York City. He was followed by the supervising school nurse of New York City, Miss Lina L. Rogers. The Mayor consented to preside, and the president of the Board of Public Education of Philadelphia also spoke. A discussion followed these speakers. The meeting was undertaken with the approval and cooperation of the Department of Health, which is considering the advisability of increasing its corps of medical inspectors to the number of 50 and for the addition of 20 trained nurses, in order to institute daily medical inspection of schools in Philadelphia. The place of meeting was in the De Lancey School.

Dependent and Wayward Children.—In *Charities*, Mrs. H. K. Schoff shows what Pennsylvania is doing for unfortunate children. The total number of children's cases in Philadelphia from June 14, 1901, to November 1, 1902, was 1,793; delinquents, 1,112; dependents, 681. One thousand and eight were returned home under probation officers' care; 24 were brought back to court twice, and 3 came back 3 times; 104 were sent to the House of Refuge. The report from the temporary detention room in the City Hall between February and August shows that 505 boys under 14 were detained there. One hundred and thirty had been newsboys, peddlers, bootblacks, or messenger boys; more than 25% being engaged in street trades which are not regulated by license, as in New York and Boston. Out of the 505 boys detained, 39 have been arrested a second time, 7 a third time, and these were old cases and had been arrested many times before. The boys engaged in street trades are principally Italians and Russian Jews, and come from the congested district in the southern part of the city.

Typhoid Epidemic at Butler.—In a population of 18,000 there are 1,600 cases of typhoid fever in Butler, Pa. The source of contagion has been definitely traced to the water supply of the town. Last August the Boydstown reservoir which supplied the town with water was destroyed by floods. At present the water is obtained from a temporary reservoir known as the Thorn Run dam, above which on the crest of the hill which slopes down to the water basin a family lives, 3 members of which are convalescing from typhoid fever. The refuse from this house flowed down the slope and drained directly into the reservoir. This condition of affairs was known to some physicians of the town but the only action the local Board of Health took was to issue a statement which said that the water pumped to Butler by the Butler Water Company was pure, but suggesting that all water used for domestic purposes be boiled. The situation is so alarming that public aid was requested from Pittsburg and Philadelphia. In 24 hours a corps of physicians and 30 nurses was sent from Pittsburg and financial aid in the sum of $10,000 was subscribed and forwarded to the Butler Board of Health. The Pennsylvania State Board of Health at the adjournment of its meeting in Pittsburg, repaired to Butler, viewed the situation and issued a proclamation calling attention to the source of the scourge and directing appropriate measures for relief.

SOUTHERN STATES.

Nurses Discover Source of Typhoid Fever.—At the monthly meeting of the Instructive Visiting Nurses' Association, held at the headquarters of the organization, at 1123 Madison avenue, Baltimore, last week, the fact was brought out in the report of the superintendent, Miss Lent, that owing to the work of the nurses the source of infection for 18 cases of typhoid fever was traced to the unsanitary condition of the building in which the patients had been employed and to the uncleanly and unsanitary surroundings of the dairy which supplied milk to the establishment.

Fruits of Eddyism.—John A. Turner, an eddyite, died November 29 at Savannah, Ga., while under "science" treatment. The health officer refused to issue a burial certificate, and called on the coroner to investigate the death. The coroner reported that Turner died of the rupture of a bloodvessel, and that he was not attended by a physician. The case will be laid before the Grand Jury and indictments asked on 2 grounds: First, that the eddyites who attended Turner violated the law requiring licenses; and second, that there was criminal negligence in permitting the man to suffer without proper attention.

WESTERN STATES.

Los Angeles Medical Journal.—The first number of this new medical journal appeared under date of November 15. It is a monthly periodical devoted to medicine, surgery, dentistry and hospital nursing. The editor and manager is Ernest S. Pillsbury, M.D.

Decrease in Diphtheria.—The Bulletin of the Chicago Health Department for the week ended November 21, says: "The promotion of the antitoxin treatment of diphtheria has resulted in a reduction of the deathrate of that scourge of the nursery from 35% to less than 7% in the thousands of cases treated by the medical inspectors of the department."

Smallpox in Illinois.—The Chicago *Tribune* says: Notwithstanding the precautions that have been established by local health authorities over Illinois, smallpox is spreading at a threatening rate over the State. Contagion, it is reported, exists in 20 counties at the present time and at a total of 30 places, nearly 300 cases of the disease being reported.

Decrease of Deathrate in Chicago.—The Bulletin of the Chicago Health Department, for the week ended November 21, quotes Albion W. Small, professor of sociology in the University of Chicago, as saying "that while the population of Chicago has increased 81% in the last 10 years over the population of the previous 10 years, the deathrate has decreased 22.5%, with a consequent constructive saving of 70,867 lives. It also shows that the infant deathrate has decreased 36.1%, and the deathrate of children (the 1 to 5 year age group) has decreased 42.4% in the same period—with a similar constructive saving of 57,813 lives of infants and young children."

Cost of Sanitation in Chicago.—The Bulletin of the Chicago Health Department, for the week ended November 21, says: "In 1855 began the elevation of the city level so as to secure drainage and sewerage, and in 1856 the first sewer pipe was laid. During the intervening period—that is, between 1851 and the close of last year—the citizens of Chicago have paid more than $100,000,000 for these 2 essential 'sanitary conditions,' namely, a water-supply system of more than 11,000,000 linear feet, and a drainage and sewerage system of nearly 9,000,000 feet. This does not include the cost of lifting the city bodily to a height of 8 feet above the original level of the site—a necessity for the drainage system. During the quarter of a century preceding water-supply and sewerage, the average annual deathrate was 33.87 per 1,000. In the succeeding 25 years this rate had fallen to 22.37 per 1,000, and in the subsequent period, ended in 1902, it still further fell to 18.16 per 1,000, or a little more than one-half the rate of the first 25 years of the city's existence."

Dr. Senn Suffers from Infection.—News from Kansas City, under date of November 29, states that Dr. Nicholas Senn, the eminent surgeon of Chicago, had stopped over in that city on a return trip home, to have his infected hand treated by the local surgeons. It appears that on November 18, Dr. Senn performed several surgical operations, one of which was a pus case, and it is supposed that infection arose from this source. He went west from Chicago, but symptoms of threatened blood-poisoning appeared and he hastened to return. Arriving at Kansas City he sought relief at the hands of physicians of that metropolis. At last accounts he was better.

FOREIGN NEWS AND NOTES

GENERAL.

Early Death among Workingmen.—The average age of death of workingmen in East London is about 29, whereas in the well-to-do districts of West London the average age is about 55.

Ancient Dentists.—Recent excavations in Rome show that dentistry was practised many centuries ago. On the Via Rosella, which existed at the time of the old Roman Republic, a cave has been opened up which disclosed a number of graves set in niches. One skeleton of a woman was found with a perfectly modeled set of gold teeth.

The Kaiser.—Under date of November 27, information from Berlin has it that a fourth physician, Dr. Gustav Spiess, of Frankfort, has been summoned on the advice of Dr. Schmidt to superintend the treatment of the vocal cords of the Emperor. He is a collaborator with Dr. Schmidt, and is an authority on the after-treatment of polypus.

Plated Corpses.—A German professor has invented a process of silver-plating dead bodies so as to convert them into metallic images of the individuals as they were when in life. Gold plate can be used if the relatives can afford it. But, as the expense of silver-plating a body is $12,500, there are probably few relatives who would deem themselves justified in squandering the deceased's estate on such a memorial.

Loss of Sense of Smell in Old Age.—That the sense of smell is greatly impaired in old age appears from observations by a French physiologist, M. Vaschide, who communicates his results to the Academy of Science, Paris. To quote a report in *Cosmos* (October 31): "Old people seem to have an atrophied sense of smell, and it is a remarkable fact that they do not seem to be conscious of this infirmity. Even when they can scarcely distinguish one familiar odor in ten, and when they take strong-smelling liquids for pure water, they assert that they enjoy the perfume of flowers. Their visual images make up for the absence of olfactive images, for they recognize the perfumes of the flowers when they are able to see them. The olfactive image thus has an independent intellectual existence, since it is capable of functional revival."—[Translation made for the *Literary Digest*.]

The Plague Invincible in India.—The Boston *Transcript* says from England's great Empire in the Orient comes the news that the plague is raging there more fiercely than at any moment since its appearance 7 years ago, and that the British government has resigned itself to allowing the fell disease to run its course unchecked. Although more than 2,000,000 people have perished of the plague in the Deccan since its outbreak, and the whole of India's trade and its industry have been gravely affected by its ravages, the English authorities seem to have no alternative in the matter. A mere handful in the midst of a teeming population of over 300,000,000 of natives, they find themselves helpless in the face of the more or less passive resistance of the whole people, to enforce those measures which are necessary to arrest the spread of the pest. Isolation, segregation, and inoculation have been in turn tried, without success, and have merely served to arouse the discontent of the natives, and to damage the prestige of the government, by demonstrating its powerlessness to enforce its commands.

OBITUARIES.

William Matthew Warren, at his home in Detroit, Mich., November 11, 1903, aged 39. The deceased, though not a physician, came so widely in contact with the profession and was so universally respected and admired for his integrity, ability and capacity, that notice of his demise is accounted proper in these columns. Mr. Warren was general manager for Parke, Davis & Co. at Detroit. When a lad of 17 he entered the service of the company in a minor position and at 32 he was general manager of the firm. The employes of the company have recently published a memorial leaflet which shows touching and affectionate regard for the high character of the man. He was publisher of the *Medical Age, Medicine and Therapeutic Gazette.*

William S. Stewart, at his home in Philadelphia, November 25 aged 65; a graduate of Jefferson Medical College, in 1863. One of the founders and for ten years dean of the Medico-Chirurgical College, Philadelphia. He served as assistant surgeon in the Federal army throughout the Civil war; he was for many years a director of the Charity Hospital of Philadelphia, Member of the Philadelphia County Medical Society, the Obstetrical Society, the State Medical Society, the American Medical Association, Loyal Legion, and Grand Army of the Republic. He was twice a delegate to the World's Medical Congress and a frequent contributor to medical periodicals.

Horace C. White, at his home in Somerville, Mass., November 26, aged 67; a graduate of the Medical Department of Bowdoin College in 1859; he served during the Civil war as an assistant surgeon, entering the Union army in 1861. He was ex-president of the Boston Gynecological Society, Somerville Medical Society, Massachusetts Medical Association, member of the Maine Medical Association and of the American Medical Association.

Philip Brookes Mason, who died recently in London, was a prominent English surgeon, having received his medical education at University College, London. For many years he was demonstrator of anatomy in his alma mater; was a member of the Royal College of Surgeons, and surgeon to the Burton-on-Trent Infirmary. He was a naturalist and a contributor to Linnæan and Cognate societies.

Achille Adrian Proust, at his home in Paris, November 26, aged 69; he was an eminent French authority on hygiene; a member of the Academy of Medicine, and for many years was inspector-general of the Board of Health in Paris. As an author he produced a number of works on hygiene, cholera, aphasia, etc. In 1892 he was made a commander of the Legion of Honor.

Samuel S. Lathrop, was killed by an accident, in Norwich, Conn., November 8, aged 39; a graduate of the College of Physicians and Surgeons, New York, in 1900; pathologist to the William Backus Hospital, and member of the New London County Medical Society and the Connecticut State Medical Society.

Archibald B. Temple, at his home in Tulsa, Indian Territory, November 11; a graduate of the Western Reserve University, Cleveland, Ohio, in 1883. Member of the Kansas Medical Society, the International Society of Railway Surgeons and vice-president of the South East Kansas Medical Society.

J. Frank Moore, at his home in Tyler, Texas, November 18, from pneumonia; a graduate of the University of Louisiana, New Orleans, in 1858; a member of the State medical societies of Mississippi and Texas and a surgeon in the Confederate service during the Civil war.

Thomas Jefferson Buffington, at his home in Baton Rouge, La., November 27, aged 82; a graduate of Jefferson Medical College in 1884, and a practitioner in Baton Rouge for 58 years. He represented the parish in the Louisiana State Senate for several terms.

Joseph F. Merkle, at his home in Perkasie, Pa., November 27, of nephritis, aged 43; a graduate of the University of Pennsylvania, 1894. He received his academic degree at Lehigh University, in which institution he was an instructor for a number of years.

Thomas Richardson Storer, at his home in Scenery Hill, Pa., November 25, aged 60; a graduate of Jefferson Medical College and one of the most widely and favorably known practitioners in western Pennsylvania.

James A. E. Steves, at Phœnix, Ariz., November 14, aged 42; a graduate of the University of Vermont in 1884, and a leading authority on nervous diseases in the Province of New Brunswick, his home.

James M. Mosgrove, at his home in Urbana, Ohio, November 9, aged 78; a graduate of the Medical College of Ohio, Cincinnati, in 1846; a member of the American Medical Association.

Arthur E. Chatfield, at the City Hospital, Cleveland, November 10, from diphtheria, aged 43; a graduate of the Cleveland College of Physicians and Surgeons, Cleveland, in 1896.

Edgar B. Lake, at the Amsterdam Hospital, N. Y., November 10; a graduate of New York University in 1888 and one of the attending physicians to the hospital in which he died.

Richard F. P. Halpin, recently at his home in Arklow, England, aged 45; he was educated in London and became a member of the Royal College of Surgeons in 1883.

Fray Ormrod, recently at his home in Henley, England; he was gold medalist of the British Medical Association. He was educated at Belfast, Glasgow and Edinburgh.

William W. Duffer, from tuberculosis, at his home in Louisville, November 10, aged 40; a graduate of the Kentucky School of Medicine, Louisville, in 1897.

Sylvester J. Finley, at his home in Castle Fin, Pa., November 12, aged 73; a graduate of Washington University, College of Medicine, in 1853.

James B. Read, at his home in Green Cove Springs, Fla., November 10, aged 76; a graduate of the University of Maryland School of Medicine, in 1849.

Robert H. Peel, from heart disease, at Holly Springs, Miss., November 6; a graduate of the New Orleans School of Medicine in 1860.

CLINICAL NOTES AND CORRESPONDENCE

[Communications are invited for this Department. The Editor is not responsible for the views advanced by any contributor.]

AMERICAN AND INTERNATIONAL CONGRESSES ON TUBERCULOSIS AND TUBERCULOSIS EXHIBITS FOR THE YEARS 1904 AND 1905.

BY

S. A KNOPF, M.D.,

of New York.

To the Editor of American Medicine:—During the past few months I have been the recipient of a large number of inquiries concerning the various tuberculosis congresses (American and International) which have been projected for the years 1904 and 1905. The multiplicity of these various congresses and the similarity of their names leads naturally to great confusion. It would be really too great a task to undertake to answer in full and individually all the letters with which I have been honored. I therefore ask you to grant me the space to give the desired information in your esteemed paper, so that all the readers of the *American Medicine* who may be interested, will have a clear idea of the various congresses, their officers, and time and place of meeting.

It is announced that a congress on tuberculosis is to be held in St. Louis on October 3, 4, and 5, 1904, under the name of "International Congress on Tuberculosis." Upon careful inquiries I learned the following facts about this congress: Mr. Francis, the president of the St. Louis Exhibition, has been approached by the officers of the American Congress on Tuberculosis, which was founded some years ago by Clark Bell, Esq., a lawyer of the city of New York, to sanction the holding of an international congress on tuberculosis in connection with the Louisiana Purchase Exposition. From a letter received from Dr. E. J. Barrick, of Toronto, Canada, the now president of this American Congress, I learn that Mr. Francis has appointed the above-mentioned Mr. Clark Bell chairman of the Committee on Organization. Mr. Clark Bell is also the treasurer and chairman of the Executive Committee of the American Congress on Tuberculosis, season 1903–1904; a Mr. Samuel Bell Thomas, of 290 Broadway, New York, is the secretary of the latter. The officers of the International Congress are not yet elected. I was desirous to learn the names of other medical men interested in this congress, and Dr. Barrick very kindly wrote me on November 16 that he had asked Mr. Bell to furnish me the desired additional information, but nothing has thus far been received.

The other international tuberculosis congress announced is the one to meet in Washington, D. C., April 4, 5, and 6, 1905. It is to be held under the auspices of "The American Congress on Tuberculosis for the Prevention of Consumption." The following is a list of the officers of this latter organization:

Honorary President, Dr. Henry D. Holton, Brattleboro, Vt. Member, Executive Council, Dr. Chas. O. Probst, Columbus, O. President, Dr. Daniel Lewis, New York. First Vice-President, Dr. E. A. Egan, Springfield, Ill. Second Vice-President, Dr. Frank Paschal, San Antonio, Tex. Fourth Vice-President, Dr. Irving A. Watson, Concord, N. H. Fifth Vice-President, Dr. Chas. Wood Fassett, St. Joseph, Mo. Secretary, Dr. George Brown, Atlanta, Ga. Treasurer, Dr. P. H. Bryce, Toronto, Canada.

Before going any further I like to call the attention of the readers to the difference in name of the two American congresses. The one is "American Congress on Tuberculosis," the other "The American Congress on Tuberculosis for the Prevention of Consumption."

The congress which was to meet under the name of "Congres International de la Tuberculose" at Paris from September 26 to October 1, 1904, has been recently postponed to the year 1905. The President of this Congress is Professor Brouardel, Honorable Dean of the Faculty of Medicine, of Paris. The General Secretary is Dr. M. Letulle, Professor agrege of the Faculty of Medicine, residing at 7 Rue Magdebourg, Paris. This Congress will be divided in two sections, the medical and the social.

I. In the medical section the following subjects will be discussed:

1. New methods for the treatment of lupus.
2. New methods for the early diagnosis of tuberculosis.
3. Comparative studies on the different forms of tuberculosis.

II. In the social section.

1. Etiologic factors in tuberculosis.
2. Value of different means for the treatment of tuberculosis.
3. The voluntary insurance and the mutual societies in the combat against tuberculosis.

The Congress will furthermore form a technical section under the name of "Museum of the Congress."

There will be held during the coming year independently of the above-mentioned congresses two tuberculosis exhibitions, one in Baltimore, Md., and the other in St. Louis, Mo. The Baltimore Tuberculosis Exhibition will be held in January, 1904, under the combined auspices of the Tuberculosis Commission, the State Board of Health, and the Maryland Public Health Association. Details are in charge of Dr. W. S. Thayer, president of the Commission; Mr. John M. Glenn, secretary; Dr. John S. Fulton, secretary of the State Board of Health, and Dr. Marshall L. Price. Dr. Henry B. Jacobs has been elected chairman, and 250 prominent professional men and laymen have been asked to act as an advisory committee. A series of lectures will be given, the object of which will be to present the extent and effects of the disease in a striking manner. The pathologic, hygienic, sanatorium and sociologic aspects of the tuberculosis problem will be practically demonstrated by specimens, charts, literature, instruments, photographs and plans. All communications concerning the exhibition should be addressed to Dr. Marshall Langton Price, 10 South street, Baltimore, Md.

The other tuberculosis exhibition will be held in St. Louis, in connection with the Exhibition of Social Economy and under the Sub-section of Hygiene, of which Dr. J. N. Hurty, of Indianapolis, is superintendent. To avoid multiplicity of exhibits, Dr. Hurty has put himself in communication with the general secretary of the International Bureau for the Prevention of Consumption at Berlin, Professor Pannwitz, so that the exhibits which the European countries contemplate to send shall also come under his direction.

All indications point toward success of both exhibits, and it is to be hoped that they will fulfil their high purpose and at the same time be a credit to American physicians and hygienists.

Considering the various congresses I do not hesitate to express a feeling of deep anxiety. The first one mentioned, which for reason of brevity I will call "The Bell Congress," because it owes its inception to Mr. Clark Bell, has not to my knowledge the support of our best known men in the field of clinical medicine, hygiene, tuberculosis pathology, or tuberculotherapeutics.

The second congress in point of time, which again for sake of brevity and clearness, I may call "The Lewis-Brown Congress" (names of the president and secretary), while it has many distinguished men of various State and provincial Boards of Health among the members, has, like the Bell Congress, thus far not among them the men we are wont to look up to as leaders in movements of this kind. No such men as Biggs, Billings, Bowditch, Flick, Jacobi, Janeway, Klebs, Osler, Otis, Trudeau, Tyson, are connected with this Congress.

What are our confreres across the water to think if they hear of two American congresses on tuberculosis and each having an international one under its auspices? The European authorities found it best, instead of having a triennial congress, to have one more year to intervene. This will make the congress in Washington and the one in Paris convene in the same year (1905).

I hope this letter, which I address to the medical profession in America, will result in a satisfactory solution of this very complicated problem. If President Francis of the St. Louis Exposition desires that a tuberculosis congress shall be held in St. Louis, let him call to his aid some of the men which I have mentioned as leaders in our profession. They will counsel with him on the advisability of such a congress, and if it is decided that one should be held, Mr. Francis can be assured that the best element of Europe and America will come to St. Louis to contribute to its success.

The officers and members of the Lewis-Brown Congress must realize that they cannot expect to have their international meeting in Washington to be successful, when, 6 months later, there will be an international congress in Paris. I hope that there will be enough patriotism and national pride for all interested to realize that 2 American congresses on tuberculosis is an anomaly, and that, if the St. Louis Congress is to be a success, it must be in the hands of medical men well and favorably known in this country and abroad.

As a solution of the problem I beg leave to suggest the following: During the Tuberculosis Exhibition in Baltimore next January, all interested should meet at a certain date on this neutral ground for the purpose of coming to an agreement about a single representative National or International Tuberculosis Congress, to be held in America. There, too, should be formed a National Committee on Tuberculosis, which is to be in touch with the International Tuberculosis Congress, which will convene in Paris in 1905.

TRUE HERMAPHRODITISM IN MAN.

BY

RAYMOND PEARL,

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To the Editor of American Medicine:—I should like to call the attention of your readers to the fact that true hermaphroditism has been found to occur in man, contrary to the statement made in Dr. O'Malley's article on "Human Terata," in your issue of November 14, 1903. In the article referred to, it is stated that: "Of the next group, the hermaphroditic, it may be said that the biologists have never yet found a true hermaphrodite, and probably never will find one, despite reports made by unskilled observers." In the *Anatomischer Anzeiger*, Bd. xxiii, pp. 27 and 28, 1903, no less an authority than Professor R. Zander reports under the title, "Ein Fall von echtem Hermaphroditismus beim Menschen," a case in which a testis and an ovary were found in the same individual. This case is conclusive because clinical observation was supplemented and confirmed by a microscopic study of sections of the testis and ovary.

NEW PRINCIPLE OF DARK FIELD ILLUMINATION DISCOVERED BY PROFESSORS SIEDENTOPF AND ZSIGMUNDY, OF JENA, 1902.

BY

EPHRAIM CUTTER, M.D.,

of New York City.

To the Editor of American Medicine:—Before 1873, G. B. Narriman, D.D.S., suggested this lateral ray to Robert B. Tolles, who made objections on this principle. Dr. H., 2 A Park street, Boston, Mass., and Mr. C. X. Dalton, 48 Hanover street, Boston, would be very happy to give demonstrations to those who desire to view them.

POTASSIUM IODID IN THE TREATMENT OF LEAD-POISONING.

BY

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To the Editor of American Medicine:—In an article on Chronic Lead-poisoning in the issue of *American Medicine* for October 3, Dr. Gilbride makes the statement that potassium iodid is given to convert the lead in the tissue into the soluble salt *lead iodid.*

The fact is, that the iodid is one of the least soluble of the salts of lead. The reason that potassium iodid is used in lead poisoning as well as in other metallic poisoning is because potassium iodid forms *double* soluble salts with the metals in the tissue.

ORIGINAL ARTICLES

TREATMENT IN 442 CASES OF MOVABLE KIDNEY WITHOUT SURGICAL INTERVENTION.*

BY

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The names movable kidney, dislocated kidney, wandering kidney, floating kidney, prolapsed kidney and nephroptosis have been applied to the kidney when that organ has assumed a position lower than normal. All authorities agree that the treatment of movable kidney should be conservative and that surgical intervention should be reserved only for a true "surgical kidney." When a proper mechanical support fails to hold the kidney in place and the annoying symptoms are persistent, then, and then only, should an operation be advised. From the report of cases of some surgeons we would be led to believe that all patients suffering from movable kidney can only be relieved by surgical interference. This operation shows a mortality of from 2% to 5%. Many operations have to be done a second time because the kidney is not permanently anchored. Beside, the gastrointestinal and nervous symptoms are seldom relieved after such an operation. Conscientious surgeons say that all other means should be employed first.

Israel,[1] in his recent work on the surgery of the kidney, says: "The modern treatment of movable kidney leads me to believe that there is too great activity regarding operation, but I feel that this tendency will not last any longer than some other operations with which we have had experience. A short time ago it was thought that a large number of symptoms would be relieved by amputating the cervix or by removal of the ovaries and now we are endeavoring to do the same thing by anchoring the kidney."

He further says: "I shall sketch in a few words my position as to the treatment of movable kidney, founded upon much observation. I can only accept an absolute indication for operation when we have attacks of colic in consequence of pulling or kinking of the pedicle, especially if these attacks are accompanied by temporary or prolonged retention of urine. Here the danger of the development of a hydronephrosis makes intervention necessary. In all other cases of movable kidney, nonoperative treatment should be tried first and this will, in most cases, relieve very considerably, if not cure. We should only give way to operative measures when it is found that conservative treatment is absolutely without result. In treating movable kidney every case requires a careful investigation of the hereditary tendencies, as well as an exact examination of the entire organism, especially of the nervous system, the genital organs, the location of the abdominal organs, and the functions of the stomach, together with the therapy of the accompanying conditions. The application in most cases of an appropriate band is necessary."

In a report of 100 cases of different grades of movable kidney, Madsen[2] says: "In none of these cases could we consider that surgical interference was called for."

Iapovski[3] says: "In the treatment of movable kidney, operation should not be resorted to until the palliative measures have proved of no avail. In cases in which the symptoms are the result of nervous irritability it is better to use the expectant plan by strengthening the patient to overcome his nervous disturbance. The measures to be employed for this purpose are the wearing of a properly-constructed abdominal support, forced feeding, and rest in bed. In cases with frequently recurring attacks of pain it is advisable for the patient to wear a band with a special abdominal pad fixed at the lower end of it, so as to press the abdomen and to push the kidney upward and backward."

Morris[4] says: "When movable kidney is associated with enteroptosis, no operation should be performed on the kidney, and not until after the trial of a well-fitting abdominal support and the careful dietetic and medicinal treatment of the gastric and intestinal disorders."

From observation in my own practice of 442 cases of movable kidney, I firmly believe that 90% of patients who suffer from movable kidney and associated ptoses can be relieved without an operation.

Of these 442 cases, 321 were females and 121 males. Their ages varied from 8 to 70. The right kidney was movable in 194 cases, and the left kidney in 20 cases. In 228 cases both kidneys were found movable. Out of the 442 cases only two of them gave Dietl's crisis, and these were referred to the surgeon for operation. In nine of the 442 cases the patients had been previously operated upon without success, the kidney not remaining in position. In 215 cases the patients have made an absolute recovery; 168 patients have improved; 59 patients have not improved, or have passed from my observation.

There is a form of nervous dyspepsia which responds readily to proper therapeutics. There is another form of disease, in appearance identical with the first, which, though the treatment be the same, resists all therapeutic remedies. We often search in vain for the reason for this. It is evident that some fundamental cause has been unrecognized, and it becomes necessary to go over the history of the case and again take all the signs and symptoms into consideration, weighing each separately, to endeavor to establish a cause for this. Patients with nervous dyspepsia usually complain of distress 2 or 3 hours after meals, which is aggravated by fruits, vegetables, fats, milk, beer, wine, etc. They complain of weakness, insomnia, constipation, and nervous symptoms. Tonics, sedatives, and evacuants are administered in vain.

In 1897, I presented a paper before the American Medical Association on "Gastroptosis,"[5] describing a band to hold the stomach in position. In examining patients for gastroptosis, I discovered that the kidneys were displaced more often than was formerly supposed. From this time I made it a point to examine accurately all patients for movable kidneys, and found that many with nervous dyspepsia have a movable kidney. After immobilizing the kidney the patients responded quickly to the ordinary treatment for nervous dyspepsia. Macgregor[6] says: "It is an established fact that nervous dyspepsia may be connected directly with the displacement of the abdominal organs."

It is only in the last few years that physicians have recognized the pathologic influence that movable kidney has upon the different organs in the body. Many patients with movable kidney are treated for indigestion, hysteria, neurasthenia, uterine and ovarian disease, appendicitis, biliousness, liver trouble, anemia, and many other diseases. Movable kidney or nephroptosis is responsible for constipation, backache, debility, acne, headache, nervous exhaustion, and a long list of other symptoms. Many times we find a prolapsed stomach, colon, liver, and spleen, and every one of these must be held in position before we can expect a good result.

Ptosis of the abdominal organs is the cause of many uterine displacements. Pessaries, tampons and all operations for holding the uterus in proper position give poor results. Whenever the patient is on her feet the kidney, stomach, or colon presses directly upon the bladder and uterus. Gill Wylie[7] says: "Loose kidneys press upon the stomach and intestine and crowd down in the pelvis a retroverted or flexed uterus. Unless the kidney, stomach, and intestine are held in position recovery cannot take place."

In a great many cases of movable kidney the abdomen

*Read before the Wayne County Medical Society, November 5, 1903, at Detroit, Mich.

is flabby and the abdominal aorta can be palpated with ease. The ascending colon is usually much larger and more sacculated than the transverse colon or descending colon. The coincidence of the transverse colon being narrower than the ascending colon is suggestive of an obstacle at the right flexure of the colon. The colon cannot be palpated at this point for the reason that pressure pushes the organs farther back and under the liver. To prevent this we must place one hand firmly against the lumbar region and the other hand on the anterior abdominal wall. By pressing both hands firmly together a large smooth body is felt which is not the angle of the colon but the kidney. A movable kidney must not be mistaken for a tumor, a gallbladder, or a movable liver.

The main treatment for movable kidney is to support the dislocated organ and along with it such other abdominal organs as are displaced, and to maintain them in their normal position as near as possible. This is usually accomplished by means of special bands. These should be constructed for each patient, out of stiff material, and should fit accurately. There is no one band that will fit all patients. If the intestines are in position, care must be taken that the band does not press upon these organs, as a great deal of harm may be done in this way. It is a good plan to inflate the colon with air and then map out carefully the transverse colon as this is apt to be prolapsed. The position of the stomach must be made out accurately. It is necessary to know the position of both spleen and liver. I am in the habit of taking a model of the abdomen with a piece of pliable lead so as to get the exact shape of the patient just at the lower edge of the displaced kidney. It is here that the greatest pressure must come. There should be no pressure directly upon the kidney itself. With a band fitting properly just under the displaced kidney, it will be supported and held in its normal position. Every band should be made so that there is a uniform pressure over the whole lower part of the abdomen. The pads must be so arranged that they push each displaced organ from below upward and backward. All pressure upon the upper abdominal region should be avoided. After the proper fitting of a band an examination of the stomach contents will decide the best dietetic and medicinal method of treatment.

Ready-made abdominal bands for holding the kidney and other organs in position are usually failures. The physicians send their patients for a band to an instrument-maker who has not the slightest conception of the result which should be obtained. It does not make much difference to the instrument-maker whether the kidney is displaced at the level of the umbilicus or whether the kidney is as far down as the brim of the pelvis. It does not make any difference whether the stomach is partially prolapsed or whether part of the intestine is prolapsed. The patient is sent for a band, and a band is sold. At the end of a few days the patients say that they cannot wear such an apparatus on account of the discomfort. The pressure may be upon some weak point, which causes a great deal of pain. Many times patients are sent by their physician to the surgeon for an operation without much more consideration. It has been found that between 90% and 95% of these patients can be cured by the fitting of a proper support, and it devolves upon the physician to see that a proper band to hold the organs in position is made.

It is not an easy matter to fit a band to patients having ptosis of the abdominal viscera. I have had as many as 5 different bands made for one single patient before a satisfactory one was obtained. Every case demands special study and careful consideration. It is my custom to map out the position of the kidney, liver, spleen, stomach, and inflate the colon with air, so as to be sure that there is not a coloptosis. When fitting a band the pads must be so arranged as to hold up all the different organs which are displaced, at the same time exercising equal pressure over the entire abdomen.

Operations for movable kidney have not given good results, while the wearing of bands properly fitted gives the best results. Before deciding to operate for movable kidney, the surgeon must consider that the downward displacement of the other abdominal organs is apt to be present. When we have a movable kidney, we may also find a displaced stomach, small intestine, colon, sigmoid, liver, or spleen. These may be displaced anywhere from their normal position down to the symphysis. One can readily see the absurdity of endeavoring to apply a support without a study of the degree of displacement of each organ, as one or all may be displaced at the same time. It has always been my method, in fitting an abdominal band, to be sure of the position of all the organs in the abdominal cavity. This is absolutely essential if one wishes to attain a satisfactory result. Under these circumstances the application of a properly fitting band which will immobilize the kidney has immediately a beneficial effect. The patients feel relieved, are much stronger, and able to breathe better. Patients who have had distress after meals, are now able to eat without discomfort. Their weakness, constipation, insomnia, and distress begin to subside, and on the whole their improvement is very rapid. It is only necessary to wear a band until all these symptoms subside. Emaciated patients gain in weight, and the kidney is again protected by the natural fat. My custom is to allow the patients to wear a band 1 year.

It has been repeatedly proved that many patients have a movable kidney without suffering any discomfort. Again, a slight nephroptosis may be the cause of innumerable symptoms. I am led to believe that when patients have gastrointestinal and nervous symptoms there is always a ptosis of some other organ of the abdomen beside the kidney. The cases in which the kidney alone is movable are those that give little or no symptoms.

Beside properly supporting the kidney and other displacements of the viscera, diet, tonics, electricity, and massage all hasten the result of the treatment.

Out of the 442 cases I have selected the following as illustrating the value of proper mechanical support in the treatment of movable kidney:

CASE I.—Mrs. E. C., aged 37, consulted me October 24, 1899, for stomach trouble. She complained of distress after meals, which continued for several hours. She had a burning sensation and said there was a lump of gas in her stomach. Passed gas through the bowels, but never belched. Had been washing out her stomach from once to twice a week for the past year and noticed a great deal of mucus, which was clear and similar to the white of an egg. Was very nervous and could not stand excitement. The stomach was sour. Had backache at times. Slept fairly well. Bowels were constipated. Had large quantities of mucus in her stools. Had been living on milk, scraped steak, and eggs for 3 years. Could not walk over half a square without assistance. Had severe temporal headaches.

Upon physical examination she was found to have both kidneys movable. Heart, lungs, and other organs were normal. Her stomach contents contained the necessary ingredients for a good digestion. The patient on November 2, 1899, was fitted with a suitable band. She was given galvanism and faradism for 2 months. Her improvement was almost immediate. She has made a complete recovery without medication.

CASE II.—Mrs. J. N., aged 38, consulted me September 26, 1899. As long as she could remember she had always had stomach trouble. Had never had any severe illness, excepting pneumonia when she was 20. She gave a history of vomiting very easily, which had continued from the time she had pneumonia. Belched a great deal of gas. Complained of weakness in the pit of the stomach and was very nervous. Had severe backache. Had lost in weight, slept poorly, and had a peculiar sensation on awakening in the morning. Felt very faint before meals. Bowels were at times constipated and again would have 3 or 4 movements in 24 hours. Had frequent headaches.

An examination of the stomach contents showed a normal secretion of hydrochloric acid, with the presence of pepsin and rennin. Upon physical examination I found a movable right kidney. On October 10, 1899, a band was applied to hold the kidney in position. After a week she felt very much better and continued to improve from that time. All the above symptoms began to disappear, and in January, 1900, she felt practically well. In November, 1901, the band was discontinued, and she has not worn it since. This patient made a complete recovery without any medication.

CASE III.—Mrs. P., aged 28, consulted me March 2, 1898, for stomach trouble. Gave a history of being quite well up to the

time of her marriage. Soon after, however, had all sorts of symptoms. Four years ago had an ovariotomy, both ovaries being removed. Had frequent discharges of pus from the rectum, at one time amounting to a cupful. Complained of pain in the epigastrium. Pressure at this spot produced nausea. At times the distress was so bad after eating as to cause aching in shoulders. Was nauseated between meals, but seldom vomited. Appetite very good. Bowels did not move naturally, and she was obliged to resort to cathartics. When constipated had severe pain in the back and left side. Had hemorrhoids with hemorrhage. Had a severe pain in the small of the back. Felt better in bed than out of bed. At times a sudden motion would produce severe pain in different parts of the abdomen. Urinated very often and could pass but a few drops of urine at a time. Complained of headache, the occipital kind. Had a dry sensation in the mouth. Eyes felt itchy. Did not sleep well and had lost 20 pounds in weight during the previous 7 or 8 months.

An examination of her stomach contents showed a condition of hyperchlorhydria. The feces contained large quantities of mucus. On physical examination she was found to have both kidneys movable. On March 11, 1898, a proper band was fitted to her abdomen to hold the kidneys in position. She was given olive oil injections for the enteritis and the regular treatment for hyperchlorhydria. Her improvement was immediate and continuous. On July 25 of the following year the band was taken off and she was practically well. Had gained 20 pounds in weight. Both kidneys could still be palpated, but the patient was in good condition.

CASE IV.—Mr. G. B., aged 25, consulted me January 6, 1898. He had never been entirely well. Had had several attacks of diarrhea, which came on after excessive eating. Had typhoid fever in 1897 and was laid up 8 weeks. Complained of a rumbling sensation after meals. Frequently passed undigested food. Had eructations and flatulence. Awakened at 3 o'clock in the morning with severe headache. Had lost 11 pounds in weight. Had backache and tired quickly when walking.

Upon physical examination it was found that both kidneys were movable. An examination of the stomach contents showed the normal presence of the ferments and hydrochloric acid. On January 17, 1897, he was fitted with a proper band to support both kidneys. Was given internally bismuth subgallate for his enteritis. Had colonic irrigation daily for 2 months. March 4, 1899, the patient had gained 5 pounds and was feeling very much improved. From this time his improvement was continuous and uninterrupted. April, 1899, the band was removed and the patient has remained well ever since.

CASE V.—Mrs. J., aged 72, consulted me April 12, 1899. She had no distress after meals. Belched and passed a great deal of gas through the rectum. Slept poorly and was very nervous. Bowels were regular. Slightly nauseated at times. A great deal of backache and a slight pain in the epigastrium. Could not walk very well. Years ago had an attack of inflammatory rheumatism.

An examination of her stomach contents showed a deficiency of hydrochloric acid. The pepsinogen and renninzymogen were present. On physical examination she was found to have both kidneys movable. The diagnosis was catarrh associated with double nephroptosis. A suitable band was put on to hold both kidneys in position. She was given 15 drops of dilute hydrochloric acid after each meal. Her improvement continued and she is practically well. She still wears her band.

CASE VI.—Mrs. R., aged 52, consulted me September 26, 1897. Married and had 2 children. At the age of 15 she had an attack of diarrhea and had been troubled more or less since. Had had an operation for hemorrhoids and fissure of the anus. Complained of distress after meals but if quiet it did not come on. Any excitement or exercise produced the distress in the stomach. The epigastrium was tender upon pressure. She had an accumulation of gas after meals. Belched a great deal of gas and passed gas through the bowels. Bowels moved daily. Had a tendency toward diarrhea. Slept very poorly. Bad taste in the mouth mornings. Could not walk fast without tiring quickly. Lost 15 pounds in weight.

Upon physical examination she was found to have a movable right kidney. The analysis of her stomach contents showed that there was an absence of hydrochloric acid, pepsin, and rennin. The case was one of achylia gastrica associated with movable right kidney. On December 19, 1897, she was fitted with a proper band, and with symptomatic medication gained 7 pounds within the next 4 weeks. Her improvement has been constant and uninterrupted. She is now apparently perfectly well.

CASE VII.—Mrs. C., aged 33, consulted me September 22, 1899. She had scarlet fever when 14, was married at the age of 21, and was very well up to the birth of her child. From that time she had not been well. She complained of shortness of breath when walking fast. Felt better while lying in bed. Had pain at the extreme end of her spine. Had a miscarriage a year ago, and was in bed 10 weeks. Complained of headache of the parietal kind. Was constipated, and passed large quantities of mucus with her evacuations.

On physical examination she was found to have a double movable kidney associated with enteroptosis. On October 1 she was sent home with an abdominal band to hold the displaced organs in position. On October 4, I received a letter from her husband as follows:

"You did not examine my wife as carefully as I expected you would. Her main trouble you ignored. She has been repeatedly examined by other physicians, and they all pronounced her trouble to be uterine in character. A year ago she had a curetment for a continual discharge from the womb. This operation did not cure her. We were on the point of having another operation so as to hold the womb in proper position, when I sent her down to you. I am disappointed in her treatment with you, as I do not believe that you know what ails her. She told me you did not ask her whether she was having a discharge from the womb. This in itself would prove to you her condition."

Upon receipt of this letter I immediately replied that I had found, in my examination, sufficient cause for her entire trouble, but if he still wished it, I would make the desired examination when she came again. I did not hear any more about the case for 4 weeks. November 2, I received a letter from her husband, telling me that his wife was coming to the city to see me again, and that it was unnecessary to make a vaginal examination, for the reason that the discharge from the uterus had entirely ceased. When she came to see me she was delighted at the way she felt. All the symptoms were beginning to disappear, and the patient continued to improve, and has made a recovery.

This is an example of those cases in which the abdominal organs pressing upon the pelvic organs, produce symptoms which lead the practitioner to believe the uterine trouble to be primary, while the cause is higher up.

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A LOGICAL DEFINITION OF TYPHOID FEVER.[1]

BY

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To the clinician belongs the credit of having first recognized the condition called typhoid fever. Through his efforts careful observations were made, recorded, compared, and analyzed, with the result that the world agreed that a type of disease existed which was the same in Australia and in California, in the farthest northern clime and the extreme southern latitudes. That there is such a disease as typhoid fever, that it is specific, transmissible, infectious, the textbooks inform us from early times.

Infiltration and ulceration of Peyer's patches are named as the pathologic qualities of the disease, and the clinical picture accompanying these is described as a peculiar temperature range of about 4 weeks' duration, of slow and insidious onset, a rose-colored eruption, diarrhea, enlargement of the spleen, tympanites, and other symptoms which are the concomitants of intestinal ulceration. The type established, the records began to show marked deviations in the course of the disease. Repeated attempts were made to seize on some characteristic which would always be present and serve to separate the condition from all others. It was sought for in the temperature range, but not found, some cases being recorded with scarcely any febrile manifestations. It was sought in the symptoms, but not found, not a single characteristic symptom being present in every case. It was sought in the pathologic findings, and here again disappointment awaited the investigator. The advocates of the specific nature of the disease fell easy victims to the attacks by opponents, when called upon to define the conditions so manifestly misnamed. But the efforts of the student were never abated, and the long sought-for characteristic was finally brought to

[1] Read before the Medical Society of the State of New York, October 14, 1903.

light some 20 years since. Its existence had been tacitly acknowledged. All the conditions led up to it. Though unseen and unknown in fact and by direct demonstration, it was a necessary factor in the problem nearly solved. The conditions surrounding the development of the disease had been well described. The laws were fairly well known. It became necessary to show why the results were not always similar. That these deviations were accidental merely, which could be accounted for, the majority of investigators were as well satisfied as the astronomers were with regard to the deviations of Uranus from a course calculated according to the well demonstrated theory of gravitation. As the operating and deviating force was shown in the latter case, so it was in the former. Eberth first definitely observed the much desired characteristic in a bacillus, and Gaff'ky made a pure culture of it, and it now bears their names. Its constant association with the toxemia and lesions of the disease is satisfactory evidence of its causative relation. It has been maintained that the fact that the lower animals do not develop typhoid fever makes complete proof impossible. In answer to this argument we would produce the evidence brought out by the immunization experiments of Pfeiffer and others. They have shown that the typhoid bacillus produces a specific effect in animals, though not the same lesions and symptoms as in the human being. That while it immunizes them against the typhoid bacillus it leaves them susceptible to the action of the colon group. That the blood-serum of immunized animals protects other animals against the typhoid bacillus. Again, these experiments have shown that the typhoid bacillus produces toxemia, and lesions, and death in animals, or in other words, a form of typhoid fever, as we purpose to show. They have proved the identity and specific nature of the bacillus.[1], [2]

Once isolated, the Eberth-Gaff'ky bacillus has been well studied, and has been found in the discharges, in the blood, and all parts of the body. Its special foci of localization and development being the nodular lymphatic structures of the intestines and mesentery, the type of disease as described in former years is accounted for. But it has been clearly shown that there occurs a septicemic type with no special local manifestations of bacilli. Then again the localization may be in other organs than the intestines, for example, in the liver, spleen, kidneys, and cerebrospinal meninges. Where the bacilli focus, they cause inflammatory changes, congestion, exudation, infiltration, sloughing, degeneration, and at times suppuration. Secondary infection or mixed infection may accompany or follow the dissemination or localization of typhoid bacilli.

We are in a position, therefore, to state that the type or clinical manifestation of typhoid fever depends upon the organ or organs in which the bacilli focus. And we may go farther and state that the bacillus may be the underlying cause of any visceral inflammation. The practitioner of today, in view of these facts, must rest his diagnosis of typhoid fever upon a demonstration of the cause. The practitioner of past years failed in his diagnosis in many cases by resting it upon the effects or symptoms which are not constant, but very variable factors. Science offers various methods to demonstrate the presence and activity of *Bacillus typhosus* in the human system. The most important are the Widal reaction, the method devised by Hiss to isolate and identify the bacilli in the feces, and the diazo reaction of the urine. The last is obtained in a large proportion of cases in the early stages, but appears also in a number of other infections; for example, in influenza, malaria, scarlatina, tuberculosis, measles, pneumonia, pyemia, erysipelas, diphtheria, malignant endocarditis and paratyphoid infection. It informs us that we are dealing with a general infection. With the employment of these and other bacteriologic procedures few cases will escape recognition. The necessary precautions as to discharges and the surroundings of the patient will enable us to pursue our investigations with safety. The medical mind has been befogged at times by the introduction of new terms such as "typhomalarial" and "paratyphoid" infection, etc., to describe conditions difficult to classify. If there are paratyphoid infections, as the bacteriologist informs us, they require the same active prophylactic measures as we employ in typhoid. They are dangerous infections, and develop under conditions similar to those which initiate typhoid fever.

Today, when we pronounce a case typhoid fever, we can positively define it. We can give it a logical definition, a definition that will state its essential characteristics which make it to be what it is and we can at the same time show wherein it differs from all other diseases. When we name such qualities as its infectious nature, that it is not accompanied by leukocytosis, that its toxemia is marked, that its pathologic lesions are inflammatory in character, we are stating characteristics which it has in common with other diseases. If we produce the clinical picture, we find that it varies according to the focus of localization and is accidental and not constant. If we name the rose-colored eruption which is peculiar to the disease we suggest a symptom which is not always present. It is, therefore, not an essential characteristic. It is a property merely. We must examine farther for an essential quality, one that will separate it from all other diseases, the differentia, as the logician calls it, and we find it in the Eberth-Gaff'ky bacillus which it has as the associate with its various lesions and as the determinate cause.

We are in a position then to offer a satisfactory definition, that typhoid fever belongs to the genus disease, to the species acute infection with the property toxemia and accidents focal lesions and clinical history, and the differentia, the essential characteristic, that it has as the associate with its lesions and as a determinate cause the Eberth-Gaff'ky bacillus. We may add, while it presents, pathologically and clinically, a fairly constant picture when the bacillus is localized and develops in the lymphatic structures of intestine and mesentery, yet all this may be changed by its development in other quarters.

Very forcibly then can we state to those who deny that typhoid fever can be produced in animals, that repeatedly they have exhibited the essential characteristics of the disease, viz., acute infection, toxemia, focal lesions and accompanying symptoms, with the typhoid bacillus as a basis. Those 5 predicables (genus, species, property, accident, difference) define the condition in a positive manner.

In view of all these facts the more frequent employment of chemic and bacteriologic tests for the presence of the bacillus must be insisted upon. By such means the origin of a bronchitis, pneumonia, pleurisy, meningitis, hepatitis, and other inflammations, a socalled continued fever and some other symptomatic manifestations may be early discovered. In this way can those serious and far-reaching errors be avoided which result from dwelling upon the clinical aspect alone.

[1] General Pathology, p. 475, E. Ziegler.

[2] The number of cases coming under observation which have been contracted in the sick-room by undue exposure and carelessness is sufficient evidence to me of the direct infectiousness of the trouble. Again, the marked decrease in relapses which has followed the use of measures to disinfect the hands and buttocks of patients is valuable evidence.

Temperance Women Oppose Canteen.—After a vigorous discussion of the pending Bartholdt army canteen bill, the National Convention of the Women's Christian Temperance Union decided to remonstrate to Speaker Cannon against action at the present time.

Pure Food Tests.—Secretary Wilson has asked Congress for an emergency appropriation of $25,000 for the pure food inspection work of the Department of Agriculture. Laboratories for testing food products entering the country are to be established at New York, Boston, and New Orleans, and the one at San Francisco will be enlarged.

THE RELATION OF THE RECTAL VALVE TO OBSTIPATION; A CLINICAL RESEARCH.[1]

BY

THOMAS CHARLES MARTIN, PH.D., M.D.,

of Cleveland, O.

The following cases of valvular obstipation (obstruction by the rectal valve) were all operated 2 years prior to June 10, 1902. It is nearly 4 years since the first operation for division of the rectal valve. A study of these cases and the results of their treatment should afford a reasonable conclusion to the question of the efficacy of the treatment employed. The medical histories of these patients are so nearly identical that to some this address may seem wearisome by reason of its repetition. It is not necessary, however, to urge upon your recognition that the like manifestations of similar conditions is that which gives value to certain classes of scientific research. It is the similarity of the cases which classifies them; it is the unvariability of this which crystallizes and compels the conclusion.

CASE I.—October 3, 1898, Miss R. T., aged 32, consulted me for the relief of obstipation. She reported that ever since she could remember, defecation was possible and easy only when the feces were rendered fluid by means of cathartics and enemas, that when the feces were formed, their evacuation was accomplished only with the greatest straining and by manual assistance. This young woman was profoundly neurasthenic, and suffered from repeated attacks of intestinal autointoxication. Proctoscopy disclosed a general hypertrophic proctitis, and such a degree of hypertrophy of the 2 lower rectal valves and contraction of their valve-straits as is equivalent to multiple annular stricture. The valves were situated in such proximity as to overlap. Without the employment of general anesthesia the valves were divided. The operation was painless. Normal defecation was restored and continued.

CASE II.—On October 7, 1898, Mrs. R. B., of Chicago, aged 36, the mother of 3 children, came to me for the relief of obstipation and continued pain in the iliac fossas. She reported that from childhood she had never had an evacuation of the bowels except when the feces were fluid and had been rendered so by cathartics. She was addicted to the physic habit, was neurasthenic, suffered repeated attacks of intestinal autointoxication and recurrent attacks of proctosigmoiditis. Proctoscopy disclosed 4 hypertrophied rectal valves, two of which overlapped. An operation for the division of these 2 valves was performed. Without the aid of enemas or cathartics, normal defecation was almost immediately established, and formed feces were evacuated with little or no straining once in 2 or 3 days, and, finally, daily, with only an occasional intermission. However, the patient was many months recovering from the intestinal autointoxication due, I believe, to the dilated sigmoid.

CASE III.—On October 29, 1898, Mr. W. R. D., of North Benton, Ohio, aged 33, was referred by Dr. H. S. U. The patient was much emaciated, of a sallow complexion, and extremely nervous. Both stomach and intestinal digestion were much disturbed. Gastroptosis had been previously made out. For a period of about 7 years he had suffered from infrequent and difficult defecation. Cathartics proving gradually unavailing, enemas were resorted to daily. These occasioned pain when a quantity of about a half pint had been received. When the knee-chest posture was employed, larger quantities were received with less distress. A few ounces only could be dejected at each effort. He suffered from headache, backache, tenderness in the left iliac region, and cramps from accumulation of gas. Proctoscopy revealed the presence of 4 rectal valves, the 2 lower of which were much thickened, overlapped and impinged. These 2 valves were divided. Subsequently, during a period of 2 months, enemas were received and discharged readily and painlessly, but defecation, though frequently normal in character and without abnormal effort, was not regular. The stomach symptoms not being improved, he consulted a surgeon who performed a gastroenterostomy for the relief of pyloric stenosis. The patient died of shock soon afterward.

CASE IV.—On November 6, 1898, Mrs. C., aged 34, the mother of 2 children, consulted me for the relief of persistent obstipation and annoying borborygmus. She was emaciated, neurotic, irascible to the last degree and mentally erratic. She reported that since childhood she had been the subject of difficult defecation. The rectum was evacuated only occasionally, and within the last few years she had suffered recurrent attacks of diarrhea. Proctoscopy revealed the 2 lowermost rectal valves slightly hypertrophied and the presence of 2 much hypertrophied rectal valves at the juncture of the sigmoid flexure. These 2 higher valves overlapped. The sigmoid was observed to be much dilated. All the valves were divided. Normal defecation was established.

[1] President's address to the American Proctologic Society, June 10, 1902, Saratoga, N. Y.

CASE V.—On January 15, 1899, Mr. F. D. N., of Red Lake Falls, Minn., aged 46, consulted me. He was for many years a subject of chronic obstipation. His anamnesis detailed the symptoms of backache, pain extending down the thighs, tenderness thoughout the sigmoid flexure and colon and straining at stool except when the feces were rendered fluid by cathartics. He was neurasthenic. Examination revealed internal varicose hemorrhoids, hypertrophy of the rectal valves and a dilated sigmoid flexure. The hemorrhoids were removed under eucain-infiltration anesthesia on March 6, 1898. A valvotomy was done on January 15, 1899. The patient recovered normal defecation, was relieved of the symptoms referred to, and gained 12 or 15 pounds in weight.

CASE VI.—January 25, 1899, Mr. A. S. N. consulted me for the relief of obstipation and a multiplicity of (what, perhaps, might have been) complications. The patient was about 47 years of age, was emaciated and neurasthenic. He complained that for 6 or 7 years defecation had gradually increased in difficulty. All remedies proved less and less effective. Dejecta contained mucus and were occasionally streaked with blood. Tenderness in the sigmoid was more or less continuous, but occasionally was intensified to an intolerable degree by accumlations of gas. The intervals between such attacks shortened, and finally were but a few days in duration. Morphin was resorted to frequently. Some 12 months prior to his coming to me, a surgeon had opened his abdomen on each side from ribs to pubes in unavailing search for an intestinal obstruction. By means of the proctoscope I discovered a hypertrophic rectitis and 4 hypertrophied rectal valves, each pair, higher and lower, overlapped and interlocked. I divided the lower 2 valves, and on account of the fatigue which the patient experienced, agreed to a postponement of further operation. After a period of 2 or 3 weeks there was a noticeable improvement in the function of defecation, and I was prevailed upon to try the effect of massage of the rectum and its obstructions. During the following 4 months the patient's condition was much improved, the discharge of mucus occurred rarely, the attacks of pain in the sigmoid appeared but once in 3 or 4 weeks, and were much lighter. About the fifth or sixth month after the operation the patient neglected to appear regularly for treatment, his condition in every particular grew worse. He would not submit to further operation. I am informed that his condition is now about as formerly. My error, I believe, was in not finishing the operation when I had the opportunity.

CASE VII.—January 29, 1899, Mr. R. T. G., aged 24, of Rochester, was referred by Dr. W. E. L. The patient was neurasthenic and subject to chronic obstipation, backache, and extreme tenderness in the sigmoid flexure, which was enormously dilated. He suffered from much accumulation of gas, which seemed to lodge, according to his own report, at a point just below the navel. The dorsal posture was unendurable to him, because it seemed to increase the obstruction to the escape of gas. For this reason he had to cease frequenting the barber's chair and had to shave himself. This patient was also the subject of excruciatingly painful sphincter spasm. Proctoscopy disclosed a small *fissure in ano* and hypertrophy of the rectal valve with reducible invagination of the sigmoid. Valvotomy, and nitrate of silver, applied to the fissure, soon relieved him of all his symptoms.

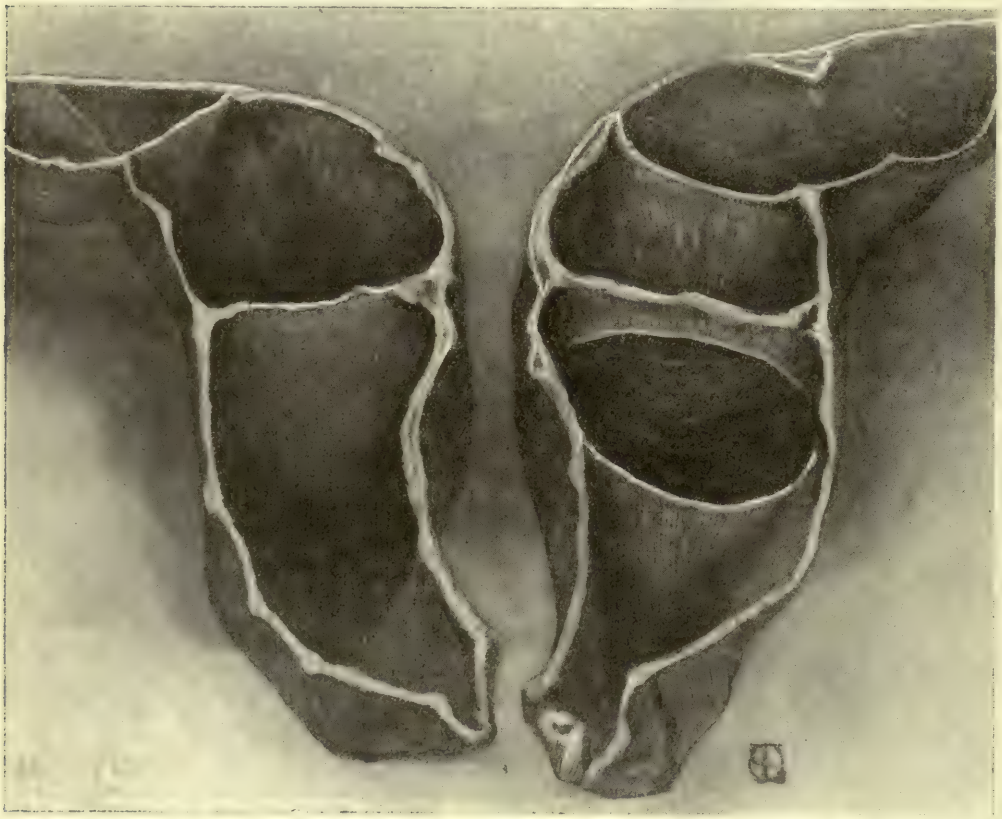
CASE VIII.—February 10, 1899, Mrs. C., aged 30, was referred by Dr. P. The patient is the mother of 2 children, the eldest 3 years old. This woman suffered from impaired defecation since the birth of the eldest child. The obstipation gradually increased, and finally cathartics and enemas provoked great distress and accomplished only most unsatisfactory results. Mucus in the form of tube-casts, cord-like formations, and membranous shreds were frequently detected. Proctoscopy revealed a general hypertrophic rectitis with such a limited rectal expansion under inflation, that the mucous membrane lay in undulating folds; 4 valves were present. The lower two were separated at their bases in a vertical direction by about ½ inch, each projecting three-fifths across the diameter of the rectum. The third and fourth valves projected less than half across the rectum, and were not in contact at their free edges at the time of inflation. All these valves were somewhat thickened and were not effaceable under the test-hook. The third and fourth being situated in that portion of the rectum which is completely surrounded by peritoneum, were not thought to be particularly obstructive. On February 20 the first and second valves were divided. About 5 hours subsequent to the operation there occurred a hemorrhage. Within a few minutes I was in attendance, and succeeded in arresting the hemorrhage by means of the packing, which is described in another place. The wounds had not been closed by suture, as I had not yet devised instruments for this purpose. During the 2 months succeeding the operation there was at no time a perfectly normal defecation. Enemas and albolin almost daily were required. Proctoscopy discovered that one of the operated valves had united at the divided point. On May 6 this valve was again divided. The result was not satisfactory. In the following August, both the higher valves were operated. The function of defecation was not restored to a normal condition. Albolin and enemas were required after periods of 5 or 6 days, for the reason that the occasional unaided defecation did not sufficiently evacuate the bowel. The rectum was frequently subjected to massage (the method is described in another place), without much improvement. When the patient

remained in bed for a few days, however, the function was normal during that period. On 2 occasions this patient has come to my office with acute pains, which she referred to the region of the sigmoid flexure. They developed suddenly a few hours prior to her visit, and were accompanied with severe backache, aching in the course of the sciatic nerve, and there was frequently recurring desire for urination. On each occasion proctoscopy disclosed invagination of the sigmoid into the upper rectum. This was reduced by rendering the parts ischemic by means of a 4% cocain solution sprayed on the parts, and by placing, under the grasp of the forceps, a piece of dry absorbent cotton against the invaginated portion and gently pushing upward. Careful examination has never revealed any other cause of this patient's impaired defecation. I have been unable to relieve her completely. Though she has improved somewhat, the result is unsatisfactory.

CASE IX.—On March 10, 1899, I was consulted by Mr. W. B. of Philadelphia, aged 34. Mr. B. was profoundly neurasthenic; had suffered from obstipation for 8 years, discharged large quantities of mucus from the rectum, complained of pain and tenderness in the region of the sigmoid, had backache and aching down the thighs and almost continuously had a sensation of fulness in the rectum and made frequent only partially successful attempts at defecation daily. Physic and enemas proved gradually less availing. Examination revealed the presence of two internal hemorrhoids, chronic catarrhal rectitis, and the 2 lower rectal valves were hypertrophied. For a period of about 2 months the rectum was sprayed weekly with a 1% solution of nitrate of silver, and the hypertrophied valves massaged. On July 22 the tumors were removed under local anesthesia. On September 11 the obstructing valves were divided. All his previous symptoms subsided and defecation became normal.

CASE X.—On March 14, 1899, Mrs. E. B. W., of Los Angeles, California, aged 47, consulted me for the relief of obstipation which had continued persistently for 9 years. She stated that enemas were received and discharged with difficulty and occasioned great distress. Catharsis gradually proved unsatisfactory. Defecation rarely occurred unaided. The passage of small portions of formed feces was however accomplished occasionally by dint of great straining and by manual assistance. Small quantities of mucus were passed at each attempt. There were pain and tenderness in the region of the sigmoid flexure and backache and aching down the posterior portions of the thigh. Proctoscopy revealed the presence of 4 rectal valves. The lower two were hypertrophied and were unyielding to the test-hook. On May 6, 2 rectal valves were divided and the function of defecation was restored and has continued perfect. All her symptoms have subsided.

CASE XI.—On March 15, 1899, Mr. G. C., of Rockport, Ohio, aged 24, was referred to me by Dr. H. S. The patient presented a history of persistent obstipation, which began after an attack of fever from which he had suffered some 6 years previous. The patient reported that except when the feces were rendered fluid by means of cathartics and enemas it was impossible for him to procure evacuation of the bowels. He reported progressively increasing difficulty in getting injected fluids into the colon. He complained of tenderness and pain throughout the region of the sigmoid, and reported that for several years rectal irrigations had brought cord-like and membranous deposits on their return. The patient was neurasthenic. Proctoscopy disclosed a general hypertrophic rectitis with no apparent contraction of the valve-straits and hypertrophy of the rectal valves, their borders being twice their normal thickness, which on the employment of the hook were discovered to be rigid and inelastic. The sigmoid was observed to be considerably dilated and there were observable deposits of gelatinous mucus. The fibrous band beneath each valve border was divided. Subsequently the valves were subjected to instrumental massage by means of the coactor, the rectal and sigmoidal mucous membrane was sprayed daily with a weak solution of nitrate of silver. At the end of 10 days defecation was being daily normally performed and the pain and tenderness had entirely subsided in the sigmoid.



The rectum and its valves. The rectum, after being filled with melted paraffin and hardened, was varnished and cut longitudinally into halves, the wax removed, and the drawing made.—From *The New York Medical Journal.*

CASE XII.—On April 29, 1899, Miss G. H., of Marion, Ohio, aged 19, was referred by Dr. C. F. H. From infancy she had suffered irregularity in defecation. This difficulty had increased to such a degree during the last 2 years that cathartics and enemas were indispensable. She reported the classic symptoms of intestinal autointoxication. An examination by means of the proctoscope revealed the presence of 4 rectal valves and the fact that the first 2 were anatomically coarcted. On April 29, valvotomy of the first 2 valves was done. She was immediately relieved of the obstipation, the function of defecation has since been perfectly normal, and her neurasthenic symptoms have entirely subsided.

CASE XIII.—June 10, 1899, Mrs. J. L., aged 33, was referred to me by Dr. E., for the relief of obstipation. The obstipation was interrupted by occasional short periods of diarrhea. Shreds of mucus were discharged occasionally at the time of defecation, and copious quantities of gelatinous mucus were discharged during the period of diarrhea. Defecation when the feces were formed was sometimes accompanied by much straining. Tenderness and pain were almost continuous throughout the colon. Accumulations of gas occasioned great distress. Proctoscopy discovered 4 rectal valves. The second and third valves were hypertrophied and resisted the test-hook. These were divided. Defecation became normal, save for occasional attacks of diarrhea. She was relieved finally of these by the nitrate of silver spray.

CASE XIV.—June 26, 1899, Mrs. P., of Conneaut, Ohio, aged 48, was referred to me by Dr. M. B. T. for the relief of obstipation. The patient complained of inability to evacuate the rectum except by the aid of cathartics. The rectum could receive but ½ pint of enema, excess of this occasioning great pain. There were tenderness and pain more or less continuously in the suprapubic and hypogastric regions. Mucous casts were occasionally discharged. The woman was extremely nervous, and observed the habits of an invalid. Proctoscopy revealed 4 rectal valves. The first was shallow, and though somewhat thickened was not of sufficient depth to be obstructive. The second valve projected three-quarters across the diameter of the rectum, and did not yield to the test-hook. The rectum above the second valve did not inflate because of the chronic interstitial rectitis of this region. The upper 2 valves,

however, yielded readily to the test-hook. The second rectal valve was divided, after which enemas were received and painlessly discharged. The function became in a measure restored, but occasionally required aid. This patient has recently returned to consult me. Defecation has grown more difficult during the last few months. By proctoscopy I discovered that the operated valve had closed in a noticeable degree at the point of the valvotomy wound. (I had not yet devised a means of suturing the wound when valvotomy was done on this patient.) Her physician is now equipped with the means to apply massage. If this does not relieve her the valve should be divided again and the increased lumen maintained by properly placed sutures.

CASE XV.—"On July 3, 1899, Mrs. K. gave the usual history of obstipation, which had been the bane of her existence for years. She had taken physic and used suppositories made for the purpose of relieving the obstipation, also enemas small and large, until finally they ceased to be of the slightest benefit. She complained of aching in the sacral region, aching pains in the thighs, a sense of heavy weight in the abdomen, obstipation, and occasional passage of membranous casts. She was examined and the rectal valves found to be much hypertrophied and offering great resistance when tested by the hook. The lower valves were dark and congested, while the upper were thin and pale. There was also much distention of the rectum above the lower valves, and an enormous distention of the sigmoid. There was further found a rectitis and subacute sigmoiditis. The obstructive valves were operated on June 20, 1899. I saw her on August 25, and at this time she was having daily movements, normal in character, unaided by artificial means. On September 25 I saw her again, and the improvement had continued."

This report was written by the physician. I have since learned indirectly that this patient has experienced a return of obstipation.

CASE XVI.—July 12, 1899, Miss T., aged 55, from Cincinnati, was referred by Dr. C. F. H. This woman was a wreck; it is not possible within a limited space to describe her case—however, I did not much benefit her defecation. It is doubtful if the valvotomy was responsible for the slight improvement which followed her treatment. A neurasthenic, emaciated, feeble spinster, had strained at stool for 30 years. Her anamnesis picturesquely detailed the typical symptoms of rectal obstruction. Proctoscopy disclosed a state of fibrous degeneration of the sphincters, normally inflatable lower 2 rectal chambers, divided by a hypertrophied rectal valve projecting two-thirds across the diameter of the rectum, a contracted upper rectum, and the third and fourth valves thickened and annularly contracted. All valves were divided. Subsequently the sphincters were dilated and subjected to massage. Only slight improvement followed.

CASE XVII.—July 22, 1899. The following is the case of Dr. S. B. T. The anamnesis was written by himself. This case is typical:

"I am a physician, aged 32, and reside at Columbus, Ohio. To the best of my knowledge, my parents were never affected with rectal disease. As a child I never suffered from rectal trouble. The first indication of obstipation was in 1889. Since then it has gradually grown worse, becoming very much worse in December last.

"In November, 1889, I suffered an acute rectitis, which lasted 3 weeks. It was followed by obstipation. During the 9 years, from December, 1889, to December, 1898, I suffered more or less distress when at defecation. The rectitis became recurrent in character. The attack in last December proved the worst and most lasting and seemed to be superinduced by an attack of influenza. I had severe backache and aching down the thighs. Straining at stool was constant and always ineffectual. The transverse and descending colon and sigmoid flexure were always distended with gas. The discharge of gas seemed obstructed in the left iliac region. This accumulation of gas caused pain and tenderness in this region. Further than this, the distention of the colon gave me the sensation as if I had a brick in my abdomen. There were times when the flatulent condition was almost unbearable. The last 2 weeks preceding the operation this condition was constant. At times there was discharge of mucous casts, which were occasionally streaked with blood. Microscopic examination of these deposits revealed nothing pathogenic. I was very much depressed mentally, cross, irritable, and melancholy. Preceding operation for 10 years I had never laughed aloud. I consulted several leading physicians in my city (having previously made a diagnosis myself of stricture), each in turn gave the stereotyped diagnosis: Overwork, neurasthenia, nervous indigestion with concomitant constipation. It is not surprising to note that laxatives and physic of all kinds gradually became ineffectual. Plain and medicated enemas were tried. It was possible to retain only about half a pint of the fluid. Finally, the enemas, too, were without result. One physician recommended the long rectal tube for placing the enemas. I found it impossible to use this instrument, as it refused repeatedly to pass the obstruction. It caused much pain at the time of the attempts and provoked tenesmus and aching in the rectum.

"On July 16 Dr. Martin operated on me. On my return to bed I suffered no discomfort and absolutely no pain whatever. Gas passed easily without stoppage, and all symptoms of obstruction had disappeared. On the morning after the operation I received a 3-pint enema and voided the contents of the bowel for the first time in 8 months without the combined use of physic and enema. Enemas were employed for 3 weeks with like result. Since discontinuing the use of the enemas the bowel movements have been perfectly normal, acting once and sometimes twice daily. Good spirits have returned, I have a good appetite, and have gained about 16 pounds in weight. I have taken neither cathartics nor enemas nor laxative medicine since my operation. S. B. T., June 11, 1902."

On July 3, I examined Dr. T. and discovered a much dilated sigmoid flexure which was somewhat tender on pressure. Proctoscopy revealed moderate anatomic coarctation and considerable hypertrophy of the 2 lowermost rectal valves. There was some degree of congestion of the rectal mucosa extending from these valves to the anus. Above them the mucosa was of a pale gray color, and the superior rectal chambers were dilated.

On July 16 I divided in 2 places each of the valves which were coarcted and hypertrophied.

CASE XVIII.—August 1, 1899, Mr. B., aged 45; for 3 years had suffered from obstipation, following an attack of grip. The difficulty developed suddenly and continued. It was initiated by severe aching in the sacral region, aching down the posterior portion of the thighs, transparent mucous discharge, straining at stool, and distention of the sigmoid. Proctoscopy revealed the presence of 3 rectal valves, the first and second overlapping and the second being hypertrophic. The second rectal valve was divided. Defecation was restored.

CASE XIX.—August 16, 1899, Mrs. R., of Lorain, O., aged 59, was referred to me by Dr. J. C. A. for the relief of obstipation. For 20 years Mrs. R. had suffered from this disease. The combined use of purgations and irrigations was necessary to accomplish evacuations of the bowel; at regular intervals of about 6 or 7 days, one day was devoted to this purpose. This woman was extremely despondent. During a fit of melancholy she had attempted suicide by cutting her throat. Proctoscopy revealed 2 hypertrophied valves and 2 normal valves. The lower two only were hypertrophied, and each projected more than half across the diameter of the rectum. They were divided. The function was restored and the patient grew better in every particular.

CASE XX.—September 1, 1899, Mr. J. W. L., aged 40, consulted me. He had suffered obstipation alternately with diarrhea for 8 years. He had learned to rely upon cathartics. He was neurasthenic for years. Proctoscopy revealed a catarrhal and hypertrophied rectum, the 2 lower of the 4 visible valves were hypertrophied and overlapped, but were not in contact during the proctoscopy. These 2 valves were divided. The patient's defecation was never afterward difficult, but the diarrhea recurred during the following year with more or less frequency. This was always easily controlled by means of the silver nitrate solution. His general condition is much improved also.

CASE XXI.—September 3, 1899, Mrs. D., aged 32 was referred by Dr. R. of Barberton, Ohio. This patient had "an attack of inflammation of the bowels" 6 years prior to my seeing her. During the period she had persistent difficulty with defecation. She had pain and tenderness in the lower portions of the abdomen, backache and aching down the course of the sciatic nerves, discharge of mucus with the feces, attempts at defecation required great straining, the abdomen was often much distended by accumulations of gas. A movable right kidney was discovered. The patient was much emaciated and neurotic. Proctoscopy revealed catarrhal hypertrophic rectitis. There were 4 rectal valves. The 2 higher, though thickened, yielded to the test-hook. The lower 2 each projected more than half across the inflated rectum. These 2 were divided on September 17. Defecation was unimproved. The 2 higher valves were divided about 6 weeks later. Defecation did not improve though enemas were received and discharged with less difficulty. Each time this patient was examined I had used a long sound for the purpose of exploring the lower loop of the sigmoid flexure. This gut was found invariably to the left of the median line. It could not be rotated to the right. (I pointed out in 1896 the fact that the lower loop of the sigmoid flexure when inflated or distended is usually found to the right of the median line.) The persistency of this gut on the left side and the continued inability to evacuate it spontaneously, were the salient signs which determined us to open the abdomen. Accordingly, this was done. The right kidney was seen to be slightly displaced. The colon was dilated and somewhat injected. A cursory examination of the sigmoid for the obstruction proved fruitless. The data of the previous proctoscopies were reviewed; these indications directed us to a minute scrutiny of the middle of the lower loop of the sigmoid flexure. Here we found that the gut was rotated on its axis and fixed by adhesions of its peritoneal coat to the mesentery. The adhesions were separated and grafts placed over the denuded portions. Nothing was done to the kidney. The patient made a prompt recovery, defecation became normal and the woman grew well and robust.

CASE XXII.—September 4, 1899, Mr. G., aged 27, suffered for 7 years from obstipation. Physics and enemas distressed the patient much, and gradually lost their efficacy. Much straining was necessary for the passage of formed or semiformed feces; liquid feces were passed without effort. There was no mucous discharge. Backache was almost con-

stant. The patient was somewhat neurasthenic. Proctoscopy revealed 4 rectal valves—the second (on the right side) was hypertrophied. It was divided. Defecation became normal, and health was restored.

CASE XXIII.—September 10, 1899, Miss R., aged 32, had been the subject of obstipation for 8 or 10 years. The desire for defecation was almost constant. Straining was without effect. There was no mucous discharge. The patient was nervous. Enemas would be retained for 6 or 8 hours. Proctoscopy revealed 4 rectal valves, all of which save the lower right were elastic. The right valve was thickened and fixed in semilunar contraction. The left valve above it was obliquely placed and attached at its lower end in the hollow of the hypertrophied valve. This was cut. Defecation and health were restored.

CASE XXIV.—September 14, 1899, Col. McF., of Warren, O., aged 26, was referred by Dr. C. F. H. and Dr. S. H. The patient presented a history of chronic obstipation and a struggle with physic and enemas for the past 2 years. Obstipation came upon him rather suddenly, and was accompanied by aching of recurrent character in the sacral region. He complained of a great deal of pain and tenderness of varying intensity in the left iliac fossa. He stated that his chief troubles were his obstipation, pain in his left side, and general decline in strength and health.

Upon examination there were discovered 2 hypertrophied rectal valves situated opposite the second sacral vertebra. From this point downward there was a hypertrophic rectitis characterized by redness and areas of erosion. Above the obstruction the rectum was much dilated and pale. On September 21 the 2 obstructing valves were divided. Daily rectal lavage was practised upon the patient for the succeeding fortnight. Immediately upon the discontinuance of the enemas defecation became normal in frequency and character. The tenderness in the sigmoid subsided.

CASE XXV.—September 17, 1899, Mr. J. L., of Zanesville, Ohio. The history of this case is from the pen of one of his physicians:

"Mr. L., referred to us by Dr. Baldwin, of this city, with provisional diagnosis of hypertrophied rectal valves. We examined him September 3, assisted by Dr. Harris, and found Dr. Baldwin's diagnosis correct, finding further that there was a hypertrophic rectitis, and the usual dilation of rectum and sigmoid above the offending valves. In this case we found that 4 valves were enlarged and thickened and offered great resistance, amounting practically at the time we saw him to complete obstruction. He gave a history of a number of years of obstipation, bloated feeling, and inability to pass gas, and weight in abdomen; melancholia, pain in left iliac fossa and aching down the thighs. He was operated upon by Dr. T. C. Martin, September 20, at which we assisted. The lower valves were divided, and it was found necessary some 4 weeks later to divide the upper set. Since that time our patient has continued to improve. He was in our office last night, having first paid a visit to his physician, Dr. Baldwin. He has lost that haunted expression from his face, he is gaining in health daily, and obstipation has entirely disappeared. It will probably require 6 months for his sigmoid to recover from its extreme dilation, and until this resumes its normal size, he may continue to have some difficulty. We examined him some 2 weeks since in Cleveland and found the lumen of the gut normal at cut margin of first valve and swelling going down at second cut."

CASE XXVI.—September 26, 1899, Mrs. C., aged 27, was referred to me by Dr. F. B. H. This woman had been subjected to oophorectomy 4 years prior to my seeing her. She had suffered from obstructed defecation for about 3 years. She complained of straining at stool for the passage of formed or semisolid feces. Enemas and physics had proved in great measure unavailing. Mucus was discharged at each defecation. There was more or less continuous tenderness in the sigmoid; she suffered, also, from insomnia and nervousness. Proctoscopy revealed the presence of 4 rectal valves, the 2 lower were hypertrophied and unyielding to the test-hook, but were not of sufficient depth to overlap. On October 5, these two were divided. Four hours later a secondary hemorrhage occurred—this was readily controlled. (It should be remembered that I had not yet been able to devise a means for suturing the wound.) In all the cases just reported the following means had been employed for the prevention of hemorrhage: The rectum, to the limit of its expansion, had been packed with cotton-wool tampons, each about 4 inches in length and 1½ inches in diameter, the substance of the tampons being slightly impregnated with persulfite of iron. About the middle of each tampon was tied a strand of gauze 18 inches long. The rectum was tightly packed from about 3 inches above the wound to the pelvic floor. Thus was afforded both a mechanical and chemic styptic, *and also*, by reason of the gauze, which projected from the anus, a diagnostic means which at once notified the attendant in case of hemorrhage. In addition to these precautions, the patient was invariably maintained in a modified knee-chest position for 24 hours, and, as a further precaution, bags filled with ice-water were attached over the sacrum. Whenever hemorrhage occurred at the time of the operation, it was checked by clamps, which were released by torsion. The wound was never abandoned so long as there was oozing. This patient developed a slight rise of temperature. The spleen did not enlarge. She rapidly regained her strength. Flatus was readily discharged. Defecation was accomplished with regularity for periods of from 7 to 10 days. I learned indirectly many months later that the obstipation had in a very considerable measure returned. I have not had the opportunity to examine the rectum. I have been unable to get any positive evidence on the subject.

CASE XXVII.—October 5, 1899, Mrs. S., aged 35 had for 9 years suffered from obstipation. The difficulty had gradually increased. The patient's experience had taught her the uselessness of straining at stool. Artificial means of some sort to reduce the consistency of the feces were necessary to secure evacuation of the rectum. She passed shreds of mucus at defecation, complained of backache and aching down the thighs, and of distress from gaseous distention of the colon. Proctoscopy disclosed the presence of 4 rectal valves. The second (on the right side) was hypertrophied and resisted the test-hook. I divided this valve. All her symptoms subsided, and defecation became normal.

CASE XXVIII.—November 13, 1899, Mrs. G., aged 35, consulted me for relief of persistent obstipation of 6 years duration. The difficulty of defecation had gradually developed in a period of 2 years; for 4 years there had not been a spontaneous evacuation. Each day was characterized by her as a desperate attempt by means of both enemas and cathartics, followed by a result which did not, as she said, "justify the investment." She complained of tenderness in the region of the sigmoid flexure, borborygmus, gastric indigestion, headache, backache, and aching in the posterior portions of the thighs. Tape-like formations of mucus were frequently discharged with the enema. Proctoscopy revealed a catarrhal and hypertrophic rectitis and the presence of 4 rectal valves. The third and fourth rectal chambers were contracted to one-half their normal diameter, and the lower of the two valves, each projecting across more than half the diameter of the inflated rectum, were thickened and resisted the test-hook. These two valves were divided. The upper rectum was subjected to massage. Defecation was restored. Gradually the stomach symptoms improved. The woman's health was restored. In this case and in the succeeding ones, the method of suturing described in another place, was applied. Since using the suture I have not had a case of secondary hemorrhage.

CASE XXIX.—December 6, 1899, Mrs. S., aged 50, was referred by Dr. M. R. This woman had an attack of gonorrheal peritonitis 7 years ago. Five years ago she had the cervix uteri amputated for malignant disease. For 15 years she had suffered from obstipation, which gradually increased in degree till some artificial means were required to secure an evacuation. She suffered more or less continuously from backache and aching in the posterior portions of the thighs. There was, more or less continuously, tenderness in the region of the sigmoid flexure and distress from accumulations of gas. Mucus was frequently observed in the dejecta. Straining was not an invariable accompaniment of defecation. Proctoscopy revealed a hypertrophic rectitis and but one rectal valve. This was situated about opposite the second sacral bone, was anteriorly attached, and was about 50 mm. broad at its free margin. Section of the valve was recommended, with a qualified prognosis—remembering the probability, in cases with such a history, of intestinal adhesion. After division of the valve, defecation and the symptoms referred to were much improved. The function was usually performed without assistance. Some 6 months later all the old symptoms recurred. Proctoscopy revealed an increased thickening of the valve and contraction of its strait. Massage was resorted to. Improvement followed. Again, some months later, after exposure to cold, and during the patient's residence in the country, symptoms of obstruction of the rectum or sigmoid developed. I saw her a fortnight later. Again was observed the valve contraction and thickening. Again massage of the part was beneficial. Recurrences, more or less periodic, were relieved in the same manner. The result in this case was not satisfactory. It was not practicable for the patient to remain continuously or so frequently under local treatment.

CASE XXX.—December 26, 1899, F. B. T., of Toledo, Ohio, aged 48. This gentleman had suffered for about 6 years from persistent obstipation, accompanied by retention of gas in the sigmoid flexure, abdominal tenderness, backache, aching down the posterior parts of the thighs, and neurasthenia. Defecation required some sort of artificial aid. Proctoscopy revealed 4 valves. The lower two were hypertrophied, were so deep and in such propinquity as to overlap, and under pressure to come in contact and erect a temporary diaphragm, which obstructed the descent of the feces. They were unyielding to the test-hook. They were divided and the patient relieved. (Indirectly I have heard that this patient suffered relapse.)

CASE XXXI.—January 10, 1900, Mr. R. C., aged 36 was referred by Dr. W. O. O. Obstipation had existed for 6 or 7 years. All means to procure defecation proved unsatisfactory. The patient was neurasthenic, and suffered from retention of gas in the region of the sigmoid flexure, and tenderness in the lower abdomen. Mucus was frequently observed in the dejecta. Proctoscopy revealed the presence of 4 rectal valves. The lower two were hypertrophied, and projected more than half across the diameter of the rectum. They were divided, and the function and general health were restored.

CASE XXXII.—January 23, 1900, W. D., aged 47, of Columbus, Ohio, was referred by Dr. S. B. T. This man had suffered from obstipation for about 7 years. Had backache, legache,

tenderness in the lower abdomen; straining at stool was ineffectual except when the feces were rendered fluid or semifluid by some artificial means. Proctoscopy revealed 4 rectal valves. The second valve projected half way across the diameter of the rectum, was hypertrophied, and resisted the test-hook. Valvotomy restored the function of defecation and relieved the attendant symptoms.

CASE XXXIII.—March 8, 1900, Mrs. T., aged 38, was referred by Dr. C. This woman had suffered from obstipation for 12 years. Enemas and cathartics were required. Defecation was always accompanied by discharge of mucus, blood, and pus. She suffered from tenesmus, aching in the rectum, backache, legache, retention of gas, and tenderness in the sigmoid. Proctoscopy revealed hypertrophic rectitis. The lower valve was contracted to an annular stricture, the others yielded to the test-hook. The obstructing valve was divided. The rectum became normal. The function was restored.

CASE XXXIV.—March 16, 1900, Miss M. McG., of Warren, Ohio, aged 37 (referred by Dr. S.), was a bedridden neurasthenic. She was operated upon about 5 years prior to my seeing her, and a Meckel's diverticulum removed. However, she continued to suffer from intestinal obstruction in the same degree as during the 2 or 3 years before. In 1898 she was subjected to oophorectomy. Result, symptoms unabated—in fact, each year the difficulty grew worse. Backache was intense, distention of the sigmoid flexure and descending colon was marked. Artificial aids to defecation occasioned great distress. Quantities of mucus were discharged at each attempt. Proctoscopy revealed a much contracted rectum, due to hypertrophic rectitis and 3 hypertrophied valves. The fourth was apparently normal. Valvotomy was recommended. The prognosis was qualified as it should be when there is reason to suspect intestinal adhesion. After the operation the function improved to a degree requiring an enema only occasionally. The backache was more or less frequent, however. The patient continued more or less neurasthenic, and though not restored to health, she was able to be about. A year later the recovery was complete.

CASE XXXV.—March 21, 1900, Mr. S., of Columbus, Ohio, aged 38, was referred to me by Dr. S. B. T., with a history of chronic obstipation, covering a period of 6 years. He strained at stool for the passage of unformed feces, there was gaseous distention of the lower bowel, discharge of mucus, and backache. Proctoscopy revealed 4 rectal valves, the third valve projected two-thirds across the diameter of the rectum, was hypertrophied, and resisted the test-hook. The obstructing valve was divided. Health was restored.

CASE XXXVI.—March 21, 1900, Mrs. B., of Columbus, Ohio, aged 35, referred by Dr. S. B. T. The history was that of gradual development of rectal obstruction, more or less recurrent in character, till finally, defecation was only accomplished by artificial aid. There was straining at stool, backache, legache, mucus discharge with feces and retention of gas in the sigmoid flexure. Proctoscopy revealed 3 rectal valves, the second projecting a little less than half way across the rectum was hypertrophied and resisted the test-hook. This valve was divided. All her symptoms subsided.

CASE XXXVII.—April 5, 1900, Mrs. W., of Columbus, Ohio, aged 62, referred by Dr. S. B. T., had been the subject of obstipation for 15 years. Two years prior to my seeing her she had hysterectomy performed and intestinal adhesions separated. Cathartics and enemas had become less and less effectual. Strained inordinately for the passage of feces. Mucus was discharged with stools. Examination revealed hypertrophic rectitis and 2 thickened rectal valves. Having regard for the possibility of intestinal adhesions, a qualified prognosis was made. Both valves were divided. For 4 or 6 weeks defecation was improved, but was not normal. The patient reports that within 3 months the former condition recurred. She was not seen by me subsequently.

CASE XXXVIII.—April 18, 1900, Miss H., aged 24, was referred by Dr. S. H. U. The patient had suffered for 5 years with difficult defecation, and strained violently at stool. She was neurasthenic, and had mucous discharge from the rectum. Enemas and cathartics had become less and less effectual. Examination of the abdomen revealed movable right kidney and enlarged right ovary. Proctoscopy showed hypertrophic rectitis and 3 thickened rectal valves. Qualified prognosis was made and the 2 rectal valves most obstructing were divided. Defecation improved. Eight months subsequently the patient was subjected to laparatomy for the relief of kidney and ovarian disease. She died from shock.

CASE XXXIX.—June 1, 1900, Miss S., aged 39, was referred by Dr. R. This patient had suffered for 8 years from obstipation, was neurasthenic, had discharge of mucus from rectum, strained violently at stool, and suffered from retention of gas in the sigmoid, which was dilated. Proctoscopy revealed 2 hypertrophied rectal valves. Both were divided. Normal defecation was established, and the patient recovered her health.

CASE XL.—June 5, 1900, Miss N., of Cincinnati, aged 60 was referred by Dr. E. W. M. For 40 years she was the subject of obstipation. Required manual assistance for evacuation of the rectum. Mucus was discharged at each defecation. She suffered from recurrent diarrhea, and was much distressed by retention of gas in the sigmoid, which was much dilated. Proctoscopy revealed 2 hypertrophied rectal valves. Both were divided. Defecation became normal. As often as once in 5 months she suffers from an attack of rectitis and obstipation which is easily relieved by massage and spraying of the rectum with silver nitrate solution, administered by Dr. E. W. M.

Study of the foregoing cases discloses that the symptoms of hypertrophy of the rectal valve are as follow: The patient is the subject of more or less chronic obstipation. He makes frequent partially successful attempts at defecation daily, but may experience an unrequited desire for stool. The patient acquires the reprehensible physic habit. In time the periods of obstipation are interrupted by short periods of diarrhea. There is an ineffectual straining at stool, except for fluid feces. Discharge of mucus is usually noticed. Later the diarrhea may occur with greater frequency, and ultimately long periods of diarrhea may ensue which are interrupted by a transitory constipation and obstipation. All these symptoms may be accompanied by increasing degrees of flatulence and borborygmus, and from time to time the patient is subjected to attacks of intestinal autointoxication, and finally he becomes neurasthenic. On account of the especial nonsensitiveness of the rectal valve the patient's sufferings are not uniformly referred to this region by himself, but in many instances, however, the intelligent patient is prepared to present his physician with a ready-made diagnosis of rectal obstruction. Ultimately the symptoms of intestinal obstruction may become pronounced, and if the patient be unrelieved the disease proceeds to a fatal termination. Symptoms of pain, aching in the iliac regions, backache and sciatica, hemorrhage, catarrhal or membranous proctocolitis, prolapse, hemorrhoids, fistulas, etc., may be the signs of complications of the obstructing valve, and these may embrace the entire proctica.

Number of cases.	Cured.	Improved.	Recurred.[1]	Not improved.	Having complications.
1	1	.....	.....	.....	.....
2	1	.....	.....	.....	.....
3	1	.....	.....	.....	1
4	1	.....	.....	.....	.....
5	1	.....	.....	.....	.....
6	.....	1	1	.....	.....
7	1	.....	.....	.....	1
8	.....	.....	.....	1	1
9	1	.....	.....	.....	.....
10	1	.....	.....	.....	1
11	1	.....	.....	.....	.....
12	1	.....	.....	.....	.....
13	1	.....	.....	.....	1
14	.....	1	1	.....	.....
15	1	.....	1	.....	.....
16	.....	.....	.....	1	.....
17	1	.....	.....	.....	.....
18	1	.....	.....	.....	.....
19	1	.....	.....	.....	.....
20	1	.....	.....	.....	.....
21	1	.....	.....	.....	1
22	1	.....	.....	.....	.....
23	1	.....	.....	.....	.....
24	1	.....	.....	.....	.....
25	1	.....	.....	.....	.....
26	1	.....	1	.....	.....
27	1	.....	.....	.....	.....
28	1	.....	.....	.....	.....
29	.....	1	1	.....	1
30	1	.....	.....	.....	.....
31	1	.....	.....	.....	.....
32	1	.....	.....	.....	.....
33	1	.....	.....	.....	.....
34	.....	1	.....	.....	1
35	1	.....	.....	.....	.....
36	1	.....	.....	.....	.....
37	1	.....	1	.....	1
38	.....	1	.....	.....	1
39	1	.....	.....	.....	.....
40	1	.....	.....	.....	.....
Totals.....	33	5	6	2	10

A glance at this table discloses that of 40 patients operated upon prior to 2 years ago, two were not improved—one of these had no complications discoverable by me; the other was subject to recurrent invaginations of the sigmoid to the rectum; 5 patients were improved—three of these had complications, one of these had gonorrheal peritonitis and malignant disease of the cervix

[1] See comment following in the text.

uteri; another had been subjected twice to laparotomy and had Meckel's diverticulum removed and oophorectomy performed; the third had movable right kidney and an ovarian tumor. Of the 6 patients who suffered recurrence of obstipation, three were those whose condition after operation had been improved only; of the remaining 3 recurrences one had been subjected to hysterectomy, and of the other two I have not been able to get report. In a total of 40 cases, five were improved and thirty-three cured.

It should be recognized that valvular obstipation may recur. An obstructing valve may be so operated upon that that valve cannot again become an obstruction, yet obstipation may recur in such patients by reason of the development of hypertrophy in a valve which was not diseased at the time of the operation. The proctologist, therefore, cannot guarantee nonrecurrence of rectal obstruction any more than the dentist who removes for his patient a necrotic tooth can assure his subject that other teeth will not become diseased. Certain recommendations, however, may be made to the patient for the care of his rectum, which if observed, will prevent the development of an obstruction. He should be instructed that in case there ensue a period of 2 or 3 days without defecation, and during which he is conscious of a sense of fulness in the rectum or experiences a lumbar or sacral backache, he must partake of saline laxatives, use glycerin and water enemas at a temperature of 120° F., should remain in bed for a day or two, should at no time lie on his back, but should be on his side and keep the hips slightly elevated—and then come to his physician, who should, through the proctoscope, directly massage the rectal valves by means of cotton-guarded forceps and spray the mucosa with a weak solution of nitrate of silver—these being the symptoms of and the treatment for acute rectitis. By reason of the nonsensitiveness of the rectum it is possible, as is known, to operate upon it without the employment of any sort of anesthetic, without the infliction of pain; it should be recognized, therefore, that a rectitis may exist in this organ with symptoms scarcely importunate.

In writing the above cases the characteristic or salient symptoms only have been mentioned, their intensity has not been particularized. The patients operated upon were desperately ill. During the 8 years since I began my work on the rectal valve I have encountered numerous cases of hypertrophy of the rectal valve which did not require division of this structure and which were amenable to treatment by what may be termed instrumental massage. Such cases have a characteristic history and proctoscopic appearance. It is my purpose soon to present the result of my study of this class of cases.

OTITIC SEROUS MENINGITIS: LUMBAR PUNCTURE, RECOVERY.*

BY

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of New York City.

Lumbar puncture, unquestionably, must be looked upon as a most useful adjunct to the methods employed in making a differential diagnosis in the various acute inflammatory states involving the meninges. The procedure enables us to arrive at a positive diagnosis (1) by microscopic examination of the sediments; (2) by cultures taken from the fluid, and finally by inoculation experiments upon animals.

The discovery of the pathogenic microorganism in the cerebrospinal liquid definitely establishes the nature of the infection—a fact which cannot be determined in any other way during life.

* Read at the meeting of the Medical Society of the State of New York, New York, October 13, 1903.

Therapeutically, it may be of direct value as a palliative, in temporarily relieving symptoms of congestion, edema, pressure, coma, etc. In other instances it has a decided beneficial influence, and must be considered a curative measure in the sense in which we regard aspiration of the pleural cavity.

"The explanation of the beneficial effect resulting from the puncture is probably due to a reduction of the fluid tension by means of which absorption again takes place, and equilibrium is established analogous to what occurs in many instances in pleurisy and ascites." (S. O. Goldan.)

To say that the procedure possesses but little therapeutic value is certainly taking a pessimistic view.

The brilliant results obtained in the following case are instructive and convincing:

CASE.—I. B., aged 2½, born in New York, of Russian parentage, was admitted to the children's ward of the Beth Israel Hospital, January 8, 1903. There is no history of tuberculosis in the family. However, there is a history of insanity in the grandmother, an uncle died insane, and an aunt suffers from epilepsy. Her father is addicted to the use of alcohol.

Personal History.—She was born after a difficult labor, though instruments were not employed, was cyanosed for several days, her cry was feeble. She was breast-fed for 9 months, and began to walk after 17 months. For more than 2 years she has had a foul-smelling discharge from the right ear, the original cause of which could not be made out at the time. There is no history of any of the eruptive fevers. A subsequent examination revealed large adenoids.

Present History.—Fourteen days before admission the child became restless, began to cry considerably, and acted as though greatly frightened. Four days later she began to have convulsions. The seizures were general, and recurred every 30 minutes. The attacks were characterized by a loud cry, the child would fall to the ground suddenly. The movements were both clonic and tonic, and lasted about 3 minutes. Of late the attacks have been increasing in frequency, but are of shorter duration. Occasionally vomiting occurs after an attack, at other times the child would cry and fall asleep. The convulsive seizures occur at night as well as during the day, and are brought on by any external source of irritation.

Examination.—General nutrition is good. Face is suffused, expression dull, child is apathetic and in a semicomatose state. Extremities are cold and blue. Surface is generally mottled. Tongue is coated and moist. Eyes show convergent strabismus, and moderate lateral nystagmus. Pupils are dilated, the right more than the left. Under light test they contract slowly and to moderate extent, then slowly dilate again, and again contract. Taches cérébrales are easily produced. There is an offensive purulent discharge from the right ear, no tenderness over the mastoid region or the side of skull. There is no edema of this area. Pulse is rapid, no irregularity or intermission. Reflexes in general are exaggerated. Moving the patient or attempts at feeding are followed by convulsive seizures. Lumbar puncture was proposed for diagnostic purposes, but could not be carried out, as the violent character of the attacks brought on in attempting to put the child in position, interfered with the necessary manipulations.

The neuropathic family history of insanity, epilepsy, etc., in the parents and near relatives suggested a condition of status epilepticus. The latter, however, could be excluded from the history of the case, and the fact that the convulsions dated back only 2 weeks. Careful inquiry failed to elicit a history of a fall, blow, or traumatism of any kind. By exclusion, therefore, we were compelled to look upon the chronic suppuration in the ear as a probable etiologic factor, though no focal symptoms were present. The statistics of Pitt estimate that 5% of all cases of meningitis are of otitic origin. Dr. W. Freudenthal (consulting physician to the hospital), to whom I herewith extend my thanks for his wise and conservative counsel, was now requested to examine the patient.

REPORT OF DR. WOLFF FREUDENTHAL.

On January 10, 1903, I saw the child at the request of Dr. Francis Huber. She had had convulsions, which were increasing in number and severity, the pulse was getting irregular, and the whole aspect of the case appeared worse than at the beginning. There being a suspicion of mastoiditis, I was called in. After removing from the right ear the offensive discharge that had lasted for the past 2 years, an exceptionally large perforation of the drum membrane could be seen, out of which pus oozed. There was no swelling over the mastoid, no

tenderness or pain over any part, the temperature was 100°, pulse 130, and the child cried incessantly. Beside, she had had 7 attacks during the past night and 8 during the day. As the mastoid symptoms were not very well marked, it was thought there could be no risk in waiting 24 hours longer. At the end of this period the attacks had increased in frequency, and the general prostration was more marked. The general belief of all concerned in the case now was that the only salvation for the child must come from the opening of the mastoid. At 2.30 p.m. on January 11 the operation was performed in the usual manner. After chiseling away all the diseased bone, the dura mater was seen to bulge outward, and it was apparent that there was pressure from within. I hesitated, however, to withdraw any fluid, because an infection was possible, and surely not desirable. The wound was packed, and at 4 p.m. the house physician, Dr. Nisonoff, under the supervision of Dr. Huber, withdrew about 30 gms. of spinal fluid by means of lumbar puncture. Within the next 2 hours the child had 3 convulsive attacks. Six hours later twitching of the extremities set in, beginning at 12 midnight and ending at 1 a.m. She became quiet after repeated hypnotic medication. Another such severe attack commenced at 4.45 in the morning and lasted three quarters of an hour. At noon the next day (January 12) 16 gms. of spinal fluid were withdrawn, after which the symptoms gradually improved, and the child was discharged on February 2, 22 days after the operation was performed.

When seen by me about 2 months later, she was bright and active, running about and playing, and presented no evidences of her severe illness.

In the treatment of the patient there is no doubt that in spite of the nonexistence of any local evidences of mastoid trouble, the operation was justified. In addition to getting rid of the local diseased focus in the ear, we were enabled to eliminate a possible pachymeningitis and at the same time relieve the intracranial pressure to a limited extent. In resorting to lumbar puncture, an accidental infection during the operation or subsequent dressings of the cerebral meninges was avoided. The favorable therapeutic effects following the withdrawal of the cerebrospinal fluid were manifested in a very few days. On January 14 the child was still somewhat restless. On January 16 it was bright, took interest in its surroundings, and could with difficulty be kept in bed.

Subsequently in looking over the literature (though at the time of the operation not aware of the facts), the following valuable abstract was met:

Schwartze, of Halle,[1] made an interesting communication with reference to the importance of lumbar puncture in otology. He has employed the method for several years in his clinic, and he is impressed with its value. When the puncture results in the outflow of a normal, clear liquid, we can exclude diffuse purulent meningitis in cases of otitis with intracranial complications. When the fluid, however, is clouded, and is rich in leukocytes, and contains organisms, we may suspect the presence of either a diffuse purulent meningitis or of cerebrospinal meningitis. When the fluid is slightly opalescent we may say in all probability that we have a case of tuberculous meningitis complicating the otitis. A considerable increase in the cerebrospinal fluid points to the presence of sinus thrombosis.

Since this was written Babinski[2] has reported cases in which the abstraction of a small quantity of cerebrospinal fluid, for the relief of certain affections of the ears accompanied by tinnitus and vertigo, has been attended with gratifying results.

In dispensary and hospital practice meningeal complications following chronic suppuration of the ear are not uncommon. A few remarks from some recent papers are in order.

The prognosis of chronic middle-ear suppuration may be expressed in the following words of MacEwen: "One who has chronic purulent otitis media is liable to have, with very little warning, a most serious or even fatal illness."

The serious nature of the lesion is evident from a perusal of the following excerpt: "When meningitis was present and it could not be localized, little could be gained by a surgical procedure. An ice cap should be applied and large doses of potassium iodid given internally. A meningeal complication was almost always fatal. Leptomeningitis was almost invariably fatal, yet it would seem natural when recognized early to explore and drain the region." (McKernon.[3])

To quote from the excellent paper of Dr. Lewis:[4]

It is remarkable, not that so many cases of intracranial and other complications arise in the course of a chronic purulent inflammation of the middle ear, but that many more cases do not occur, for upon reflection it must be admitted that almost ideal conditions exist in and near the middle ear for the propagation of pathogenic germs, and for their penetration into neighboring regions. It is also a fact that this invasion into neighboring regions is still further promoted by gross negligence on the part of the laity, and, to a certain extent, by the failure of medical men to realize the dangerous nature of this class of cases. Fortunately the latter statement is growing day by day less.

Following is a review of the complications abstracted from the article referred to:

Chronic middle-ear suppurations, in addition to the changes in the tympanic membrane, the mucous membrane lining the tympanum, and the adjacent related cavities, are attended with more or less destruction of the ossicles and necrosis of the tympanic walls and with the formation of granulations and polypi. The other auditory structures as the petrous portion of the temporal bone may be involved with resulting destruction of the auditory nerve. Cholesteatomas may form or mastoiditis result. Finally one of the sinuses at the base may be implicated in a septic inflammation with the incidental dangers. The dura mater may be the seat of a general or localized pachymeningitis or extradural abscess; the pia and arachnoid may be involved, giving rise to a leptomeningitis, or the septic infection may invade the cerebral structures with the formation of abscess of the brain.

The erosion of the fallopian canal may cause a facial paralysis. Pyemia or septic pneumonia and pleurisy or metastatic abscesses of the joints or internal organs are not uncommon.

Of the various intracranial complications pachymeningitis is the one commonly met (including the localized or socalled extradural abscess and perisinus abscess, a local pachymeningitis limited to the site of the sinus). In leptomeningitis the arachnoid and pia are involved with a high rate of mortality. Cases of serous meningitis of otitic origin, as Lewis believes, occur more often than we have heretofore supposed. However, if such cases are recognized early, and operation is done in such a manner as to secure good drainage, the patients stand a fair chance of recovery.

In our case, though no focal symptoms were present, the indications pointing to a diffuse meningitis, it was considered advisable to explore the mastoid, first to determine the exact condition of the bony structure, and second to eliminate a possible extradural abscess. The dura was found to be tense and bulged into the wound. A probe could be readily passed between it and the bone in every direction, except upward. No pus was present. Further local operative measures upon the meninges were not adopted. The close proximity of the foul-smelling discharge from the external auditory passages and the deeper structures was considered to be a source of danger of immediate or remote infection of the meninges, and therefore a counterindication to tapping or draining the dura through the wound. The exploratory operation upon the mastoid cleared up the case in some respects, though the intracranial pressure was not fully relieved. It was therefore suggested, the proposition meeting Dr. Freudenthal's approval, that a lumbar puncture be performed. This was accordingly carried out with a most gratifying result. No tubercle bacilli were found in the fluid.

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A CASE OF HYSTERIC TETANY WITH REMARKS ON THE PATHOGENESIS OF THE DISEASE.

BY

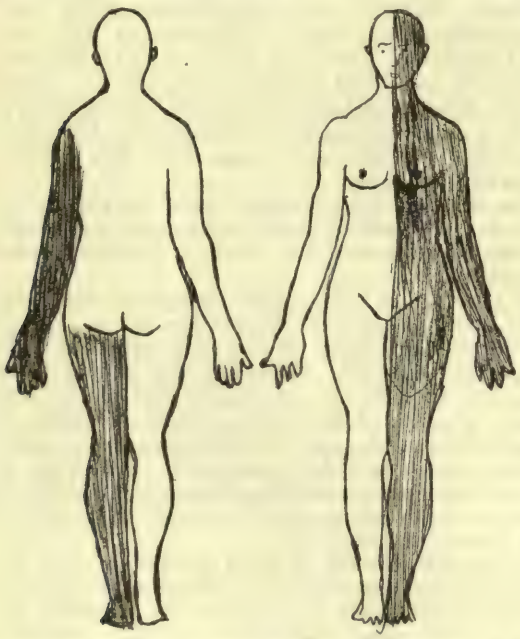
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The true pathogenesis of all varieties of tetany is still a matter of speculation. The symptom-group described under the name tetany may be encountered in many diseased conditions. Gastrointestinal disorders, infectious diseases, constitutional diseases, as rachitis and osteomalacia, the puerperium, lactation, thyroidectomy and some organic diseases of the nervous system are the most frequent conditions in which tetanic contractions may occur.

Whether these nervous phenomena are the results of some organic changes in the nervous system or are due only to some transitory circulatory changes in the centers which control the muscular contractions, or finally are due to a reflex action, is all a matter of conjecture. Pathology is silent on the subject or at least has done very little to elicit the cause of the curious symptom-



group, and we are obliged to consider tetany a neurosis. This consideration is corroborated by the fact that tetany occurs as a purely hysteric manifestation in patients presenting hysteric stigmata and may take place under the influence of a psychic cause. In fact the writers are divided into 2 groups. One, acknowledging that tetany occurs in hysteria and is one of its manifestations, nevertheless admits that it is by no means in every case a hysteric phenomenon. Other writers, especially the French, consider tetany a purely hysteric phenomenon in all cases.

The writers of the first group even go so far as to bring forward differential symptoms for a diagnosis of hysteric tetany and tetany not dependent on hysteria. A careful reading of the records will show that this differentiation does not hold ground and is due probably to an insufficient observation or based upon an insufficient number of cases. For example Chvostek's facial phenomenon (active contraction of the muscles of the face on the slightest tap made in the course of the facial nerve) and Trousseau's sign (attack of spasm in the muscles of a limb brought on by pressure on the nerve trunks), which are among the most constant symptoms of tetany, may also be found in organic or functional diseases of the nervous system (cases of Schultze, Erb, Hitzig, Frankl-Hochwart, Schlesinger). The electric condition of motor and sensory nerves, which according to Erb is only present in typical tetany, may be found as well in hysteria.

It can, therefore, be readily seen, there can not be a sharp differentiation between hysteric and nonhysteric tetany. The greatest difficulty in accepting only one view lies in the existence of cases in which tetany is associated with hysteric stigmata and on the other hand of cases of tetany occurring in patients without a single hysteric stigma. As to the latter there are cases on record in which very few or none of the usual hysteric stigmata are present and still the evolution of a given disturbance of a certain function proves beyond doubt to be hysteric in nature.[1] It is therefore evident that the absence of the ordinary hysteric stigmata in a given case does not exclude the possibility of the case being hysteric in character.

There are also cases in which tetanic contractions are apparently due to a toxic element; for example, tetany in gastrointestinal disorders, and following thyroidectomy. I say "apparently," as it has never been determined that tetany is caused by the supposed toxic element. If it is a question only of suppositions, with equal right we may suppose that certain poisons thrown into the circulation are apt to excite the motor nervous centers and bring on attacks of tetanic contractions in an individual predisposed to functional nervous disturbances. On the other hand, it is not disproved that hysteric phenomena may be due to a toxic influence on the higher centers. It is evident, therefore, that after all, the assertion that tetany is a hysteric phenomenon is highly plausible and probable.

Hysteria is an exceedingly interesting neurosis. It is remarkable how varied and multiple are its manifestations. The manifestations may affect the psychic as well as the vegetative sphere of the organism. There is not an organ, a viscus, a function which may not be disturbed by hysteria. This curious disease being essentially of a psychic nature puts in action different centers reacting upon the organs of the body. The most tenacious manifestations are liable to disappear almost always and instantaneously and reappear in the same manner under the influence of a psychic cause, as for example, an intense moral emotion. The case I am about to report is put on record for the purpose of illustrating another of those multiple functional disturbances which are met in hysteria.

H. G., a male of 24 years, Hungarian by birth, presents the following history: About a year ago he began to have attacks of tetanic contractions of the lower extremities and of the thorax, which occur under peculiar circumstances. After each sexual intercourse he feels as though he would faint, and immediately is seized with cramps, affecting the legs and trunk; the thighs are flexed over the pelvis, the legs over the thighs, feet over the legs; the thorax is bent forward. The contraction of the extremities lasts about 2 hours, but the flexion of the trunk only 15 minutes. The relaxation comes on gradually. The cramps are always accompanied by intense pain. Between the sexual acts he is perfectly free from spasms. The upper extremities have never been involved.

On examination the following points were noted: The patient is extremely emotional; cries and laughs easily, and becomes angry on the least provocation.

The examination for sensations revealed that the left whole lower extremity, as well as the upper, the left side of the anterior aspect of the trunk, the left side of the face, tongue, pharynx, sclerotic and cornea are totally anesthetic and analgesic to all forms of sensations. (Fig.) There is also a marked concentric narrowness of the visual field of the left eye. Pupils are unequal, left larger than the right, but react equally to light and accommodation. Areas of hyperesthesia are present along the spine. The sensations of the posterior aspect of the trunk are normal in all their forms. The knee-jerks are exaggerated, more marked on the right than on the left side. The heart is normal. Patient presents symptoms of gastrointestinal disturbances; he is obstinately constipated, suffers from anorexia and insomnia.

When we attempted to elicit the symptoms proper to tetany

[1] A. Gordon: Medical Record, August 25, 1900.

we found but two, Erb's and Chvostek's, which were very pronounced. At each stroke of any of the facial muscles a violent contraction of the same side of the face would follow; this is true only of the right side, the symptom was absent on the left side.

Mechanical and electric irritability in the lower extremities was very much exaggerated. The galvanic current gave more pronounced symptoms than the faradic.

The previous personal history as well as the family history is negative.

The exciting cause of the disturbance being purely psychic, and the total absence of tetanic contractions in the intervals between the sexual acts, in a man who presents a typical functional hemianesthesia, make the nature of the affection too obvious to require further comment.

I wish to thank Dr. John Wanamaker 3d for his assistance in taking the history of the case.

MYCOTIC DISEASE OF THE EAR CANAL: WITH REPORT OF A NEW FUNGUS.[1]

BY

S. E. COOK, M.D.,

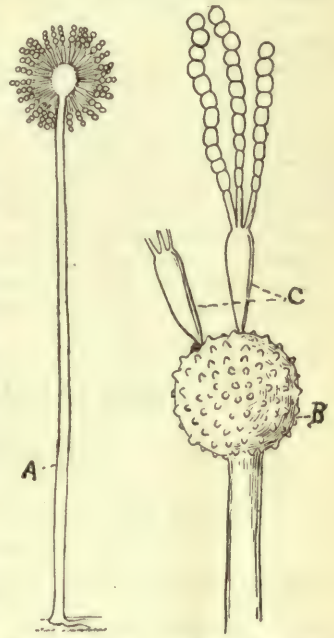
of Lincoln, Neb.

Oculist to the Burlington and Missouri River Railroad in Nebraska.

About 35 years ago certain classes of fungi were discovered to be the active agents in many inflammatory diseases of the auditory canal. Among the first to report such cases were Schwartze and Wreden. During the succeeding years the number of observers rapidly increased, until now the disease is recognized as common. The parasite most commonly found is some one species of the aspergillus fungus, a member of the class of common moulds. Parasitic otitis is not a primary disease. The soil must be in a favorable condition for the growth of the fungus, otherwise it would fail to obtain a lodgment. An eczema, or psoriasis of the ear canal, or some other form of chronic inflammation attended by maceration and loosening of the epidermis furnishes the necessary conditions. The primary disease is probably always attended by moisture, but it may be of such a mild character as to escape the notice of the patient. The use of oils to combat inflammation in the ear canal is responsible for many cases of parasitic otitis, as an excellent soil for the propagation of the fungus is thereby created.

Many clinical, as well as mycologic varieties of the disease exist. It may be of such a mild type as scarcely to attract the patient's notice, or it may be so severe as to cause intense suffering. The variation in intensity of the disease depends somewhat upon the species of fungus involved. The number of species of moulds commonly found in the ear canal is few, but there have been reported a great number of species exceptionally met. To the latter class it is my fortune to add another.

Some 3 years ago it was my lot to treat a patient who had an obstinate case of parasitic otitis in which the parasite did not seem to conform to the description of any of those hitherto reported. The material removed from the ear canal was submitted to Dr. Roscoe Pound, of the University of Nebraska, a conceded authority in mycology. He referred the specimen to *Sterigmatocystis candida* of Saccardo, a species hitherto unknown, or unreported as existing, in the human ear canal. In a paper, entitled "An Addition to the Parasites of the Human Ear," read before the thirty-third annual meeting of the American Microscopical Society, in New York City, and published in the Transactions, Dr. Pound makes the following comment: "Some time ago Dr. S. E. Cook, of Lincoln, submitted to me material of an ear parasite, plainly one of the aspergillaceæ, which had much of the outward appearance of the common *A. candidus*. Examination revealed branching sterigmata, and I referred the form provisionally to *Sterigmatocystis candida*. The latter species was discovered by Saccardo, in Italy, in 1876, growing upon decaying insect larvæ, and has since been found in France, growing upon the surface of citric acid. It is probably pantogenous, like the rest of the group. While the form found by Dr. Cook differs from *S. candida* in being somewhat smaller at all points, the shape of the sterigmata is so characteristic, and agrees so thoroughly with Saccardo's figure (Fungi Italici, t. 80), that in the absence of authentic material for comparison, notwithstanding Professor Underwood's caution that American fungi identified by European names are a source of confusion and must be renamed, it seems best to refer this form to *S. candida*, noting the slight divergence in measurements." Mycologically considered, sterigmatocystis differs from aspergillus in that in the former the sterigmata are branched, *i. e.*, are compound, while in the aspergillus they are simple, or the conidia are borne directly on the vesicle. The accompanying cut shows the arrangement. Dr. Pound thinks it likely that several pantogenous species of sterigmatocystis are concerned in parasitic otitis.



Sterigmatocystis candida. Saccardo. A, fertile hypha. B, terminal vesicle. C, sterigmata, compound, one of them showing chains of attached conidia.

Parasitic otitis may be met at any season of the year, and in almost any locality. By some it is thought to be more prevalent in seasons marked by dampness, and in low, moist situations. Some previous affection of the epidermal lining of the ear canal, or perhaps the collection of wax or other foreign substance, is probably a *sine qua non* for the development of the fungus. The primary disease may be desquamative or ulcerative, and as swelling and moisture are almost necessary attendants, an ideal soil is presented. Purulent disease of the middle ear, however, is very rarely associated with fungous otitis, unless there be coincident inflammation of the ear canal.

The prognosis is good, in so far as the destruction of the fungus is concerned. Under proper treatment most patients recover promptly. Inasmuch, however, as the original condition must be cured to prevent a return of the parasite, relapses are frequent. Treatment therefore should be directed to the restoration of the tissues of the ear canal to a normal condition, after we have succeeded in removing all traces of the fungus. As a general rule water should be used sparingly in the treatment of these patients, especially as the already macerated epidermis is more or less separated and can be brought away much more readily by a dull curet, carefully used, than by the syringe. Indeed it is often quite impossible to effect the removal of half separated epidermis by a stream of water, however powerful. When water is necessary it should be followed up by carefully drying the ear canal with the cotton probe. The medicinal agents recommended for the destruction of the growth are numerous. Preference should be given to those in the dry and powdered form. An exception must be made, however, in favor of alcohol. This rapidly penetrates the crevices and fissures of the skin, and cools the inflamed surface by its rapid evaporation. It should be used somewhat diluted,

[1] Read before the Nebraska State Medical Association, held at Lincoln, Neb., April 28, 29, and 30, 1903.

and the addition of about 2% of salicylic acid will increase its efficacy. Burnett claims that a powder of 1 part of chinolin salicylate and 8 to 16 parts of boric acid will destroy the fungus as well as the micro-organisms of suppuration.

Following the destruction and removal of the fungus and the products of inflammatory reaction, we frequently have to combat a quite severe inflammation. A good remedy for this is the following solution:

Solution subacetate of lead	1.25 cc. (20 m.)
Dilute acetic acid	.36 cc. (6 m.)
Opium sedative solution	1.25 cc. (20 m.)
Distilled water sufficient to make	30 cc. (1 oz.)

Instil 10 drops, warmed, into ear canal, as directed.

If the inflammation be eczematous a powder composed of equal parts of zinc oxid and boric acid, or perhaps starch may be insufflated into the ear canal.

My own plan of treatment is to remove all hardened wax with the syringe and warm water. This will not always be necessary, however. There is very often left behind a quantity of macerated debris, consisting of epidermis, fungus, and particles of cerumen intermixed. This may be gently removed, sometimes at several sittings, by the ring spoon and forceps. After the canal is thoroughly clean and dry, a dilute solution of alcohol, about 60% or 80%, is instilled into the ear. Many patients do well by partially filling the ear canal with boroglycerid. It depletes the tissues and is a good fungicide. If the inflammation does not subside in a few days I resort to the insufflation of powdered boric acid, or powdered acetanilid, or a mixture of the two. Sometimes the treatment must be persisted in for quite a period of time, but the patients all finally recover. I always direct the patients to return for inspection some weeks or months later, as they are all liable to relapses.

SPECIAL ARTICLES

THE CANTEEN.

BY

GEORGE M. KOBER, M.D. (CHAIRMAN),

of Washington, D. C.

Professor of Hygiene, Medical Department, Georgetown University, Washington, D. C.

To the American Public Health Association:

At a meeting of the American Public Health Association, held in Buffalo, September 16 to 20, 1901, the following resolution was adopted:

Resolved, That this body deplores the action of Congress in curtailing the operation of the army canteen or post exchange, and in the interests of general and military sanitation recommends its establishment, on its former basis, at the earliest possible date.

Another resolution was adopted as follows:

The Executive Committee recommends the appointment of a special committee to prepare and publish at an early date a pamphlet for public circulation, containing the resolution of the Public Health Association in favor of the army canteen, together with a concise statement of the data upon which this action was based and the definite references to the original sources from which such information is obtainable; such pamphlet to be issued in the name of the Association, and to be so prepared as to withstand keen and intelligent examination.

This recommendation is made in view of the fact (1) that an important function of this Association is to educate the public in matters of hygiene; (2) that the action above referred to is in disagreement with the ideas of a very large number of good citizens; (3) that this is a possible opportunity of securing their understanding of our action, and, it is to be hoped, their intelligent cooperation in taking successive steps toward the betterment of existing conditions.

Introduction.—In order to appreciate the object of these resolutions it should be stated that the socalled canteen system was introduced as a temperance measure at Vancouver barracks in 1880, but was not officially recognized until February 1, 1889, as shown by the following extracts from General Orders No. 10, Headquarters of the Army, A. G. O.:

1. Canteens may be established at military posts where there are no post-traders for supplying the troops at moderate prices with such articles as may be deemed necessary for their use, entertainment, and comfort; also for affording them the requisite facilities for gymnastic exercises, billiards, and other proper games. The commanding officer may set apart for the purpose of the canteen any suitable rooms that can be spared—such rooms, whenever practicable, to be in the same building with the library or reading-rooms.

2. The sale or use of ardent spirits in canteens is strictly prohibited, but the commanding officer is authorized to permit wines and light beer to be sold therein by the drink, on weekdays, and in a room used for no other purpose, whenever he is satisfied that the giving to the men the opportunity of obtaining such beverages within the post limits has the effect of preventing them from resorting for strong intoxicants to places without such limits and tends to promote temperance and discipline among them. The practice of what is known as "treating" should be discouraged under all circumstances.

3. Gambling or playing any game for money or other thing of value is forbidden.

Subsequent order, dated May 13, 1890, provides that:

The practice of what is known as "treating" must not be permitted.

After the abolition of post-traders, these canteens became also the cooperative store and supplied the officers and men with the necessaries and luxuries which the government does not provide, such as "delicatessen," cigars, tobacco and general merchandise, articles of clothing, stationery, etc., and as such, exercised also a very important economic function.

The establishment of the canteen system in the light of the evidence which will be presented hereafter, proved to be a most efficient prophylactic measure for the diminution of vice and drunkenness among troops, and its abolition by an act of Congress approved February 2, 1901, on purely sentimental grounds must be deeply deplored by all interested in the prevention of physical and moral diseases. Since the question of intemperance is intimately connected with the health, morals, discipline, and general efficiency of the army, it is necessary to consider the subject in all its bearings, and for the purpose of approaching the question from the practical rather than the sentimental standpoint, we will present a summary of the evidence:

Personnel of the Army.—The recruits for the army are enlisted generally from among men of ordinary walks of life, and reflect, therefore, the qualities of the latter whether they be good or bad. It is not true that the soldier is peculiarly dissipated above all others and requires special legislative measures to safeguard him against his weakness, for as justly remarked by Dr. Munson, in his "Theory and Practice of Military Hygiene," p. 820:

He brings with him into the service the result of the moral moulding to which he has been subjected during his childhood and youth in civil life, and does not change his nature or moral standards with the mere donning of the uniform.

One of the members of your committee served in the army both as an enlisted man and contract surgeon from 1867 to 1889, another member served as an officer of artillery, and we have therefore personal experiences and observation as to the character and habits of the enlisted men, the question of intemperance, its predisposing causes and effects upon the health and morals of the troops. We are disposed to divide the rank and file of the army into 4 classes. The first class includes a number of young men, who have resisted the temptations of the saloons in civil life and will continue to resist the temptations after they enter the army. The second class comprises many men, especially of German descent, accustomed all their lives to drinking beer instead of alkaloidal beverages, such as coffee and tea, who crave for companionship and the genteel amusements of a club and gymnastic hall; they regard beer as an article of food and a gentle stimulant, and life without these environments creates discontent and never reconciles them to their absence from home. The third class is made up of intelligent mechanics and clerks, who by reason of periodic attacks of intemperance, have lost their positions in civil life, but who, possessing sufficient self-respect and manhood, have entered the ranks for the purpose of securing the benefits of army discipline. The fourth class consists of men without aim or pur-

pose in life, and without internal resources for legitimate amusements; they are fond of morbid excitement and the alluring influences of the saloon and appear to find it difficult to check their cravings for liquor, in spite of the restraining effects of army discipline; indeed, quite a number of these men are true degenerates not infrequently drawn from the higher walks of life (gentlemen—rankers).

Prevalence of Alcoholism in the Army.—It is difficult to give an exact estimate of the extent of the drink habit, except by the amount of beer actually sold in the canteens and the prevalence of alcoholism as shown by the Army Medical Statistics. Statistics prepared by the Adjutant-General of the army show that during the year 1898, the first year of the Spanish-American war, with its hardships, excitement, and general employment of the army, the average amount spent for beer by each man in an army of 231,058 officers and men, was $2.41 per year, or 48⅕ glasses at 5 cents each, or 20 cents per month, equal to 4 glasses per month for each man. The consumption in 1899 in an army of 99,160 officers and men was $6.99, or 139⅘ glasses per year, or 56 cents, or 11⅗ glasses per month for each officer and man. This is a very favorable showing when it is considered that the average consumption of liquor in the United States amounts to 17.68 gallons per capita.

The following table taken from *Munson's Hygiene*, p. 809, based upon official records of the Surgeon-General's office, shows the prevalence of alcoholism in the military forces of the army during the 28 years of peace, 1870–1897, inclusive:

Year.	Mean strength.	Number of cases admitted to hospital per 1,000 strength.	Number of cases of delirium tremens per 1,000 strength.
1870	31,831	38.20	*
1871	29,430	45.80	*
1872	26,844	47.50	*
1873	27,909	49.40	*
1874	27,021	58.10	*
1875	25,575	68.00	*
1876	24,886	64.50	*
1877	23,707	59.00	*
1878	23,381	59.40	*
1879	23,964	65.10	*
1880	24,004	61.00	*
1881	23,222	57.60	*
1882	23,239	68.70	*
1883	23,439	66.00	*
1884	24,034	66.10	*
1885	24,138	53.50	1.57
1886	23,572	42.80	1 01
1887	23,841	46.70	.88
1888	24,726	40.20	.92
1889	25,008	41.40	.51
1890	24,234	40.70	.86
1891	23,269	40.00	.90
1892	24,203	37.20	.78
1893	25,287	33.80	.55
1894	25,376	30.90	.82
1895	25,204	30.10	.83
1896	25,119	28.80	.58
1897	25,417	27.80	.58
1898	147,795	15.16	*
1899	105,546	18.70	*
1900	100,389	22.43	*
1901	92,491	26.25]	*
1902	80,778	24 02	*

*No figures available.

The committee has extended this investigation so as to include the 5 years ending December 31, 1902, and finds, as first pointed out by Munson, that "during the war with Spain in 1898 the admission rate fell to 15.1; the more active operations and novelty supplying much of the desired excitement, while the unusual conditions undoubtedly attracted a superior class of young men to the colors." The same was true in 1899, when the rate for alcoholism in the bulk of our army engaged in hostilities and hard field service in the Philippines was only about half as high as among those serving in Cuba, and an eighth as high as among those in garrison in Porto Rico.

The rates for the United States for the year 1900 were 22.43; for 1901, 26.25; for 1902, 24.02. In Cuba and Porto Rico the rates were for 1900, 32.01; 1901, 34.42; 1902, 48.26. In the Philippine Islands the rates were 12.16 in 1900; 21.07 in 1901; and 21.10 in 1902.

From this table we learn that the rates for alcoholism in our service have steadily decreased. Since there is reason for believing that the per capita consumption of liquor in the United States has steadily increased, the decrease in the army rates for alcoholism is especially gratifying, and can only be explained by greater care exercised in the selection of recruits and in the character and preparation of food, a more rapid elimination of inebriates from the army, and last but not least, the beneficial effects from the establishment of canteens.

It will be observed that the decrease is especially marked since the establishment of canteens in 1889, while the slight changes in 1901 and 1902 are not sufficiently marked to base conclusions thereon, nevertheless they indicate, in connection with other evidence, an increase in alcoholism since the abolition of the canteen.

It is interesting to note that the statistics collected by Dr. Munson show that there is approximately only a tenth as much sickness from the use of alcohol among the negro as the white troops. He says, "few colored soldiers are hard drinkers—and so far as beer and other malt liquors are concerned, there apparently exists a racial distaste for these beverages on the part of the negro." Dr. Munson also adduces statistics which indicate that nationality is a factor of much importance in determining the relative amount of alcoholism. Thus for 7-year periods, 1890–1896, the rates of admission in our army per 1,000 of each class were as follow:

Nativity.	Admissions.
German	26.62
American-born	28.51
English	51.84
Irish	90.96

These statistics appear to have also an important bearing on the influence of socalled "national beverages" on the drink habit, and their effects upon the system. The German and American-born soldiers generally prefer beer, while the English and Irish are accustomed to stronger drinks, like ale and ardent spirits.

The Canteen as a Prophylactic Measure.—In order to appreciate the beneficent effects of the canteen system, not only in the reduction of the drink habit but also as a powerful moral factor in the life of the soldier, it should be remembered that prior to the inauguration of the canteen or post exchange, the socalled sutler's or post-trader's store was allowed by army regulations. The proprietor was a civilian, appointed by the Secretary of War, and at a subsequent period these appointments were made upon the recommendation of the members of the post council. These stores furnished merchandise and luxuries not supplied by the commissary department, and were also an accomodation to the pioneer settlers. Among the most profitable articles of sale were whiskies, brandies, wines, cigars, and bottled beer. These were sold, usually across the counter, and very few of the sutler stores provided the facilities of club life, such as billiards, reading-rooms, or games, and if so, the charges were exorbitant, and gambling for money was not infrequent. Most generally they presented all the characteristics of the American bar, drinks being consumed in rapid succession, aided by the pernicious system of "treating."

It is quite true these establishments were subject to military orders, and the sales of liquor could be controlled easily, but whenever and wherever the attempt was made on the part of the commanding officer to regulate the character and amount of drinks to be sold, it was promptly frustrated by the establishment of little shacks or shanties for the sale of vile whisky outside of the post reservation; these were gradually enlarged by the addition of rooms for gambling and the introduction of lewd women of the lowest class, and as a result in addition to the excesses of alcoholic stimulants, the effects of an immoral life and its far-reaching consequences were stamped upon those unable to resist the temptations, and as a result, trials for drunkenness, absence without leave, admissions for alcoholism and venereal diseases increased with startling rapidity. One of the members of your committee can recall that on more than one occasion, in order to avert complete demoralization of the men, the commanding officer felt constrained to rescind his orders prohibiting the sale of alcoholics, for he realized that the post-trader could be compelled to sell a pure article of whisky and thus diminish the baneful effects of alcoholic stimulants to a minimum.

At posts situated within the heart of an Indian country,

and where it was impracticable to establish grog-shops within a reasonable distance from the post, whisky was brought into the garrison through the mails in various disguises, or in express packages and peddled in 2-ounce vials by the soldiers themselves. Others resorted to the purchase of essence of ginger, lemon, vanilla, bay rum, alcohol, and patent or proprietary remedies containing alcohol in various percentages.

Hence, even the most favorable environment failed to prohibit. It was not until the establishment of the canteen system, that better conditions were offered for the promotion of temperance among our soldiers. It was the creation of the Soldiers' Club which reduced drinking to a minimum and promoted not only temperance and contentment but also lessened sickness, immorality and crime.

Trials by Court-martial for Drunkenness, etc.—The statistics already presented show conclusively that coincident with the general establishment of the canteen system throughout the army there occurred a decrease amounting to considerably more than half the drunkenness which formerly tended to the impairment of discipline, the demoralization of individuals and to the occurrence of assaults, injuries and deaths.

The following statistics prepared by Dr. Munson and extended by the committee show a gradual improvement in the tone and morale of the army, as evidenced by the number of courts-martial. This improvement is especially marked since the establishment of the canteen.

The average of trials and convictions for drunkenness and conditions arising therefrom for from 1886 to 1891 was 372.5 against an average of 160.6 for the 6 years after the establishment of the canteen. (Table Munson's Hygiene, p. 819.)

Year.	Total number of trials and convictions in the army—all causes.	Number of trials and convictions for drunkenness and conditions arising therefrom.
1886	1,640	342
1887	1,730	289
1888	1,999	357
1889	1,752	423
1890	1,907	407
1891	2,000	417
1892	2,198	228
1893	2,189	163
1894	1,728	120
1895	1,486	142
1896	1,384	168
1897	1,245	143
1898	1,865	313
1899	5,694	1,386
1900	6,618	1,837
1901	6,065	1,458
1902	5,311	1,000

The statistics from 1898 to 1902 should be excluded as they cover the period of the Spanish-American War, when a large number of volunteers were enrolled. In this connection attention is directed to the "Reports of Commanding Officers" on file in the War Department and published in House of Representatives Document, No. 252, Fifty-seventh Congress, Second Session. Brigadier-General Frederick Funston, U. S. A., Commanding General Department of the Colorado, reports (p. 22) the number of trials by general courts-martial for 1902 to have been 194, and as compared with the preceding year the percentage of average enlisted strength to nearly have doubled. He also gives the percent of average enlisted strength deserting in his department as follows:

1899-1900	3.20
1900-1901	7.50
1901-1902	11.00

And writes as follows:

It is therefore plain that there has been a deplorable increase of offenses in general and of desertion in particular. In my opinion there are two principal causes for this state of affairs: 1. Resentment to unaccustomed limitations and restrictions felt by men returning from field service to the monotony and routine work of garrison life. 2. The abolition of the canteen feature of the post exchange. Since this action was taken saloons of the lowest type have been established just outside the boundaries of the various reservations; their proprietors are, in almost every case, unprincipled scoundrels, who leave nothing undone to debauch the soldiers and obtain their money. Being, in all cases, outside the limits of any city, the proprietors of these resorts are subject to no municipal police regulations and sell liquor regardless of hours and whether the buyer is already intoxicated or not. Gambling is universal in these "dives," and they are frequented by dissolute women. The soldier whose desire for a drink would ordinarily be satisfield by a few glasses of beer in the canteen of the post exchange goes to one of these resorts and does well if he escapes before he has spent or gambled away all his money, overstayed his leave or engaged in an altercation. As a rule, the local authorities regard the existence of these places with indifference or approval, as it causes the soldier to spend his money in the community. The efficiency of the army or the ruin of a good soldier is nothing to them. There can be no reasonable doubt that most of the trials by general courts-martial and summary courts, at least so far as this department is concerned, are directly traceable to this cause. Since I have had command here there has taken place the ruin and degradation of several noncommissioned officers of long service and fine record. In short, the recent legislation of Congress on this question, so far as this department is concerned, has had no effect except to lower the discipline of the army, ruin scores of good soldiers, and fill the pockets of a lot of saloon keepers, gamblers, and prostitutes.

Desertions.—The following table compiled from the records of the War Department, shows what the establishment of the canteen has accomplished in the promotion of virtue and loyalty to the flag. This table demonstrates that for the 10 years previous to the establishment of the canteen the number of men annually deserting from the service amounted to 125 per 1,000 strength, while for the 10 subsequent years the annual number of desertions was reduced to 46.2 per 1,000 strength.

It is to be deplored, that this favorable record which continued for 10 years after the canteen system was thoroughly established, should be broken by a rate of 73 per 1,000 the year following the abandonment of this system. These figures are extremely suggestive, because the best index of the contentment and virtue of the troops, is to be found in the rate of desertions and trials by courts-martial.

TABLE SHOWING PERCENTAGE OF DESERTIONS IN THE ARMY OF THE UNITED STATES FROM 1880 TO 1900, AND 1901-1902.

Year.	Strength.	Percentage.	Year.	Strength.	Percentage.
1880	24,601	9	1891	24,525	5.7
1881	23,572	12.5	1892	24,867	5.7
1882	23,743	16.4	1893	25,670	6.3
1883	23,814	15.2	1894	25,661	3.6
1884	24,706	13.6	1895	25,200	5.3
1885	24,816	10.6	1896	25,143	3.4
1886	24,365	8.3	1897	25,304	2.9
1887	24,438	10	1898	44,397	4
1888	24,790	11	1899	62,019	4.9
1889	25,564	11	1900	66,400	4 4
1890	24,930	7.7			4.62
		12.50			
			1901	75,431	4.12
			1902	82,472	7 30
					5 71

Savings Deposits.—Dr. Munson, on p. 819 of his "Military Hygiene," also refers to the increased savings deposits with army paymasters as one of the beneficent effects of the canteen system in the promotion of order and contentment. At all events, the figures reported by the Paymaster-General in his report for 1899 show that the average number of men annually making such deposits for the 7 years, 1885-1891, was 7,273, while for the 6 years 1892-1896 the annual average so deposited was 8,382, an increase of 13.3%. This indicates not only increased contentment, but a decided improved moral tone, and means that over 1,100 additional depositors were created, thus practically giving bonds to the Government for good behavior.

STATEMENT.

Showing the number of enlisted men, the amount of soldiers' deposits, and the average deposit per man per year, for 4 fiscal years from 1900 to 1903, inclusive:

Year.	Troops.	Deposits.	Average per man.
1900	64,969	$3,215,544.66	$49.49
1901	65,000	3,448,529.11	53 05
1902	70,711	2,660,250.66	37.62
1903	59,866	1,888,014.87	31.54

Venereal Diseases.—Another remarkable victory achieved by the canteen system over vice and disease is shown by the

decrease in the prevalence of venereal diseases in the United States Army. This reduction was gradual and constant until the abolition of the canteen system, when again a most marked and lamentable increase is noted, the admission rate for syphilis, chancroid, and gonorrhea in 1902 having almost doubled, when compared with the rate for the decade 1890–1899.

VENEREAL DISEASES UNITED STATES ARMY.—SYPHILIS.

Year.	Admission to hospital per 1,000 strength.	Year.	Admission to hospital per 1,000 strength.
1880	49.4	1891	14.7
1881	47.6	1892	16
1882	40.1	1893	13.6
1883	35.6	1894	14.1
1884	29.8	1895	11.1
1885	24.8	1896	10.9
1886	22.5	1897	12
1887	22.9	1898	10
1888	22.2	1899	14.7
1889	22	1900	18.4
1890	19.7		

	Year 1898.	Year 1899.	Year 1900.	Year 1901.	Year 1902.	Decade 1890–1899.
Syphilis.....	10.08	14.97	18.46	20.38	22.37	12.67
Chancroid.....	.....	38.29	46.44	37.18	31.99	17.88
Gonorrhea.....	46.42	93.18	93.68	99.25	106.58	55.60

The predictions of the Honorable Secretary of War, Mr. Elihu Root, and the Right Reverend Archbishop Ireland, have alas been fulfilled. Mr. Root, in his testimony before the Senate Committee on Military Affairs, December 14, 1900, said:

In the vile resorts which cluster against the borders of every army post there is not only the liquor seller, with his bad whisky, but there is the prostitute. The man who goes to the gin-mill for his recreation falls into the hands of that woman, and he comes back not merely to the guard-house for drunkenness or for overstaying his time, but to go into the hospital with venereal disease. These misguided people are doing Satan's work in endeavoring to take these fellows out from under the restraint and under the influences that surround them when they are in camp, and drive them out into the horrible and demoralizing and damning surroundings that cluster around the outside of the camps.

Before the same Committee, Archbishop Ireland declared:

One thing is overlooked by many people who discuss the canteen question. It is this matter of prostitution, which is, of course, fatal to the soldier, soul and body. They only look at the mere drinking, but when a soldier goes outside to drink, outside the fort or reservation, he is generally tempted to go farther. That is the danger. . . . You will find soldiers arrested in houses of prostitution; they are arrested, and we ask: "How did you get there?" The explanation is that they went outside and got drunk in some of these vile saloons, and they were induced to go to these houses from the saloons. The agents of these houses are there, and they are there particularly for the purpose of inveighing the soldiers into these houses. The houses that I refer to are on the borders of the fort, and are houses of prostitution—all of them.

Insanity.—For the sake of completeness, we submit a table showing the rate of mental diseases in our army for the period from 1880 to 1902, inclusive.

It will be observed that there was a decided tendency to

INSANITY.—U. S. ARMY.

Year.	Cases.	Mean strength.	Admission rate per 1,000 strength.	Year.	Cases.	Mean strength.	Admission rate per 1,000 strength.
1880	50	24,002	2.1	1892	48	24,208	1.9
1881	62	23,222	2.5	1893	35	25,287	1.3
1882	65	23,239	2.8	1894	24	25,376	.9
1883	71	23,439	3	1895	21	25,204	.7
1884	52	24,084	2.1	1896	22	25,119	.8
1885	34	24,138	1.4	1897	21	25,417	.8
1886	33	23,572	1.4	1898	159	147,795	1.1
1887	46	23,841	1.9	1899	188	105,546	1.8
1888	42	24,726	1.7	1900	273	100,389	2.7
1889	34	25,008	1.3	1901	166	92,491	1.8
1890	33	24,234	1.3	1902	138	80,778	1.7
1891	37	23,269	1.5				

diminution of insanity from 1884 to the beginning of the Spanish-American war, probably the result of better provision for the intellectual needs and recreation of the soldier, and of which the canteen system may have been a factor. It would be unfair, however, to attribute the increase in recent years to the absence of canteens, since service in tropical islands, the lack of knowledge of the native languages, enforced confinement to garrisoned towns, and the constant strain incident to continued preparation against attack by the enemy, all combine to act as predisposing causes to different forms of mental disorders, which are by no means limited to the drinking classes.

Present Aspect of the Question, and the Effect of the Sale of Beer and Light Wines at Military Posts in the United States.—The provisions of the act approved February 2, 1901, prohibiting the sale of, or dealing in beer, wine, or any intoxicating liquors in post exchanges was promulgated in General Orders No. 5, dated February 2, 1901, so that now over 2 years have elapsed during which the effects of this law upon the health and morale of the army can be studied. In transmitting a copy of this order the Secretary of War enjoined upon all department commanders a prompt and effective compliance with the terms of the act, and requested that he might be informed of the effect of this law on the morality, health, and discipline of the troops, commanding officers be instructed along the following lines, report thereon to be made to the Adjutant-General not later than September 1, 1901:

1. To prepare at once a list of the liquor saloons within 1 mile of their reservation limits; to observe and record any additional saloons subsequently established within such limits.
2. Special mention to be made of saloons temporarily opened in the vicinity of posts or camps where the new regiments are to rendezvous or regiments returning from the Philippine Islands are to be mustered out.
3. To observe whether drunkenness among the enlisted men of their commands increases or decreases as a consequence of the abolishment of the canteen; whether the percentage of trials by summary or other courts for drunkenness for the coming 6 months is greater or less than for the past 6 months.
4. To make similar observations as to desertion and absences without leave.
5. To observe generally the effect of the abolition of the sale of beer at the post or camp on the morality and discipline of the command.
6. To make similar observation as to its effect upon the health of the command.
7. To report the effect of the law upon the table fare of the soldier in garrison and in the field, and to recommend measures for any improvements therein that may be considered necessary.

Replies have been received at the War Department, which indicate the following conditions:

1. *Increase of Liquor Saloons within 1 Mile of Military Posts Since the Passage of the Act.*—The reports under this head show that on or about February 2, 1901, the date of the passage of the act abolishing the sale of beer, there were within 1 mile of the military posts 1,555 saloons at which intoxicating liquors of all kinds were dispensed, and at the date of the last report there were 2,267 such saloons; that is to say, that 98 post canteens at which beer and light wines alone were sold, had been closed and their places taken by 341 saloons in the United States and 371 saloons in the Philippine Islands dispensing all kinds of intoxicants, in very many cases with gambling rooms attached, and in at least 3 instances houses of ill fame. Many of the additional saloons have been opened by discharged soldiers.

2. *Increase of Drunkenness.*—To the inquiry to report whether drunkenness among the enlisted men of their commands had increased as a consequence of the abolition of the canteen, 98 post commanders replied, of which number 81 reported that drunkenness had increased, 10 that it had decreased, and in 7 cases the commanding officers had no means of comparison, owing to changes of garrison or absence of data relating to prior garrisons, new posts established since February 2, 1901, and the failure to report on the specific question, or inability to reach a positive determination from the language of the report. See table showing increase in alcoholism in the army.

3. *Increase of Trials by Summary or Other Courts for Drunkenness and for Offences Caused by Drunkenness.*—To this inquiry 98 post commanders responded, of which number 68 responded that such trials had been more numerous since the passage of the bill, 3 that they had been less, and in 21

instances the effects were in doubt, for reasons given under the paragraph 2.

4. *Increase of Desertions.*—To the inquiry whether desertion had increased or lessened, 98 post commanders replied, of which number 54 reported that desertion had increased, 8 that it had decreased, and in 36 reports the result was in doubt for reasons stated under paragraph 2. For statistics see table showing percentage of desertions in the United States Army.

5. *Increase in Absence Without Leave.*—To a similar inquiry as to absence without leave, 98 post commanders replied, of which number 74 reported that absences without leave had increased, 6 that they had decreased, and in 18 the effect was doubtful for reasons stated in paragraph 2. A number of post commanders reported that absences without leave had doubled and in some cases that they had increased from 250% to 300%.

6. *Effects of the Abolition of the Sale of Beer at the Posts on the Morality and Discipline of the Command.*—To this inquiry 98 post commanders replied; one reported that the effect had been good, 56 that it had been bad, and in 42 instances the commanding officers had no means of comparison owing to changes of garrison, or absence of data relating to prior garrisons, etc. See table giving statistics of venereal diseases.

COLLECTIONS MADE BY PAYMASTERS, U. S. A., FROM ENLISTED MEN OF THE REGULAR ARMY, INCLUDING HOSPITAL CORPS, ON ACCOUNT OF FINES AND FORFEITURES IMPOSED BY SENTENCE OF COURTS-MARTIAL, FROM JULY 1, 1897, TO JUNE 30, 1903.

Year ending.	Number of enlisted men.	Fines and forfeitures.	Average per man.
June 30, 1898	28,110	$ 52,905.88	$1.88
June 30, 1899	66,258	166,207.87	.....
June 30, 1900	69,669	316,943.83	.....
June 30, 1901	81,287	340,768.28	.....
June 30, 1902	70,711	526,059.10	.....
June 30, 1903	62,866	428,051.38	6 82

Conclusions.—A careful review of the evidence on file in the various Bureaus of the War Department justifies the following conclusions:

1. The abolition of the post canteen, more especially the prohibition of the sale of light wines and beer, instead of proving a temperance measure as hoped for by its advocates, has had a detrimental effect on the health and morale of the troops. In the opinion of an overwhelming majority of commanding officers, drunkenness has actually increased and the admission rate for alcoholism has been increased from 22.43 per 1,000 in 1900 to 24.02 in 1902. The 98 post canteens at which light wines and beers alone were sold have been replaced within a mile from military posts, by 341 additional saloons in the United States, and 371 in the Philippine Islands, dispensing all kinds of intoxicants in many cases with gambling rooms and in some cases with houses of ill fame attached.

2. Since drunkenness and vice are intimately associated it is natural that the evidence should reveal an alarming increase in the prevalence of venereal diseases in the army. As a matter of fact the statistics of the Surgeon-General's office show that the admission rate for these diseases in 1902 is almost twice as high as for the decade of 1890–1899, and is doubtless the result of the cause pointed out by Secretary Root and Archbishop Ireland. In view of the grave and far-reaching consequences of these diseases which are a menace to the public health and welfare, and so often transmitted to the innocent and to future generations, this result, apparently associated with the abolition of the canteen is especially deplorable.

3. It is a matter of evidence that desertions, absences without leave, and trials of summary or other courts-martial for drunkenness and for offences caused by the same have increased, and that savings deposits by the enlisted men have decreased from an average of $49.49 per man in 1900 to an average of $31.54 per man in 1903. The records of the Paymaster-General's office also show that fines and forfeitures imposed upon and collected from the enlisted men of the army have increased from an average of $1.88 per man in 1898 to $6.82 per man in 1903, all of which indicates a growing spirit of discontent and a decided tendency to degeneracy, which must seriously affect the discipline and morale of the army.

Recommendations.—In view of the foregoing facts and in the interest of scientific temperance, the committee recommends:

1. The presentation to the Senate and the House of Representatives in Congress assembled, of the following resolutions adopted by the American Public Health Association in September, 1901.

Resolved, That this body deplores the action of Congress in curtailing the operation of the army canteen or post exchange and in the interest of general and military sanitation recommends its establishment on its former basis, at the earliest possible date.

Resolved, That this body in the interest of temperance and humanity cordially invites the intelligent cooperation of a very large element of good citizens who have been active in securing legislation against the sale in the military service of alcoholics of any character, in taking successive steps toward the betterment of existing conditions and thus assist in controlling and largely curtailing an evil which it is powerless at present to prevent.

2. Your committee is aware of the fact that beverages containing alcohol are an accessory food of value only when it becomes necessary to increase temporarily the elasticity of mind and body and a desire and capacity for work, and that the subsequent depressing effect and the baneful influence of its misuse requires great care in its employment, especially when rest, proper food and some of the alkaloidal beverages like coffee, tea, cocoa, and stimulants like meat-broths and soups may accomplish the same purpose, and their sale as a substitute should be encouraged.

3. In spite of the fact that "beer-drinking viewed in the abstract is unproductive of good," your committee believes, that its sale in canteens under rational and comprehensive regulations, rather than its total prohibition, will subserve the best interest of scientific temperance, because so long as human nature is weak and the masses are not properly educated, the substitution of a lesser evil under military control appears not only justifiable, but will in the future, as it has in the past, prevent excesses which are fatal to the soldier, soul and body. At present every effort toward total abstinence at military posts merely opposes theory to facts, and sentiment to statistics, and compels recourse to saloons of the lowest character, whose proprietors care nothing for the efficiency of the army or the ruin of a good soldier.

4. Every precaution should be observed to conduct post exchanges and the sale of light wine and beer along the lines recommended by Munson in his "Theory and Practice of Military Hygiene," pp. 820–822, and your committee begs to emphasize the fact that the bar feature should be entirely abolished, and that the exchange should in fact be a "soldiers' club," with ample facilities for reading-rooms, legitimate amusements, and athletic sports, where the soldier as a self-respecting individual may satisfy in an orderly manner his craving for diversion from the routine duties of a military life without undue prominence of the refreshment feature.

5. The sale of soft drinks, coffee, tea, cocoa, bouillon, soups, and warm lunches should be encouraged as substitutes for alcoholic beverages, and medical and line officers should be directed to educate by precept and example the rank and file of the army, that for persons in health, alcohol in any form presents no advantages not found in other food stuffs or stimulants, and which are moreover free from the dangers attending its use. In this connection it should be remembered that good food, well prepared, and properly cooked and served, is one of the most effective prophylactic measures against the "drink habit" in civil as well as military life, and no effort should be spared to bring the culinary department in the army to the highest state of perfection.

6. Military officers should point out the grave and far-reaching consequences of the effects of venereal diseases, so intimately connected with the drink habit, and make a strong plea in favor of continence. This may be done by telling these young men, that while the sexual passion is strong, it can be accelerated or delayed, excited or lowered, by the influence of the will. The soldier can be assured that by the cultivation of pure thoughts, removal of temptation, normal mental, and especially by vigorous physical exercise, continence is not only possible, but easy.

7. A strong effort should be made to improve the social conditions of the soldier. There are times and occasions when the friendly advice of a company commander or attending surgeon, a personal interest in the physical and moral welfare of the young soldier, will prove of greater benefit to the service and to humanity than the cold verdict of a summary court-martial. Such personal efforts on the part of the officers, dictated by the spirit of a universal brotherhood of man, appears to us perfectly compatible with proper military discipline. It is also believed that the habit of making savings deposits with the army paymasters may be greatly stimulated by personal efforts.

In conclusion, the committee desires to express its obligations to the officials of the War Department for the opportunity of making a full and impartial investigation of the records, and especially to Dr. Edward L. Munson, United States Army, the author of "Military Hygiene," for invaluable assistance in the preparation of this report.

Respectfully submitted,

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City of Mexico.

APPENDIX.

Extracts from reports of post commanders:

Commanding Officer, Fort Gaswell, N. C.:

. . . I do not think the morality or discipline of the command has been much affected by the abolition of the canteen. I notice, though, that fewer men are willing to reenlist for organizations at the post, and I believe some discontent has been caused by this law.

Commanding Officer, Fort Snelling, Minn.:

. . . From my own observation and that of the officers of the garrison, the morality and discipline of the post was superior after the abolishment of the canteen as compared with any period prior to that act. . . . The percentage of sick was much less after the abolishment of the canteen. . . . The records show that the number of desertions for the 6 months prior to the abolishment of the canteen exceeds that of the 6 subsequent months. . . . On February 1, 1901, there were 2 saloons within 1 mile of the reservation. Up to the time of my leaving Fort Snelling, September 1, 1901, no additional saloons had been established. . . . I find that the company amusement-room with tobacco, cigars, lunch, and soft drinks on sale, is more satisfactory than a common amusement-room, as at a large post a common amusement-room of sufficient size to accommodate the whole command when off duty cannot well be established; besides the company amusement-room develops and fosters the company unit which constitutes the most important factor in contentment and discipline. I urge the early establishment by the Quartermasters' Department at every large post of a well-equipped gymnasium in connection with a race-track and athletic grounds. . . .

Commanding Officer, Fort Logan, Colorado:

I believe that many company commanders are induced to approve of the canteen feature of the post exchange because they obtain an income from it with which they improve the mess of the men and purchase pool tables, gymnastic outfits, bowling alleys, etc. It must be remembered the soldiers of our present army are much younger than before the Spanish War. They are men who either do not drink or who want very little, and have not contracted the drink habit. It is the duty of the Government to protect these men and not put temptation before them. It is not sufficient to say to a soldier, "You shall not drink," but surround him with wholesome and decent means of diversion and amusement, and he will not want to drink.

Effects in prohibition States, where the sale is regulated by the State.

Commanding Officer, Fort Fremont, S. C.:

. . . The number of cases of venereal diseases in the command has increased. The evil effects of the law in question upon the health of the command have been more marked. The places at which liquor is sold are frequented by negro women of loose character, with whom the men are thus more closely associated than was formerly the case. . . . The liquor sold in the vicinity of the post is of the poorest quality, and is, from what I can learn, adulterated very often with the most injurious substances. During the summer just past 3 members of the command have died under exactly the same conditions, each exhibiting the same symptoms, and each dying within 6 hours after having been first taken ill. In each case the man had absented himself for the 24 hours preceding his illness and had during that time been drinking heavily of the liquor sold around the post. The diagnosis of the surgeon in each case was "cerebral congestion due to excessive use of alcoholic stimulants." It is very difficult in this State to secure the conviction of a man charged with selling liquor illegally, and until recently it has not been practicable to obtain sufficient evidence to justify the prosecution of any of these persons so engaged. Recently, however, enough evidence to secure the conviction of one of the proprietors of these places has been obtained, and he will be prosecuted at the next meeting in this county of the criminal court.

Commanding Officer, Sullivan's Island, S. C.:

The stoppage of the sale of beer induces patronage of State dispensaries where liquor is sold by bottle only, and consequently large quantities are drunk at one time.

Commanding Officer, Fort Riley, Kan.

. . . On February 13, 1901, there were 11 joints and 8 drug stores within 1 mile of the reservation limits. On August 21, 1901, 6 joints and 8 drug stores. The drug stores in Junction City sell liquor spirits and beer, and the joints are simply bar rooms. Kansas is a prohibition State.

Commanding Officer, Fort Ethan Allen, Vt.

Vermont is a prohibition State. . . . While there are no liquor saloons there are many drug stores. All sell liquor on prescription. Prescriptions are easily obtained.

Commanding Officer, Fort Logan H. Roots, Arkansas.

. . . There are men in the ranks of our army from many walks of life, and many of the most valuable clerks, mechanics, carpenters, etc., are men of good education and trades, who are in the army because periodic sprees have lost for them many positions in civil life, and they entered the army to receive the discipline it affords. Take their daily drinks from them, tell them that they shall not drink, and you make drunkards of them.

Commanding Officer, Fort Apache, Ariz.

. . . In my opinion the breaking up of the canteen system has been the hardest blow we have received in many years. Before its abolition our men were well satisfied with their condition, they had good food, the receipts from the canteen were applied in various ways for their welfare, comfort and amusement, and they were rarely drunk and seldom absent. Now at many posts it is the reverse. Places known as "hog ranches" are established near the posts, if not, then men called "bootleggers" are selling whisky to the men by the bottle; (many of the men would not think of patronizing the whisky peddlers if they could occasionally get a glass of beer at the post); after one or two drinks of the vile stuff that is sold them they do not or cannot know what they do, remaining away from the post for a day or two; some fearing punishment on their return to the post, desert. The idea that full-grown men are going to patronize a canteen where nothing is sold except soft drinks, is an illusion.

Commanding Officer Twenty-seventh Regiment, New York Volunteers.

Reports from Presidio, San Francisco, Cal., as follows:

. . . My camp was located just inside the main gate of the reservation. Across the street and in the immediate vicinity were located many saloons, which were most of the time crowded by soldiers. The saloons were there expressly to catch soldiers and were successful. Drunkenness and disorders were very frequent. From my observation, while serving with the volunteers in the Philippines, I consider the abolishment of the sale of beer in the post canteen a positive calamity to troops serving in that locality. Men will drink stimulants if they wish to, and there is always a supply where there is a demand. In the Philippines, drinking men are almost sure to resort to the native drink "vino" if unable to obtain beer. The poorest whisky ever distilled cannot compare with "vino" in its evil effects upon the men. The latter drink seems to destroy the character of a man mentally, morally, and physically. I believe many deaths and much of the insanity which occurred during my stay in the islands were due either directly or indirectly to the use of "vino."

Commanding Officer, Presidio of San Francisco, Cal.:

. . . Volunteers returning from the Philippines have made raids upon nearby saloons, being incited to such deeds under drunkenness; perhaps sometimes sober impulses, aroused by real and imaginary grievances, such as being drugged, robbed, or otherwise maltreated while in the saloons. There were several such occurrences between January 1 and July 1, 1901, which were so serious that it became necessary for the commanding officer to aid the police in restoring order and to save property from destruction. . . .

Commanding Officer, Mayayguez, Porto Rico:

. . . The percentage of sick in this last company has been over 10% the last 3 months. I believe it is due to rum drinking instead of beer. Every effort has been made to discover the cause of the sickness in this company, and no other cause than

that some of the men were financially backing a rum shop near the post has so far been discovered. . . .

Commanding Officer, Ponce, Porto Rico:

The effect of the abolition of the sale of beer is very bad, both morally and for discipline, because the men will have beer and must go into the city to get it. There they are thrown into contact with immoral women and drink rum and other cheap alcoholic beverages. These drinks cause some men to become crazy and boisterously drunk. Before the abolishment of the canteen most of the beer drinkers drank almost exclusively in the exchange and in moderation.

Post Surgeon, Fort Schuyler, N. Y.:

. . . Where 2 affections, such as excessive drinking and venereal diseases, are so intimately associated, were it possible to control the former, the latter would of itself greatly decrease. While it is true, many cases of venereal disease may occur when drinking has not been a factor, still by far the majority of cases reported to me have been subsequent to drunkenness and resulting carelessness.

Commanding Officer, Fort Douglas, Utah:

. . . The social evil in this city is more rampant than I have ever seen before. When we had the canteen the men were contented to stay in the post, but now they want to go to town all the time and these women get hold of them.

Commanding Officer, Benicia Barracks, California:

A post is the soldier's home during the time he is in the army, and a well-managed, regulated, and attractive canteen, where beer and light wines are sold, adds to the physical, moral, and intellectual well-being of a soldier, improves his surroundings, contributes to his rational enjoyment, and adds to his pleasures, making him a contented and satisfied soldier. To make a post a mere place where duty is the sole thing and every diversion and recreation denied a man, makes duty dull, uninteresting, and stupid. That there should be a canteen at every post, in my opinion admits of no argument.

Commanding Officer, Camp McKinley, H. T.:

. . . The effect of the abolition of the sale of beer has been to double the number of trials for drunkenness and also for absences without leave.

Commanding Officer, Washington Barracks, D. C.:

. . . With the canteen in existence the decent, well-behaved, self-respecting and orderly men of the command—men who pride themselves on their soldierly conduct and good behavior—had the privilege of drinking an occasional glass of beer in an orderly, clean, and perfectly proper establishment for that purpose. They enjoyed the privilege, and respected it, and were well satisfied with their condition and surroundings, knowing that they were being treated as self-respecting men, free to indulge a perfectly proper and legitimate appetite in a perfectly proper way, and knowing also that they were being benefited indirectly in their better food provided upon their mess table. . . . The moment the sale of beer was abolished the human nature of every individual man—good, bad, indifferent—at once resented this interference with his individual right to regulate his appetite, and to try and force him to be a total abstainer from the use of alcoholic drinks. The effect was at once to make every man assert himself to indulge intemperately in the use of beer or something stronger; at once to seek outside of the post that which he was denied therein, and to be dissatisfied, restless, and discontented, and to show this spirit on any and every occasion possible. . . . The demand for all-night passes became so overwhelming that positive and stringent regulations had to be adopted to regulate the number. . . . With the abolition of the sale of beer the soldiers' club practically ceased, and their only recourse for diversion and recreation was to go to the saloon dives and brothels of the city of Washington, with their very decided immoral adjuncts.

The Hospital records show that during the period, August 2, 1900, to February 2, 1901, there were admitted to sick report 13 venereal cases and 3 cases of alcoholism, while for the period February 2, 1901, to August 2, 1901, there were admitted 31 cases of venereal diseases and 7 of alcoholism. . . . The total abstainers may claim what they please as to the abolition of the sale of beer in the Navy. It is respectfully submitted that the cases are not parallel in any particular. . . . To try and regulate a military garrison by the same rules possible on board a ship at sea, would be to confine every man of the command, officers and all, to the limits of the post for weeks and months at a time, is evidently not only impossible, but also very undesirable, yet the only way to enforce total abstinence.

Commanding Officer, District of Santiago, February 1, 1902:

The recent act of Congress prohibiting the sale of beer and light wines at all military posts has been the means of breaking up, to a certain extent, the happy club life of the soldier. It is a well-established fact that there has been more drunkenness among the soldiers at army posts since the abolition of the canteen than there was before. No system of discipline nor severity of punishment can prevent soldiers from visiting low saloons and obtaining liquor. The canteen question resolves itself into one of expediency, rather than sentiment. If it can be proved that temperance in the army is best promoted by a well-regulated canteen, under the immediate eye of the commanding officer, the practical view of the matter will ultimately prevail, instead of an abstract theory. It has been advanced by some who are severe and unreasonable in their condemnation of the canteen that all soldiers who are inclined to drink intoxicating drinks should be put out of the army. This is absurd. It is folly to talk of an army of total abstainers; nor is it to be expected that men enlisting as soldiers to serve their country shall be forced to take a temperance pledge any more than that they should be forced to be religious. Soldiers are not children, to be governed like children. They are men upon whom the country must depend for a stalwart individuality and the exercise of heroic qualities in the stress of privation, hardship, and danger. If they are to be trusted in battle, they must be trusted in garrison. In the interest of discipline, morality, general welfare, and contentment of the soldier of the army, I most earnestly recommend that the act of Congress prohibiting the sale of beer at army posts may be repealed by Congress at the next session."

Extract from a petition from enlisted men to the Senate Committee:

In submitting this petition we desire to express to your honorable committee, and through you to the Senate of the United States, and through the Senate to the people of the United States, our reasons for petitioning for the defeat of this amendment, which in our opinion (and we are confident our opinion is that of 87% of the enlisted strength of the army) deprives the American soldier of not only his chief source of pleasure and recreation in his life as a soldier, but also the safeguards against temptation which are thrown in his way when he is forced outside of the garrison for recreation and amusement; for its passage means abolition of the post exchange.

The post exchange as conducted in the army today is a mutual cooperative institution in which every enlisted man in the garrison is practically a stockholder, as it is run solely for his benefit. Its object is twofold: First, to afford the soldier a place where he can obtain at minimum cost to himself, and where any profit made will redound to his benefit, those recreations which all religious denominations of the country deem of sufficient importance to the working men and women of this country to take under their fostering care, irrespective of denomination, *i. e.*, the establishment of working-men and working-women clubs to employ the unoccupied time of the members, with the addition that beer and soft drinks are sold; the profit from which, as the Government does not make any appropriation for the support of the same, enables the post exchange to be run and furnishes the means for its second object, and that is to provide the soldier with those articles of food which are commonly called luxuries, and which although the American soldier is acknowledged by every reading man in the United States to be the best clothed and best taken-care-of soldier in the world, yet not supplied as a part of his contract with the Government, but tend to make him more contented with his life, more cheerful under hardships, and a better soldier, and thus a better citizen.

The Relation of Sulfur in Lighting-gas to Air Vitiation.—J. S. Haldane describes experiments made to determine the relation between the proportion of sulfur in lighting-gas and the unpleasantness of air vitiated by the products of combustion. He concludes: 1. The unpleasantness of air vitiated by the products of combustion of lighting-gas is due to the presence of sulfur in gas, and varies in proportion to the amount of sulfur. 2. Gas which is purified from carbon bisulfid is greatly superior from the hygienic standpoint to gas which is only purified from sulfuretted hydrogen.—[*Journal of Hygiene.*]

School Children must Submit to Inspection.—Contention has arisen between the Department of Health and the Board of Education on the one hand and a refractory school patron on the other. The Board claims the right through their physicians to inspect the arms of children to determine whether or not they have been successfully vaccinated, and, in case of refusal on the part of child and parent, they claim the right to exclude such child from school. The city solicitor sustains the contention of the Board of Health and the Board of Education and says: "By act of June 18, 1895, all principals in charge of schools are required to refuse admission to any child except upon a certificate signed by a physician setting forth that such child has been successfully vaccinated or has previously had smallpox. The provisions of this act require the refusal of admission to pupils not furnishing the necessary physician's certificate, but in the opinion of this department that act does not preclude the school authorities from requiring further tests to ascertain whether a pupil has undergone a successful vaccination if the conditions are such or the emergency from the prevalence of smallpox so imminent that in their judgment such further tests are necessary to safeguard the health of other pupils attending the public schools or of the community at large. If, therefore, the Board of Education in the present instance believes the emergency to be one which requires the physical examination of pupils in order to ascertain whether they have been successfully vaccinated, I am of the opinion that it has the power to make and enforce a regulation to that effect."

THE WORLD'S LATEST LITERATURE

Journal of the American Medical Association.

November 28, 1903. [Vol. XLI, No. 22.]

1. Operative Treatment of Bilateral Cicatricial Ankylosis of the Jaws: A Contribution Based on a Report of a Case of 20 Years' Duration, Relieved by a Series of Plastic and Osteoplastic Operations. RUDOLPH MATAS.
2. Surgical Treatment of High Myopia (Second Paper). H. V. WURDEMANN and NELSON M. BLACK.
3. The Causes, Prevention and Management of Myopia. J. HERBERT CLAIBORNE.
4. Research Problems of Pharmacology. TORALD SOLLMANN.
5. Removal of the Faucial Tonsil: Some Observations and a New Method of Operation. CHARLES M. ROBERTSON.
6. Artificial Dilation of the Cervix Uteri with a New Instrument. FRANK A. HIGGINS.
7. The Etiology of Yellow Fever: An Addendum. JAMES CARROLL.
8. How to Write a Medical Article: A Plea for Plagiarism. G. FRANK LYDSTON.

1.—See *American Medicine*, Vol. V, No. 25, p. 983.

2, 3.—See *American Medicine*, Vol. V, No. 25, p. 986.

4.—See *American Medicine*, Vol. V, No. 20, 780.

5.—See *American Medicine*, Vol. V, No. 20, p. 779.

6.—Artificial Dilation of the Cervix with a New Instrument.—F. A. Higgins classifies bougies and gauze not as dilators but stimulators of uterine contractions. Manual dilation, if carefully done, seldom gives rise to lacerations. Intermittent dilation with an hour or more between each sitting is safer than uninterrupted complete dilation in which the cervix often does not become obliterated, but hangs like a curtain around the head, interfering with delivery, especially in forceps cases. There is nothing in surgery more exhausting than complete manual dilation of a rigid os, when rapid delivery is necessary; it unfits the obstetrician for subsequent operating. With a mechanical dilator the force can be accurately gauged, and uniform pressure be applied and maintained. Bossi's instrument is the best, but it cannot be taken apart for cleaning. The author's instrument is made with a limited number of parts, easily detached. The tips are made to spread by an advancing cone moved by a screw and handle. Lateral lacerations are avoided by no two arms being opposite each other. The instrument is inserted and dilation carried to 3 cm. Then the broad tips are applied and dilation pushed to 10 cm. to allow room for the head. This can be done in 20 to 30 minutes. A scale indicates the amount. The instrument was devised for use mainly in eclampsia, but is excellent for induction of abortion or labor under other conditions, and has been found very efficient before curetage. [H.M.]

7.—See *American Medicine*, Vol. V, No. 21, p. 819.

Boston Medical and Surgical Journal.

November 19, 1903. [Vol. CXLIX, No. 21.]

1. Observations on the Effect of Catheter Drainage on the Function of the Kidneys in Interstitial Nephritis and Pyelonephritis. ARTHUR TRACY CABOT.
2. Unclean Milk, Bovine Tuberculosis and the Tuberculin Test: Their Relation to the Public Health. E. R. LARNED.

1.—See *American Medicine*, Vol. V, No. 22, p. 855.

November 26, 1903. [Vol. CXLIX, No. 22.]

1. The Treatment of Diffuse Peritonitis. B. F. LUND.
2. A Clinical Study of One Hundred and Twelve Cases of Movable Kidney. RALPH C. LARRABEE.
3. Diseases of House Officers in Hospitals. WILLIAM R. P. EMERSON.
4. Unclean Milk, Bovine Tuberculosis and the Tuberculin Test: Their Relation to the Public Health. E. R. LARNED.

1.—Treatment of Diffuse Peritonitis.—B. F. Lund defines diffuse peritonitis as a rapidly spreading inflammation of the peritoneum which results from perforation of the appendix or other viscus in which the inflamed area is covered with pus or fibrin, and not walled off by adhesions from the general peritoneal cavity. Such a peritonitis, if it invade all the peritoneal areas, may be called a general peritonitis, which differs in extent and not in character from diffuse peritonitis. The author is not in accord with Ochsner in his "rest treatment" of such a condition, but he believes that the offending organ, whether it be appendix, pus tube, or other viscus, should be removed by operation at once. No one questions that the patient would be better off without the diseased organ. Then the question lies in whether there is more danger from operation per se or the continued presence of the diseased tissue. He believes that in the latter condition we have infinitely more danger to the patient. Having removed the diseased organ, he would thoroughly wash out the entire abdominal cavity with salt solution, leaving a considerable quantity within the cavity when the latter is closed, drains with gauze carried deep within the cavity, even within the pelvis, if that be the seat of disease. The gauze is removed in from 3 to 5 days. He places the patient after operation in the reversed Trendelenburg position, the head of the bed being raised about a foot. He has operated on 34 cases of general peritonitis, with a mortality of 59%. [A.B.C.]

2.—Movable Kidney.—R. C. Larrabee reports the finding of 112 cases of movable kidney in a study of 272 subjects, or 41½%. The right kidney was affected alone in 98 of the 112 cases; both kidneys were palpable in 13 instances; and the left alone in but one; 52% of the cases occurred in the decade from 30 to 39 inclusive, while 42% were over 50 years of age. Movable kidney was found in 41% of single women, and 44% of the married or widowed. Of the total number, 51 were never pregnant; in 6 instances there was one pregnancy each, while in 50 cases there was more than one pregnancy. Movable kidney appeared to explain the symptoms of which the patient complained in but 8 of the 112 cases in which it was found; in 8 others the diagnosis was enteroptosis, which would make 14% of the patients which complained of any abdominal region which could be ascribed to the kidney. Treatment in the sense of operative or mechanical fixation or support was considered unnecessary in 87 of the cases. In no instance was surgical interference advised. Considering the great number (41%) of women who show movable kidney and the comparative rarity of symptoms especially ascribable in any way to this condition, the author appears averse to surgical interference in such condition, unless serious complications, such as hydronephrosis or pyonephrosis arise. [A.B.C.]

3.—Surgical and Other Disease of House Officers in Hospitals.—W. R. P. Emerson has studied the records of house officers in the Boston City Hospital for 10 years, concerning their liability to acquire infectious, contagious, and other diseases. His conclusions are: That nasopharyngeal and febricular affections occur medical in the ratio of 12 to 1 either surgical or pathologic; that local septic infection is the most frequent disease surgical and pathologic; that the danger of infection in the examination of moist cultures and sputum is very slight, as evidenced by no infection occurring in the staining of thousands of smears for the Klebs-Loeffler and tubercle bacillus and the making of the Widal test with the pure culture of typhoid bacilli. There is little evidence in the 10 years' records that a house officer's general condition is a marked factor in the question of infection by a contagious disease. In a 6 months' service the chance of diphtheric infection, including mild cases, is 1 in 2, of scarlet fever infection 1 in 7. It should be urged upon house officers that the sense of fatigue occurs most often in the hospital as the result of nervous tension and indoor air rather than of muscular exhaustion, and is, therefore, relieved by proper exercise and baths, and the reasons offered for insufficient time for systematic exercise are plausible rather than real. [A.B.C.]

4.—Unclean Milk, Bovine Tuberculosis, and the Tuberculin Test: Their Relation to Public Health.—E. R. Larned believes every drop of milk should be pasteurized. Milk from diseased cows or to which medicaments have been added, should not be sold as pure, whole milk, and infractions of this rule should be firmly dealt with. The coloring matters interfere with peptic and pancreatic digestion. Sanitary laws have improved the chemic composition of milk, but thousands of young lives are sacrificed to its impurities. It is not easy to demonstrate tubercle bacilli in milk except by culture experiments. They have been found virulent in butter after 120 days. The annual loss in New York from deaths due to tuberculosis exceeds the whole cost of the government. The fight must be for improved sanitary arrangements and diseased animals should be slaughtered. Even after extensive invasion physical examination may fail to reveal the disease. Tuberculin is the most reliable mode of diagnosis. Any temporary decrease it causes in the flow of milk is offset by a compensatory increase. The author describes the technic of its production and administration, which should always be under experienced direction. [H.M.]

Medical Record.

November 28, 1903. [Vol. 64, No. 22.]

1. Electricity in General Practice. W. B. NEFTEL.
2. Suprapubic Lithotomy. J. J. BROWNSON.
3. Treatment of Cervical Adenitis Due to Tonsillar Infection. ALBERT E. ROGERS.
4. Perineal Section for Stricture, with Suggestions upon the Use of the Cautery, and Points in the After-treatment. CHARLES C. MILLER.
5. Foreign Bodies in Rectum, with Report of Two Cases. MAURICE ROSENBERG.

1.—Electricity in General Practice.—W. B. Neftel believes every general practitioner should resort to electricity in suitable cases. A good portable apparatus for the galvanic and faradic currents is sufficient. It must contain a galvanometer, a rheostat, a commutator, electrodes of different sizes, and special ones for the eyes, ears, larynx, uterus, rectum, etc., an interrupter, and a faradic brush. Beside suggestion, there are physical, chemic, and physiologic effects. No strict rules can be laid down for the employment of either current. Generally speaking, the galvanic acts directly on the brain, spinal cord, all the nerve centers, and the organs of the higher senses. It produces a modification of excitability and is indicated in paralysis, convulsions, anesthesias, hyperesthesias, and neuralgias. The faradic current is indicated as a local and general stimulant and tonic. He reports cases of cerebral disease successfully treated by galvanization, and discusses the application of the current to the sympathetic and pneumogastric nerves. The length and scope of the article make adequate abstracting impossible. [H.M.]

2.—Suprapubic Lithotomy.—J. J. Brownson says the first suprapubic operation for stone was performed in 1745 by Colot, in Paris. The principal symptoms of stone are frequency of urination, especially during the day when the patient is taking active exercise, interruption of the stream during micturition, occasional passage of blood during the urination, discharge, etc. But the absolute diagnosis of stone rests upon touching it with a searcher or sound. The operation of suprapubic cystotomy and removal of the stone is described in some detail. This operation, the author considers much safer and more practical for the average surgeon than the perineal incision. If the patient has cystitis or there are other indications for drainage, he prefers to drain by taking 2 No. 10 flexible catheters and sewing them together through the eye, carrying them into the cavity of the bladder and connecting at the other end by 2 glass tubes with rubber drainage-tube, which establishes siphon drainage. He reports 3 cases in all of which stone was removed by the operation described and drainage carried out as here mentioned, and in each instance the patient made a good recovery. [A.B.C.]

3.—Treatment of Cervical Adenitis Due to Tonsillar Infection.—A. E. Rogers points to the tonsils as a frequent source of infection and remarks concerning treatment of the diseased tonsil. In acute adenitis he prefers the application of a 5% aqueous solution of iodin to the crypts, rather than the ordinary antiseptic gauze; in active ulcerative tonsillitis he would remove the diseased tonsillary tissue by cureting above the floor of the ulcer and then applying strong antiseptics. In the treatment of chronic cervical adenitis he would completely remove the tonsils by incision within the mouth. Removal by external incision he condemns, since it leaves an unsightly scar and otherwise mutilates the surface. The notes of 5 cases are appended. [A.B.C.]

4.—The Use of the Cautery in Perineal Section for Stricture.—Charles Miller discusses the mechanical condition of stricture and the best means of operative attack. Having made the usual perineal incision and opened the urethra, with the stricture thoroughly divided, the Paquelin cautery is now brought into use. It should be at a dull red heat and be carried to the bottom of the wound in the roof of the urethra and one surface stroked with the heated tube, and if bleeding is free the opposite surface is treated in like manner. The cautery is now carried along the margin of the incision in the floor of the urethra and an area from ⅛ to ¼ of an inch broad is cauterized by single repeated strokes the full length of the incision. The object of this is to insure the formation of granulations and thus prevent primary union. One object in dividing a stricture is to secure alteration in the nutrition so that absorption may occur. This, the author considers, is aided materially by the use of the cautery; in the healing the object is to secure a granulating surface which will be covered by epithelium of the margins of the urethra so as to increase the caliber of the tubes at its edges and thus prevent subsequent contraction. [A.B.C.]

5.—Foreign Bodies in the Rectum.—Maurice Rosenberg points to the dearth of reference to this condition in the textbooks, and then reports 2 cases. One was a woman of 43, who complained of tenesmus and desire to defecate, pain and other rectal symptoms. A physician had diagnosed fissure, and the patient had been subjected to anal dilation, and rest in bed for 10 days, without abatement of the symptoms. The writer made an examination and found 2 fish bones, which were the cause of the condition. Recovery and relief were prompt after removal. The second case was that of a child of 16 months, whose complaint indicated pain in the rectal region. Examination excluded eczema and other local irritation, and at the same time revealed the scale of a fish which was lodged in one of the crypts of the anal opening. Relief was prompt after its removal. [A.B.C.]

New York Medical Journal.

November 21, 1903. [Vol. LXXVIII, No. 21.]

1. Ocular Headache and Other Ocular Reflexes: A Statistical Study. M. W. ZIMMERMAN.
2. A Clinical Study of the Use of Antitoxin Serum (Dunbar's) in Hay-fever During the Season of 1903: A New and Distinct Advance in its Management. ALEXANDER W. MACCOY.
3. The Treatment of Acute and Subacute Anterior Gonorrhea by Retrograde Injections of Stronger Solutions of Silver. HERMANN G. KLOTZ.
4. The Early Operative Treatment of Tuberculous Osteitis of the Knee. BERNARD BARTOW.
5. Brain-fag and its Effects on Health. JOHN KNOTT.
6. The Course and Diagnosis of Variola, Based on its Last Outbreak in New York City. WILLIAM L. SOMERSET.
7. The Effect of Lemon Juice in the Mixture Known as Lemonade upon Typhoid Polluted Water. WILLIAM G. BISSELL.

2.—Antitoxin Serum in Hay-fever.—A. W. MacCoy has tested Dunbar's antitoxin serum in 15 cases of hay-fever. The observations extend over July, August, and September of the present season and were confined to periodic attacks only. In his experience the effect was promptly manifested, and the relief complete. So far as these cases can illustrate they appear to confirm the contention of Professor Dunbar, that cases of hay-fever are dependent upon the toxin resident in the various pollens of grasses. MacCoy began the treatment by the local application of the serum to the eyes and nasal mucous membrane by means of a pipet. To the conjunctival mucous membrane 1 or 2 drops were instilled from 2 to 4 times a day. For the nasal passages, from 2 to 4 drops were dropped in each nostril from 2 to 6 times a day. Six cases are reported in full. [C.A.O.]

4.—See *American Medicine*, Vol. V, No. 21, p. 817.

5.—Brain-fag and Health.—John Knott calls attention to the evil effects which must result to the whole system from overwork of the brain. When the process of overstrain has been too prolonged, the coats of the bloodvessels of the part, partially lose their elasticity and are slow to recover their ordinary healthy contractility. The exchange between the blood and tissues takes place more slowly and the functions of the brain are necessarily seriously impaired. In addition to this failure of the mental powers there is a marked deterioration of the general health. The secretion of gastric juice is checked and this tells rapidly on the digestive functions of those who do not allow themselves a fair amount of rest after meals. [C.A.O.]

6.—Variola.—W. L. Somerset discusses the course and diagnosis of variola from observations based on its latest outbreak in New York City. In vaccinated subjects the attacks were slight or severe, according to the degree of immunity, but nearly all slight; in the unvaccinated, severe or slight, but nearly all severe. From the viewpoint of either mortality or permanent disfigurement the outbreak was mild; the proportion of slight cases to severe being larger than ever before in similar outbreaks in that city. Important points in the differential diagnosis of variola, varicella, measles and syphilis are discussed. [C.A.O.]

7.—See *American Medicine*, Vol. VI, No. 20, p. 772.

Medical News.

November 28, 1903. [Vol. 83, No. 22.]

1. Diet and Drugs in Nephritis. WILLIAM S. GORDON,
2. Mastoid Disease and Cerebellar Abscess. SEYMOUR OPPENHEIMER.
3. A Discussion of Some Common Forms of Liver Disturbances. A. P. STONER.
4. The Best Method of Dealing with the Stump in Appendicectomy. HOWARD LILIENTHAL.
5. Chronic Villous Arthritis, with Special Reference to Its Etiology and Pathology (Concluded). CHARLES F. PAINTER and WILLIAM G. ERVING.
6. Primary Osteoplasty in Open Fractures or Fracture Dislocations. THOMAS H. MANLEY.

1.—Diet and Drugs in Nephritis.—W. S. Gordon emphasizes the fundamental necessity of rest in treating diseased organs. In nephritis it is essential not only to maintain a normal composition of the blood, but so change it at times as to reduce excretion products to a minimum. The body should be adequately nourished at the same time. This necessitates different treatment in acute and chronic cases. Complete abstinence in the former may be of service, while in the latter the blood must be enriched and the kidney nourished. Gout and lithemia, responsible for many cases, require a diet promoting a normal reaction of the urine. An exclusive milk diet may furnish too much urea, cause constipation, and absorption of toxins, fail to sufficiently nourish the blood, or set up lactic or butyric fermentation. On the other hand, it may be beneficial. The author's rule is to regulate the diet so as to maintain a normal urine. In the majority of cases the kidney will then be healthy or show improvement. The usefulness of diaphoretics cannot be questioned. Hydragogue cathartics and salines, nitroglycerin, digitalis, iron, chloral, the bromids, alcohol, and strychnia each have their special indications, and their action should be more thoroughly studied. [H.M.]

2.—Mastoid Disease and Cerebellar Abscesses.—Seymour Oppenheimer says cerebellar abscesses, so far as their primary origin is concerned, are due either to infection by way of the labyrinth through the petrous portion of the temporal bone, or to infection derived from the mastoid process; the latter he deals with in a lengthy and interesting paper. The sigmoid groove plays a prominent part in the conveyance of infection; the thickness of the inner mastoid wall acts as a restraining factor from infection, particularly in children in whom the bony tissue in this locality is greater than in adults, and hence the occurrence of cerebellar abscess among them is rare. In some cases the inner mastoid wall may remain intact and the infection will travel through the small channels in the bone by way of the minute veins running over the surface of the cerebellum to the lateral sinus and from this location to the mastoid interior. Barker believed, from his experience, that less than a tenth of the ordinary brain lesions from aural disease were cerebellar. The author believes, and quotes from other authorities to sustain his conviction, that at least 25% of these lesions are located in the cerebellum, and the majority of these at the anterior portion. In the symptomatology, 4 stages are fairly well marked: The first is the initial, and is characterized by the extension of the infection from the mastoid to the cerebellum; the second is characterized by mild discomfort, in which the disease remains latent and usually unrecognized; the third is a period of longer or shorter duration, and is characterized by a severe otitic intracranial infection; if relief is not given at this stage, the fourth or terminal period develops and is manifested by exhaustion, coma, and death. These stages are discussed. [A.B.C.]

3.—Common Forms of Liver Disturbance.—A. P. Stoner believes that sudden suppression of the menses and hemorroidal bleeding have very little effect on the organ. The uterine vessels have no direct connection with the portal system. Hemorrhoids are often the product of portal engorgement, which continues after hemorrhage is checked. In the early stages of hyperemia the liver is enlarged; ultimately fatty degeneration and pigmentation result. It is difficult to distinguish fatty infiltration from the normal product. The latter occurs in those who gormandize or use alcohol excessively. Fatty degeneration is caused by many drugs. Both are frequently found in the cachexias. The fatty infiltration in these affections may be a normal conservative process. While many factors seem to be responsible for cirrhosis, none produce the changes unless long continued. There is reason for believing all cirrhosis directly or indirectly the result of infection, especially in the obstructive type. Intoxicants lower resistance, but if they were the specific cause we would expect to find the disease in all alcoholics. The bacteria may propagate elsewhere, their toxins injuring the liver cells in the effort to eliminate the poison. That abnormal fermentation in the bowels is responsible for a large percentage of cirrhosis in both children and adults there is little doubt. Toxic matter in the mother's blood may lead to liver infection in the fetus. Any disturbance of the glycogenic function of the liver will permit an excess of dextrose in the blood. This may account for the persistence of sugar in diabetes after cutting off all carbohydrates in the diet. [H.M.]

4.—How to Treat the Stump in Appendicectomy.—Howard Lilienthal holds, that when the appendix is ligated at the base, the theory that the mucous surfaces are thereby approximated and proper healing will not occur, is wrong, particularly since repeated histologic examinations of specimens after ligation prove that, with the constriction of the ligation, the mucous membrane is entirely severed and the mucosa and muscular coats are approximated. The danger of adhesions from treating the stump in this manner had been greatly overrated. He prefers to ligate the appendix at its base, severing the organ near the ligature, and with artery forceps dipped in 95% carbolic solution, cauterize the stump with this agent, then replace the cecum within the abdominal cavity, and close the wound. A large experience has convinced him that there is no better way of treating the appendiceal stump. Should the appendix be especially friable, it is best to crush bluntly the root of the organ with forceps before applying the ligature. If there is complete gangrene, this procedure cannot be carried out. [A.B.C.]

5.—Chronic Villous Arthritis, with Special Reference to Etiology and Pathology.—Painter and Erving, after an exhaustive paper on this subject, conclude in part as follows: 1. Chronic villous arthritis is not a disease of itself. It occurs associated with chronic diathetic disease, which involves other tissues than the synovial membrane of the joints affected. The 2 principal diatheses which cause it are rheumatoid arthritis and osteoarthritis. The villous changes in these chronic conditions are symptoms of a general condition, and not an entity in themselves. 2. Traumatism is capable of giving rise to a hypertrophy of villi, and this hypertrophy is usually a local one in the part of the membrane directly or indirectly injured. Traumatism, associated with an osteoarthritic diathesis, is frequently the excitant of local synovial hypertrophy. 3. Stout, flabby adults, with pronated or flat-feet, are more liable to the type of fringe which undergoes fatty degeneration with a minimum amount of fibrous change. 4. Alteration in the mechanics of weight-bearing is not the prime cause of this condition in many of the knee cases. It is very frequently a contributing factor; but it is extremely doubtful if simple flat-foot or pronated foot without some more fundamental tissue change can account for this condition. 5. The operative treatment in the properly selected cases gives eminently satisfactory results when undertaken with an understanding as to what the procedure contemplates. Conservative treatment, when carried out properly in suitable cases, which comprise, however, only a small class, gives equally good results. The main thing is to be able to discriminate between the classes. 6. Judging from the pathologic findings, the condition is the result of a chronic inflammatory process of whatever cause, which, by acting upon the normal villi of the synovial membrane, causes their hypertrophy, together with a consequent great increase in the number of their bloodvessels. The vessels are unable to supply the needs of the new tissue, affected as they are themselves by the inflammatory process. The result is their gradual endarteritic obliteration with the almost complete loss of blood supply and the disappearance of the normal fibrous tissue, which either undergoes necrosis and hyaline degeneration or disappears. In this necrotic condition separation of the pedicle and the formation of a loose joint body can easily occur. [A.B.C.]

6.—Primary Osteoplasty in Open Fractures or Fracture

Dislocations.—Thomas H. Manley considers this subject under the following captions: Immediate osteoplasty after an open fracture. Consecutive osteoplasty after an open or complicated fracture. Osteoplasty in fractures of the extremities in close proximity, or involving the articulations. Osteoplasty in infancy and childhood. Osteoresection. The general trend of his paper is to call the attention of the profession to the various conditions and circumstances under the headings mentioned in which osteoplastic resection may be profitably and scientifically employed. He points out that in the technic of osteoplastic operation on the child the greatest caution must be observed to preserve every particle of the periosteum possible, for, however complex the process of osteogenic repair may be with the adult, there is abundant evidence that the presence of this membrane is indispensable to osseous regeneration in early life. [A.B.C.]

CLINICAL MEDICINE

DAVID RIESMAN A. O. J. KELLY

REVIEW OF LITERATURE

Atony of the Stomach.—J. H. Salisbury[1] has examined 51 dispensary patients—26 men and 25 women—in order to determine the relation of a floating tenth rib to abnormal conditions of the stomach and to the splashing sound upon which Stiller relies for the diagnosis of gastric atony. The tenth rib was found loose in 30 patients, 17 men and 13 women; free in 6, 2 men and 4 women; fixed in 14, 7 of each sex. By a "free" rib Salisbury means one that is quite unattached; by the term "loose" one that is movable, but evidently has fibrous attachment. The splashing sound occurred in 30 patients, and in nineteen of them was accompanied by symptoms referable to the stomach. In 27 of the 36 cases in which the tenth rib was loose or free, splashing occurred. In 3 cases the fixed tenth rib was accompanied by splashing. The series shows that the movable tenth rib is accompanied by the splashing sound in 75% of cases, while the fixed condition is accompanied by this sign in only 20% of cases. [A.G.E.]

The Advantages of Combined Treatment in Chronic Tuberculosis—J. Mitulescu[2] recommends combining the hygienic-dietetic treatment of tuberculosis with injections of tuberculin. The former gives the organism sufficient nourishment, cares for its proper absorption, and enables the cells to recover from past losses; it also increases cellular metabolic activity. But it does not devitalize the pathogenic bacteria, thus explaining the short-lived results of this form of treatment. For this purpose the tuberculin treatment is suitable. It produces antitoxins in the organism, which counteract the vitiating influence of the bacteria, their toxins, and proteins, and attempt to produce a certain cure in the organism. He warns against producing febrile reactions, and insists upon the necessity for small but long-continued doses. He believes that as the tuberculin is a powerful stimulant for the cells, it is indicated only in cases in which the cells are still capable of responding to a stimulus, therefore, only in the early stages of tuberculosis. By stimulating the cells to produce this specific substance, and giving them abundant nourishment, they gain the upper hand of the struggle, which can be recognized by the retention of nitrogen. If too much tuberculin is given, or if the cells have too little vitality to respond to the stimulus, the tuberculin merely aggravates the morbid condition of the cells, which likewise can be recognized by increased disassimilation. He shows that using the combined treatment from 90% to 100% are cured in the first stage, from 40% to 50% in the second, while without tuberculin only 44% are cured in the first stage, 17% in the second. [E.L.]

Fatal Cachexias without Demonstrable Anatomic Lesions.—E. Grawitz[3] states that not infrequently cases of fatal and progressive cachexia occur without apparent cause and which at autopsy show no demonstrable pathologic condition. He reports 2 such cases, the patients of which during life presented symptoms of no definite disease except the presence of gastric anacidity. The author was able to exclude Addison's disease, pernicious anemia, cancer, or any organic disease, and came to the conclusion that the absence of free hydrochloric acid and lactic acid in the stomach was the cause of the cachexia. Anacidity may produce such a condition in two ways: 1. The bactericidal action of the gastric juice is lessened, and in consequence microorganisms may thrive and generate toxins which slowly but surely poison the system. 2. The anacidity may interfere with metabolism and thus produce end-products which act as poisons. It is true that many persons suffer from gastric anacidity yet show no severe anemia, this, however, doesn't prove that other healthy persons may not become cachectic from such a cause, for it is well known that persons may, with impunity, bear the loss of functional activity of one or more organs. The results of treatment corroborate the author's claims. If measures are instituted for the relief of the gastric condition and free hydrochloric acid and lactic acid reappear, the cachexia usually disappears promptly. [W.E.R.]

Purpura Hæmorrhagica.—A. Wegefarth[1] reports a fatal case of hemorrhagic purpura in a previously healthy man of 21. The duration of the purpura was less than a week, but there had been epistaxis for several days previous. Rest, hemostatics, adrenalin, injections of gelatin, calcium chlorid, ergot, and tampons had no effect on the bleeding. Death was due to cerebral hemorrhage. [A.G.E.]

The Question of General Gigantism.—J. Wieting[2] reports the case of a giant measuring 215 cm. (7½ ft). He was afflicted with kyphoscoliosis and genu valgum, which reduced his heighth 10 cm. (4 in.). His age being but 18, he had probably not reached his full height. His abnormal growth began about his twelfth year (the time of his puberty), and was general, excepting for the back part of his head. The distal ends of his forearms, thighs, and legs were abnormally enlarged. There was a history of hereditary syphilis, which is believed to have produced the atrophy of the testicles which existed. The author believes that this atrophy is possibly responsible for the excessive growth, suggesting these organs as regulators of bone-growth. There was no acromegaly. Other signs of sexual development, pubic hair and beard, and the involution of the larynx were also absent, [E.L.]

Experiments with Dunbar's Hay-fever Toxin and Antitoxin.—P. McBride[3] records several cases bearing out the results claimed by Dunbar and Semon. He used Dunbar's toxin derived from the starch bodies of the pollen of rye in one eye of several patients, causing decided symptoms. In the other eye both toxin and antitoxin, obtained by inoculating rabbits, was instilled without reaction. Serum from animals which have not been inoculated rather increases symptoms. It is doubtful if the pollen of grasses alone produces hay-fever. Similar attacks are brought on by railway traveling and contact with horses. Can there be various toxins causing the same symptoms, or does the horse carry about a toxin similar to that derived from pollen? Probably there can be little danger from applying the antitoxin locally, but in the present state of our knowledge it should be done only by a medical man, and hypodermic injections should be reserved until after further investigations. [H.M.]

Purulent Pericarditis of Unusual Duration in a Child.—J. A. Coutts[4] reports a case. The child was 4 years of age, and when admitted to the hospital was weak, emaciated, walked with difficulty, and had a dry hacking cough. There was dulness beneath the sternum and to the right from the root of the neck, merging into normal cardiac dulness. The question of diagnosis was difficult, and after having been seen by a number of physicians, it was believed to be empyema of the pleural cavity, though the child's breathing was not rapid, and there was respiratory distress; the distinctness with which the apex beat could be felt, and the clearness of the heart-sounds argued against pericardial effusion. An exploratory needle was inserted in the second intercostal space at the left anterior axillary line, but no pus was found. The child lived for 17

[1] Medicine, September, 1903.
[2] Deutsche medicinische Wochenschrift, May 21 and 28, 1903.
[3] Berliner klinische Wochenschrift, June 22 and 29, 1903.

[1] Maryland Medical Journal, September, 1903.
[2] Deutsche medicinische Wochenschrift, May 21 and 28, 1903.
[3] Edinburgh Medical Journal, July, 1903.
[4] British Medical Journal, August 15, 1903.

weeks after the onset of the disease. Necropsy showed abundant purulent pericardial effusion. The striking peculiarity of the case, aside from the difficulty arising from correct diagnosis, was that a child could live so long in such a condition. [A.B.C.]

Causes of Sudden Death in Nurslings.—An 8 days' old, perfectly healthy child of an unmarried woman died suddenly, and under what were supposed to be peculiar circumstances. An autopsy revealed a very large thymus, various signs of asphyxia, such as very fluid blood, congested and overfilled lungs, overfilled right heart, petechias beneath the pleura, and small hemorrhages beneath the periosteum of the cranial bones; also general congestion of all the organs. No external marks of injury were noted. Basing his opinion on these factors, Leubuscher [1] decides that the child's death was caused by the very large thymus compressing the respiratory tract, and calls attention to it as an explanation of sudden deaths in very young children. [E.L.]

Tryptophan Reaction and Gastric Cancer.—K. Glaessner [2] reviews the history of tryptophan and states that it is a constant product in trypsin digestion and occasionally a by-product in pepsin digestion. The reaction is detected by the appearance of a violet color on the addition of bromin water to the filtered gastric contents. The author gives a table showing the conditions in which this reaction occurs. It is absent in the healthy stomach but is present in cancer and ulcer. If a piece of cancer tissue be placed in normal gastric juice, an autolytic process, results which decomposes the albuminoids and the tryptophan (proteinochromogen) reaction occurs. This is not true of noncancerous tissue. [W.E.R.]

GENERAL SURGERY

MARTIN B. TINKER
A. B. CRAIG C. A. ORR

EDITORIAL COMMENT

The favorable time for operation in acute pancreatitis has been a question subject to considerable discussion during the past few years. Some have advocated immediate operation, some wait until the collapse following the onset of the symptoms has partly or entirely passed off, while others advocate waiting even until abscess formation occurs. Two recent papers on the subject of acute pancreatitis contain some valuable suggestions and the results of the cases treated lead the authors to advocate early operation. Woolsey [3] reports 3 cases of acute pancreatitis all occurring in patients under 35 years of age and one of them a female. The patients were all extremely ill but made very good recoveries after simple evacuation of a considerable quantity of septic fluid from the peritoneal cavity, drainage of the abdomen and the free use of saline infusions for collapse. Pels-Leusden, an assistant of König,[4] in Berlin, also reports a series of 3 cases with recovery in 2, and temporary improvement in the third after the same simple operative procedure which Woolsey advocates. All of these patients were extremely ill and two were considered moribund at the time of operation. Both of these writers emphasize the rapid improvement occurring after simple evacuation of fluid and drainage. In these very ill patients cocain anesthesia is advised, with a small median incision, and the avoidance of extensive exploration. This method of treatment has also been advocated by Hahn, who operated successfully upon a patient, and by Robson and Moynihan in their recent book. Until it is possible to make a positive diagnosis between pancreatitis and the other causes of acute abdominal symptoms in the upper abdomen, such as intestinal obstruction, perforating ulcers of the stomach or duodenum, rupture of the gallbladder or bile-ducts, or phlegmonous cholecystitis, we fail to see how any surgeon can consider himself justified in delaying operation, for all of these conditions are almost certainly fatal unless treated most promptly. So much has been written upon the subject of acute pancreatitis in recent years, particularly since the valuable contributions of Opie on this subject, that everyone recognizes the possibility of finding this condition in all cases suffering with intense colicky pain in the upper part of the abdomen, persistent vomiting, distention, tenderness and rigidity above the umbilicus. So far, however, we are not aware that any one has discovered a means of positive diagnosis in all cases either from laboratory methods or from the clinical features of the disease and until such a discovery is made, early operation will appeal to most surgeons as the most sensible course for treatment. The very satisfactory results reported in the experiences of the writers mentioned above seem to fully justify this course of treatment. Acute pancreatitis is such a grave affection that a large proportion of patients die whatever is done for them; this fact no doubt accounts for the diversity of opinion as to treatment.

[1] Münchener medicinische Wochenschrift, June, 1903.
[2] Berliner klinische Wochenschrift, June 29, 1903.
[3] Annals of Surgery, November, 1903, p. 726.
[4] Deutsche Zeitschrift für Chirurgie, September, 1903, Vol. lxx, p. 183.

REVIEW OF LITERATURE

Splenopexy for Wandering Spleen.—J. B. Hall,[1] of Bradford, reports the case. He has been able to find 8 such cases reported in literature. The patient was a married woman of 30, and was the mother of 3 children. Since her first accouchement she had felt a dragging pain in her left side, specially when walking. The condition had steadily grown worse for the past 7 years. Lately she had attacks of acute abdominal pain. During these attacks she became faint, and a large tender swelling could be felt in the abdomen. Relief was obtained by lying down. On examination a firm, elongated tumor could be felt in the left hypochondrium, projecting below the costal margin, and almost to the middle line at the umbilicus. It was obviously in the spleen. Diagnosis was floating spleen with secondary enlargement. At operation the abdomen was opened by a 4-inch incision at the outer border of the left rectus. The whole spleen was delivered through the incision. It was 7½ inches in length and 3 inches wide at the center. Except for the enlargement it was apparently normal. Splenectomy would have been easy. The notch in the anterior border was about 3 inches from the lower extremity and was so deep that a mere isthmus connected the lower and upper poles. This suggested a means of fixation. The spleen, except the lower pole, which was held in the wound, was returned to the abdomen. The edges of the peritoneum were drawn tight by a purse-string suture until they gripped the narrow isthmus. The abdominal aponeurosis was then sutured in a similar manner, gripping the isthmus sufficiently tight to produce congestion of the lower pole. The left rectus was made to overlap the projecting pole and the skin sutured. Three months after the operation there was a hard, flattened swelling to be felt in the abdominal wall. It was painless. The patient had been relieved of her symptoms, and there was some diminution in the pole, though it was not great. This satisfactory result has persisted for 12 months. A brief report of other cases reported in literature is given by the author. [A.B.C.]

Veins of the Pancreas.—The vascular system of the pancreas, says W. N. Tonkow,[2] has been a neglected subject of anatomy, in spite of the surgical interest devoted to the gland. The author finds that the pancreatic veins are uncommonly subject to variations. The head of the organ has numerous small veins, which are tributary to 3 pancreaticoduodenal veins. Textbooks usually speak of one such vein, but there are three in most instances. The veins of the body of the pancreas flow into the vena coronaria ventriculi, while those of the tail empty their blood into the splenic vein near its exit from the spleen. One large vein transverses the pancreas lengthwise, and good-sized veins connect the pancreas with the portal vein. The pancreatic veins form numerous anastomoses among themselves, uniting all chief branches of the portal vessel. [L.J.]

[1] Annals of Surgery, April, 1903.
[2] Russki Vratch, May 17, 1903.

Tuberculosis of the Femoral Inguinal and Iliac Lymph-nodes from Wounds of the Foot.—C. N. Dowd[1] calls attention to the scarcity of literature on this subject, and states that within 4 years 9 cases have been observed, being 15.8% of the entire number of patients with tuberculous lymph-nodes observed during that time. A typical case is reported. A healthy boy of 6 had cut his foot a month previously; there appeared a bunch of enlarged lymph nodes below Poupart's ligament on the same side. The foot healed naturally. The boy developed a temperature of 102° and the inflamed nodes were removed. They were the size of hickory-nuts and soft in consistency without visible necrotic or caseous spots. They were considered to be simple hyperplastic nodes infected from the foot wound. Healing at the seat of operation was very slow. Two weeks after operation there was enlargement of the inguinal nodes and the patient had a temperature of 104°. These nodes were likewise removed and presented the same appearance as those removed in the first instance. Microscopic examination, however, showed them to be tuberculous. Seven weeks later enlarged nodes in the pelvis of the same side were removed, some of them lay along side the external iliac vein. The unusual feature of this case is that spinal caries developed about this time. Six months later the inguinal wounds had healed, but the spinal caries was progressing. The boy later died of diphtheria. The author states that generally in these cases the prognosis is good. Three of the reported patients were seen, respectively, 11, 14, and 18 months after leaving the hospital and were in good health. A condensed report of all the cases is appended. [A.B.C.]

Renal Decapsulation for Chronic Bright's Disease.—G. M. Edebohls,[2] when he first operated for this disease, attributed his success more to the anchoring of the kidney than to the decapsulation, but he has gradually become convinced that the latter by removing a barrier to the creation of an increased blood supply is responsible for the good results. By this means inflammatory products are absorbed and new secreting epithelium formed. His total experience embraces 51 cases. The 32 cases operated on in 1902 were all far advanced and very few uncomplicated. Of the 51 cases 7 died within 17 days, 7 between 2 months and 8 years after operation, 2 do not show satisfactory improvement, 22 are in various stages of improvement at periods between 2 and 15 months after operation, 1 after a cure of 4 years again had chronic nephritis, 9 remain cured from 21 months to 10 years after operation, 3 disappeared from observation. The capsule must be incised and the separation then completed in the depth of the wound. The index finger of a rubber-gloved hand is the best instrument. In parenchymatous and diffuse nephritis the capsule is easily separable; in the chronic interstitial form there are dense connections with the kidney proper and great gentleness is necessary to avoid tearing away or fracturing the latter. [H.M.]

Cholecystectomy followed by Cysticostomy.—M. Péraire[3] reports what he believes to be the first case of cysticostomy, meaning by this term the suturing of the cystic duct to the abdominal wall after the gallbladder was removed. The patient was a woman of 61. Operation revealed dense adhesions around the gallbladder, which was distended with bile and had a rough anterior external surface due to the presence of gallstones in the thickened wall. The gallbladder contained only 1 small translucent stone. This organ was removed and the cystic and common ducts found to be full of stones, 27 being removed. The cystic duct was then sutured to the abdominal wall and a drainage-tube inserted. Recovery of the patient was uneventful. A number of gallstones, some as large as a pea, were recovered from the thickened wall of the gallbladder. Péraire discusses the pathologic anatomy of this condition, quoting the literature at length. He at first thought that the calculi had passed out of an ulcerated area in the bladder and were retained on the exterior by adhesions, but further study has led him to agree with Létienne that they were true parietal calculi. These calculi may form without the presence of others within the bladder. [A.G.E.]

[1] Annals of Surgery, May, 1903.
[2] Medical Press and Circular, April 29, 1903.
[3] Revue de Chirurgie, July 10, 1903.

GYNECOLOGY AND OBSTETRICS

WILMER KRUSEN FRANK C. HAMMOND

REVIEW OF LITERATURE

Tuberculosis of the Female Sexual Organs and the Peritoneum.—J. Veit's[1] researches and observations concerning tuberculosis of the female genitalia and peritoneum as translated by Chas. P. Noble lead him to conclude, that genital tuberculosis is more frequent than was formerly supposed. Primary genital tuberculosis certainly exists, but the secondary form is more common. Genital tuberculosis usually descends, rarely ascends. The infection may follow the blood-paths or the lymph-glands. Spontaneous recovery from genital tuberculosis occurs. In primary isolated cases the best method of treatment is operation. In secondary and diffuse tuberculosis general treatment is better. The best of all palliative agents locally is iodoform. Tuberculosis of the peritoneum is always secondary; it may be ascitic or adhesive. Genital disease may precede or follow it. Nodular peritonites, not explainable with ovarian tumors or carcinoma, are tuberculous. The disease may heal spontaneously. It is often cured by laparotomy; failures are usually due to tuberculosis elsewhere. It is probably due to the influence of the blood serum. The treatment is operative; radical operations should not be performed unless an isolated genital tuberculosis exists. [E.L.]

Diagnosis of Twin Pregnancy.—M. T. Lewinowitch[2] discusses the problem and offers a new sign. He first shows that Ahlfeld's sign (auscultation of 2 hearts) is insufficient for several reasons, that Keilmann's method (fluctuation of 1 fetal bag of waters) is very difficult of application, and that the palpation of 3 large fetal parts, though the most reliable of signs, is often obscured by a tense abdomen. His own recognition of twins is based on palpation of the round ligaments. If the latter can be felt as elevated and tense round chords, then the condition is not twins, but probably hydramnion. The rationale of this sign becomes evident when we consider that twins usually occupy a longitudinal position in utero, thus distending the organ horizontally, especially stretching the anterior and the posterior walls. In consequence of this distention the peritoneal folds covering the organ are necessarily effaced, the tension of the round ligaments is relieved and their position lowered, thus rendering their palpation almost impossible. If, then, in examining a case of suspected twin pregnancy, we can feel at the level of the umbilicus or somewhat lower, a tense round ligament, we are justified in excluding twins, even if the circumference of the abdomen is great. In hydramnion, on the other hand, the uterus undergoes a uniform distention, and the round ligaments are therefore not obliterated to the touch. Another sign of some value rests on measuring the abdomen; if its circumference (after breaking of the waters) is lessened by more than 7 centimeters (2⅘ in.) then twins are very improbable. [L.J.]

Maternal Circulation in Pregnancy.—H. O. Nicholson[3] thinks that the cardiovascular phenomena which women exhibit at different periods of their pregnancy bear an important relationship to the tone of the arteries and arterioles; also the arterial caliber is influenced by the internal secretions of the suprarenal and thyroid glands. Suprarenal extract contracts the arterioles very greatly, while the thyroid secretion, on the other hand, influences the arterioles in entirely the opposite way. Under normal conditions a balance is struck between these 2 internal secretions. In normal pregnancy there are frequent periods during which one or the other of these gains the upper hand. In general, at the beginning of pregnancy there is increased activity of the thyroid gland, hence the superficial bloodvessels are dilated, veins of the lower limbs become enlarged and painful. Symptoms of increased thyroid activity are these: The pulse is quickened; the blood-pressure is not appreciably raised; the arterioles of the skin are relaxed, leading to a subjective sensation of warmth, and a wellmarked venous pulse is frequently present. There are evidences of dilation of the right heart without any noteworthy left ventricular hypertrophy. Patients with this type of circulation seem to

[1] American Gynecology, September 1903.
[2] Journal Akousherstwa, July, August, 1903.
[3] British Medical Journal, October 3, 1903.

be specially liable to severe hemorrhage during the third stage of labor. [W.K.]

Primary Unilocular Echinococcus of the Ovary.—A. F. Kablukoff[1] reports a case of this rare localization. There is only one other similar case reported in Russian literature. The author's patient was a woman of 34, who presented a large fluctuating tumor in the lower abdominal region. An ovarian cyst was diagnosed, and laparotomy performed. Not until the tumor had been laid open by an incision was the true nature of the cyst recognized. It proved to be a single echinococcus sac, the size of an infant's head. The ovary was removed, and the patient made a prompt recovery. [L.J.]

Relation of Fertility to Insanity.—J. MacPherson[2] gives a table showing that while the population of Ireland has decreased in 50 years by 31.9%, the number of insane has increased 198%. The effects of emigration are depletion of the population, lowering of the marriage and birthrate, alteration of the age distribution, and, depending on the lowered birthrate, a diminished natural increase of the population. Statistics show a steady fall in the number and proportion of the sexually efficient units of the population, that is, those between 15 and 55, with an equivalent rise in the sexually inefficient. The Irish birthrate is one of the lowest in Europe. This the writer attributes to voluntary celibacy of a portion of the population. The comparative prevalence of insanity depends upon the infertility of the population, since the reduction of the number of individuals under 15, in consequence of the lessening birthrate, leaves a larger proportion of individuals above this age, and 87% of persons admitted to asylums in that country are between the ages of 20 and 55. It might be argued that infertility presents too limited an offspring to natural selection, too few favorable units are produced, and the elimination of the unfit is not so complete, owing to their paucity. It has been truly said that less than a quarter of one generation produce half of the next. It follows, therefore, that stable races are largely the product of the typical or most frequently recurring members, and not of all the individual members in proportion to their number. The modification of the stability of a population through any cause necessarily acts injuriously upon the formation of the type, and predisposes toward variation in unfavorable directions. The most direct adverse modification is infertility. [H.M.]

The Influence of Castration upon the Blood Condition of Female Animals.—Robert Breuer and Rudolf Freih. v. Seiller[3] experimented upon animals with a view of throwing some light upon the frequency of chlorosis in females, and the tendency to its development at puberty. The ovaries were removed from healthy dogs and the condition of the blood studied at daily intervals during the following month. Only in young dogs was the effect of castration observed. In old dogs no influence upon the blood condition was demonstrated. In the young animals there was a diminution in the number of the cells and in the hemoglobin, but in the course of 2 to 6 weeks these returned again to the normal. The number of the blood cells and the hemoglobin was diminished in like proportion, in contrast to the typical relation in human chlorosis. Control experiments demonstrated that the blood change was not due to the operation or the narcosis. The authors believe they have proved that in young animals the presence of the ovary has an influence upon the composition of the blood, and that their experiments have given the first trustworthy support to the genital theory of chlorosis. [J.H.W.R.]

Puerperal Septicemia Treated with Antistreptococcic Serum.—J. H. Mackenzie[4] reports a case of puerperal sepsis treated with antistreptococcic serum, and he is convinced that serum alone cannot be relied upon; local treatment should never be neglected. He thinks the serum a helpful handmaid of other measures, and that it greatly militates against the exhaustion, the depression and the liability to rigors which follow the douching of the uterus. But the effect is evanescent, being in this respect a striking contrast to the permanent effect produced by antidiphtheric serum in cases of diphtheria. [W.K.]

[1] Medizinskoe Obosrenie, lix, No. 9.
[2] Edinburgh Medical Journal, May, 1903.
[3] Wiener klinische Wochenschrift, 1903, No. 30.
[4] Lancet, September 26, 1903.

TREATMENT

SOLOMON SOLIS COHEN
H. C. WOOD, JR. L. F. APPLEMAN

REVIEW OF LITERATURE

Glycosal.—According to Ratz,[1] a salicyl glycerinester is absorbable by the skin only in the presence of some volatile substance, as turpentine or chloroform. He has used it in this manner, also internally, with good results in various rheumatic affections. The dose for internal use is 2 gm. (30 gr.) 4 or 5 times a day. It is claimed to disturb the stomach less than sodium salicylate. [H.C.W.]

The Pneumatic Chamber.—Condensed air baths for therapeutic purposes are taken in pneumatic chambers specially devised for the purpose. The various models differ only in certain details, more or less important as regards convenience and mechanical efficiency, but of only secondary significance when the therapeutic application of compressed air is considered broadly. Pneumatic chambers, says Tissier, vary greatly as to shape and dimensions; they may represent a cube, a spheroid, or a cylinder; but in every case they are constructed on the same principle—that employed in the construction of Henshaw's chamber or "domicilium," and which likewise underlies Smeaton's diving-bell and its successors. Sheet-iron of from 6 millimeters to 12 millimeters (¼ inch to ½ inch) in thickness is generally used in the construction of pneumatic chambers, instead of stone as used by Henshaw, but masonry has been employed in so modern a structure as Simonoff's. Cast-iron has been abandoned since the accident that occurred in 1896 in the shaft at Douchy, and which was attributed by Comte to a slow decomposition of the cast metal by its constant exposure to considerable pressures and to variations of temperature. The chambers are provided with doors strengthened by numerous rivets and closing with a spring latch, and are pierced by a number of port-holes covered with heavy glass. The chambers also contain a lock or ante-chamber to enable the physician or an attendant to enter and leave the apparatus, if necessary, without disturbing the pressure. The lock, in addition, makes it possible to supply the patient's wants, such as books, newspapers, drinks, and the like, without interrupting his treatment. In some models one of the windows is made in 2 compartments for this purpose—an important convenience. The capacity of a pneumatic chamber intended for 1 person should be about 8 cubic meters (approximately 280 cubic feet), and the dimensions must be increased proportionately if the chamber is to be used by several persons at a time. The shape is usually cylindric, the top and bottom of the cylinder being formed by 2 hemispheric plates, the outer surfaces of which are slightly convex. The windows are immovable and closed by a plate of heavy glass, so that the patient in the chamber can be watched from without. The door opens inward. The chamber is provided with 2 pipes, one of which supplies the air, while the other serves for ventilation; by means of the first pipe the cabinet is connected with a hydraulic compressor operated by steam or electricity. One of the most practical systems is that designed by Fontaine, which is modeled after the hydraulic presses in the mines of Chemnitz. Among recent improvements the following deserve special mention: 1. Filtration of the air by passing it through a layer of cotton before its entrance into the chamber. 2. The system of heating or cooling the air by passing it through a kind of worm containing a reservoir, which may be either heated by means of a continuous flow of hot water, or cooled by means of ice. 3. The compressed air, instead of entering at the bottom of the chamber through a single opening, is introduced into a pipe surrounding the entire lower portion of the chamber, and allowed to escape through a number of small openings in the curved portion of the pipe. 4. The ventilating tube which leaves the upper portion of the cabinet communicates with an apparatus for regulating the pressure automatically. 5. An effort has been made to increase the proportion of aqueous vapor in the air by passing it through a vessel of water, to which, if desired, certain medicinal substances may be added. During a seance of 2 hours the air consumption for a single person amounts to 8,000 cubic meters

[1] Therap. Monatsh., 1903, xvii, p. 456.

(10,320 cubic yards or 278,640 cubic feet), so that abundant ventilation is necessary. The pressure is kept under constant control by means of a manometer, which can be seen both from within and from without, while the variations in the temperature are indicated by a thermometer. Comparatively low pressures are generally used, as the effect obtained is quite as marked and the inconvenience is considerably less. An excess pressure of 30 centimeters (12 inches) of mercury, corresponding to $\frac{2}{3}$ of an atmosphere, is rarely exceeded. In Germany $+\frac{3}{4}$ of an atmosphere is the pressure recommended. In the case of a debilitated patient not more than $+\frac{1}{2}$ of an atmosphere, or 15 centimeters to 16 centimeters (6 inches to 6½ inches) of mercury, is usually employed. In general, it may be said that permissible therapeutic pressures range from an excess of $\frac{1}{2}$ atmosphere to an excess of 1 atmosphere. [*Pneumotherapy, Blakiston, 1903.*]

Levuretin, a Preparation of Yeast.—The therapeutic value of brewer's yeast in certain skin conditions, especially furunculosis, has long been known, but the difficulty of obtaining a fresh preparation, which is essential for therapeutic activity, has greatly interfered with its use. Goliner[1] has employed with good results a sort of dried brewer's yeast known as levuretin. It may be given in coffee-spoon doses in milk or wine 3 times a day. [H.C.W.]

Treatment of Appendicitis.—Charles Baumler[2] reports his experience with perityphlitis, discusses its causes, symptoms, diagnosis and treatment at some length. During the last 25 years he has seen very many cases of the disease, and has rarely used any drug but opium in the course of treatment. His recoveries net him 93% among men, 90.5% among women. He considers immediate operation indicated only in very grave cases; secondary operation in all cases in which symptoms tend to reappear after the attack has subsided. He warns against the treatment with purgatives. [E.L.] [This is an unusually good experience and cannot be accepted as a guide without reserves. S.S.C.]

Pathology and Treatment of Chorea.—D. B. Lees[3] considers chorea a disorder of the whole cerebral cortex, possibly of the nervous system in general; not a destructive disorder, but one usually ending in recovery. The morbid state is probably a toxemia, rheumatism being the condition most frequently associated with chorea. The evidence on this point is scanty, but very suggestive. Lees states that chorea may be called cerebral rheumatism in a great majority of cases. Other toxemias, may also produce choreic symptoms. The treatment should be that of rheumatism, pushed to its limit, just as is done in cerebral syphilis. For a child of 6 to 10 years the initial dose of sodium salicylate should be 65 cg. (10 gr.) every 2 or 3 hours, combined with 1.3 gm. (20 gr.) of sodium bicarbonate. The addition of the sodium bicarbonate he considers important. In the course of a few days the dose should be increased to .97 gm. (15 gr.) and then to 1.3 gm. (20 gr.); so that 10 gm. or 12 gm. (150 gr. or 200 gr.) a day are taken. The dose of the sodium bicarbonate should always be twice that of the salicylate. Careful watch should be kept for any symptoms of poisoning, especially the "air hunger" symptom; the drug must then be stopped immediately. [B.K.]

Veronal, a New Hypnotic.—Fischer[4] has employed veronal, diethylmalonyl urea, in a number of different forms of insomnia. Dangerous secondary symptoms were never observed, although in some cases there was some nausea or dizziness or drowsiness the next day. Out of 76 cases good sleep was obtained in 60, and a partial somnifacient effect in 10 others. The dose is 0.5 gm. to 1.3 gm. (7 gr. to 20 gr.). [H.C.W.]

The Treatment of Malaria with Hypodermic Injections of Quinin.—P. J. Nevadomski[5] makes a strong plea for a more frequent employment of the subcutaneous method in treating malaria with quinin. He adduces a series of original observations which show clearly the superior efficiency of quinin injections. It is particularly in the protracted forms of malaria that this method gives brilliant results, but acute malarial fever also yields more promptly to injections than to internal administration. The author's preference is for quinin dihydrochlorate, and he gives 0.8 (12 gr.) at one dose beneath the skin. The number and frequency of injectious will naturally depend on the features of the individual case. [L.J.] [This is an important matter and cannot be emphasized too often. S.S.C.]

Hyoscin in the Treatment of Morphinism.—Crothers[1] reports unfavorably of his experience with hyoscin in the treatment of drug habits. The method while relieving the immediate discomfort in some cases, caused so much exhaustion, and frequently delirium, as greatly to prolong the convalescence. He reports one case of sudden death which he attributed to the depression brought about by the hyoscin. [H.C.W.]

Aristochin in Whoopingcough.—Kittell[2] recommends very highly the use of aristochin, one of the new quinin preparations, in the treatment of whoopingcough. It has given him better results than any other remedy he has tried. Children under 1 year may be given as many centigrams as they are months old; older children are given 0.1 gm. to 0.2 gm. (1½ gr. to 3 gr.) 3 times a day. [H.C.W.]

Acetozone in Typhoid Fever.—Woods and Thrush[3] report 53 cases of typhoid fever in which acetozone was employed. Although the course of the disease was not materially shortened, the fever lasting 30 to 60 days, the drug seemed to act as a valuable intestinal antiseptic. There was less tendency to tympanites and diarrhea, and hyperpyrexia was very rare. [H.C.W.] [Two year's personal experience with acetozone shows it to have moderate but not wonderful usefulness. S.S.C.]

LARYNGOLOGY, RHINOLOGY, and OTOLOGY

D. BRADEN KYLE

REVIEW OF LITERATURE

A Collar-button Removed from the Lower Lobe of the Left Lung through the Natural Passage.—A man of 40 swallowed a collar-button, which although passing into the bronchus, caused only slight symptoms. Physical examination pointed to the right lung as the place where the collar-button had lodged. Direct bronchoscopy in the hands of G. Killian[4] failed to find it, although the entire right bronchus was searched. A search of the left bronchus showed it to be far down in the main bronchus of the lower lobe, 5 cm. (2 in.) below the end of the tube, therefore 32 cm. (13 in.) from the teeth. He succeeded in grasping it by means of a Lister hook, and removed it at the first attempt. Further study brought to light an incipient pulmonary tuberculosis of the right side. [E.L.]

Angioma of Nasal Septum.—Irving E. Kimball[5] reports an interesting case of angioma occurring on both sides of the nasal septum. The patient, a clergyman aged 56, had been troubled for several years with nasal obstruction with a slight yellow discharge, rather thick in consistency. He was treated by a general practitioner for catarrh without benefit, and soon began to suffer from troublesome hemorrhage from both nostrils. On examination by Kimball, a large bilobular pedunculated pulsating growth was observed hanging from right nasal cavity, nearly opposite the inferior turbinated bone, which bled at the slightest touch; on the left side of the septum and slightly lower down was a sessile single-lobed growth, which showed no pulsation, but bled freely on being touched. Following removal of the tumor on right side by cold snare an alarming hemorrhage occurred, which persisted till the area was thoroughly cauterized with galvanocautery. Ten days later the left was removed, since which time there has been no recurrence. On examination of both tumors they were found to consist of bloodvessels bound together by connective tissue, in which were found both round and spindle-shaped cells. [H.C.W.]

Treatment of Congenital Cleft Palate.—T. W. Brophy[6] says that the question of early operations has passed the experi-

[1] Therap. Monatsh., 1903, xvii, p. 410.
[2] Therapie per Gegenwart, March, 1903.
[3] British Medical Journal, August 29, 1903, p. 449.
[4] Therap. Monatsh., 1903, xvii, p. 393.
[5] Medizinskoe Obosrenie, lix, No. 7.

[1] Therap. Gaz., 1903, xxvii, p. 371.
[2] Therap. Monatsh., 1903, xvii, p. 409.
[3] Therap. Gaz., 1903, xxvii, p. 372.
[4] Wiener klinische Wochenschrift, 1903, xvi, 305.
[5] Annals of Otology, Rhinology, and Laryngology, March, 1903.
[6] Brooklyn Medical Journal, September, 1903.

mental stage with him, as 20 years' experience has satisfied him that the most desirable time in life to operate for congenital cleft of the hard palate is within 5 months of birth, preferably within 3 months. Among the reasons for this statement are: (1) Surgical shock is less. The operation upon the palate should be made before that upon the lip; (2) the bones may be bent or moved without fracture; (3) muscles that are very early brought into action develop instead of atrophy; (4) the development of the bones of alveolar processes of the upper jaw assumes a form nearly or quite normal, and when the teeth are erupted they will properly or nearly occlude with the lower ones; there is much less deformity because all the tissues, bony as well as soft, develop naturally and according to accepted types; (6) the nasal accent does not develop and speech is normal when the time comes for learning to articulate. [A.G.E.]

Purulent Acute Otitis Media the Result of Snuff.—Two such cases are reported by Schroeder.[1] In the first a projection of the nasal septum prevented the snuff from passing upward, guiding it directly into the Eustachian tube. A hemorrhagic otitis media resulted, perforation occurring the same day. In the second case it was used to counteract the odor of an ozena with the same result as above. It required from three to four weeks to produce cures. [E.L.]

Pressure Anemia of the Uvula Which May be Mistaken for Membrane.—Coues[2] calls attention to a superficial necrosis which may occur on one or both sides of the uvula during severe infection of the nasopharynx, especially of streptococcic origin. He says on gently separating the tonsil from the uvula a white spot is seen, which may, particularly if diphtheria is suspected, be mistaken for membrane. On careful examination it will be seen that the white spot is formed at exactly the point of impact of the tonsil and uvula; it is not raised above the surface, and it does not bleed when touched. [A.B.C.]

Neurasthenia and Pseudophobia of Intranasal Origin.—C. Compaired[3] has found many different types of neurasthenia and pseudophobia the origin and continuance of which are due to intranasal lesions. These are generally narrowing of the nares, with or without compression of the tissues and of the ethmoid, as the result of hypertrophy of the mucous membrane and deviations of the septum; with these may be found septal spurs and enlargements of the turbinated bones and zones of hyperesthesia. Successful treatment of these lesions may be followed by the disappearance of the neurasthenic and pseudophobic symptoms. It is possible that these lesions maintain a distinct relation in form, quality, and importance to the crime of the criminal who is hunted down and punished. [H.M.]

Congenital Diaphragms of the Larynx.—Fraenkel[4] reports 2 cases of congenital diaphragm of the larynx. The first of these, a man of 22, was hoarse since birth, the hoarseness always getting worse after colds. He frequently suffered with pain in neck and dysphagia. The epiglottis and vocal cords were inflamed; between the latter for one-third of their length stretched a delicate membrane, which terminated posteriorly in a sharp convex edge. It contained numerous fine vessels. His mother presented a similar anomaly of the larynx. The patient, his mother, and a sister were afflicted with bilateral ptosis, thus demonstrating that the condition is one of faulty development, and not of intrauterine inflammation. The second patient showed a membrane in the subglottic space; it also seemed to be a congenital anomaly, but presented symptoms only for the past year. He was able to find only 19 other such cases reported, two of which grew from the posterior wall of the larynx. [E.L.]

Prolapse of the Ventricle of Morgagni.—Tljni[5] reports two instances of this exceedingly rare condition. The symptoms were, as usual, hoarseness, obstinate cough, painful or uncomfortable sensations in the larynx, and in one patient painful deglutition. Laryngoscopic examination revealed the characteristic mucous protrusions at the site of Morgagni's ventricle. The first patient, a woman of 55, was treated surgically by removing the prolapsed membrane under cocain anesthesia. No recurrence took place, and microscopic examination confirmed the assumed benign character of the affection. The second patient, a woman of 43, who suffered from a unilateral prolapse, was treated with silver nitrate locally without distinct success, however; the growth slowly increasing in size. Pulmonary tuberculosis coexisted in this patient, while the former suffered from bronchitis, a markedly frequent accompaniment of the disease in question. Nearly all reported cases presented also a chronic inflammatory process of the larynx. Prolapse of Morgagni's ventricle is seldom recognized in its beginning stages, until the tumor becomes visible in the mirror. The everted or "dislocated" mucous membrane allows its reduction into the ventricle—an important diagnostic feature. [L.J.]

Sclerosis of the Mastoid Process.—Stein[1] reports two cases and calls attention to the similarity of the symptoms to those in a case recently reported by another physician under the title of "Morphomania with Extravagant Claims of Aural Disease." The clinical histories of the two cases are detailed. The condition is said to be difficult to diagnose because of the lack of definite symptoms, but this very lack of definite ear symptoms is really an aid to the establishment of a positive opinion. The principal points are: Deep-seated pain, a point of tenderness, slight rise of temperature at times, and history of previous ear disease. The importance of operative measures in rendering relief is particularly emphasized. Scarcely ever is more required than the removal of a large core of bone just posterior to the meatus. For doing this the instrument known as the Russian perforator is preferred by the writer. [A.G.E.]

Isolated Clonic Cramp of the Soft Palate.—L. Roemheld[2] discusses briefly the cases of clonic cramp of the soft palate reported in literature, and relates the history of a patient in whom, in association with an apoplectic attack, an isolated unilateral clonic cramp of the muscles of the soft palate and pharynx developed. The patient was unable to speak, understood everything, however, and could write. The face was slightly paretic. Frequently a cracking noise was observed in her right ear. A year later the patient's speech had improved somewhat. The author believes the seat of the disease to be somewhere in the central nervous system, probably in the medulla oblongata, and emphasizes as peculiar, the long duration and the isolated localization of the clonic cramp. [E.L.]

Adrenalin Chlorid with Chlorotone in Rhinology.—Adrenalin is insoluble in water, so it is prepared in the form of adrenalin chlorid by dissolving it in normal salt solution. Baéza[3] adds ½% of chlorotone to make it both an antiseptic and an anesthetic. Its use makes operations bloodless and painless. No infection ever followed its use in Baéza's cases. This preparation is to be preferred to cocain, as its effects are more enduring and the patient may use it in a spray without danger of contracting a habit. As it increases blood-pressure it must be given internally with caution in old age or in disease of the bloodvessels. The maximum internal dose is 30 drops. Baéza reports a large number of surgical procedures in which he successfully used adrenalin chlorid with chlorotone. [W.E.B.]

Ozena.—Mackie[4] has invariably found this associated with sinus or other intranasal suppuration. Though it may not manifest itself till later it is essentially a disease of early life. Children notoriously suffer from foul noses, in many cases ascribable to adenoids. Sinus disease is far more common than is generally supposed. A lessening discharge meeting with drainage difficulties collects in patches, and this is the turning point which leads to ozena. The fact that atrophy is less marked in the upper regions of the nasal fossa supports the contention that this atrophy is due to descending discharges. [H.M.]

Empyema of the Antrum.—H. Knochenstiern[5] reports a case of empyema of the antrum, which could clearly be demonstrated as having been caused by a decayed tooth, an etiologic

[1] Münchener medicinische Wochenschrift, November 25, 1902.
[2] Boston Medical and Surgical Journal, February 12, 1903.
[3] Medical Press and Circular, June 10, 1903.
[4] Deutsche klinische Wochenschrift, December 18, 1902.
[5] Chirurgia, January, 1903.

[1] Chicago Medical Recorder, January, 1903.
[2] Münchener medicinische Wochenschrift, March 31, 1903.
[3] Berliner klinische Wochenschrift, July 25, 1903.
[4] Quarterly Medical Journal, August, 1902.
[5] St. Petersburger medicinische Wochenschrift, 1903, xxviii, 115.

factor which is accepted by but few writers. The patient had suffered from a very fetid nasal discharge for some years; a close examination revealed the 2 bicuspids decayed. They were removed, as well as a portion of the maxilla above them. The antrum was found to consist of 2 cavities, which communicated with each other. The outer, smaller one showed caries; the inner nasal one contained some pus, but was on the whole quite healthy. Removal of the diseased structure and thorough drainage was followed by complete recovery. [E.L.]

Age for Operating in Cleft Palate.—R. W. Murray[1] asserts that if cleft palate involves the soft parts only, this may be closed at any time before the child begins to speak with almost complete assurance that articulation will be perfect. The same is true of harelip when this exists alone, but if the cleft palate involves any portion of the hard palate or the alveolar arch, although by operation a complete closure may be effected, articulation and phonation can never be made perfect. This, he believes, is due to the fact that in a defective hard palate there is necessarily a defective nasal chamber, which in the normal condition is largely utilized in effecting phonation. As illustration of the correctness of his view, he cites the fact that many children with highly arched palates have defective phonation and articulation. He holds that operation should be performed at some time between birth and the end of the second year, and prefers that it be deferred till toward the end of the second year, since the increased strength of the child gives better hope of recovery. In the discussion, Arbuthnot Lane held that he preferred operation at the earliest possible moment, usually performing it the day after birth. His reasons were that the nasal pharynx was sooner exposed to the influence of the mechanical factor upon which its development depends; that operation is easier and more certainly successful at this age, because of the absence of teeth and the better flap obtained; and that the child at this age displays no annoyance or irritation following the operation. [A.B.C.]

Treatment of Aural Exostoses.—H. O. Reik[2] suggests the revision of a statement common to practically all textbooks on otology and one which he believes to constitute for the present day a false teaching. The statement is that an exostosis of the external auditory canal is not to be operated upon unless it so completely blocks the canal that it prevents the exit of pus from a coexisting suppurative otitis media or obstructs the entrance of sound waves and produces a profound deafness in a person who is also deaf on the opposite side. This dictum probably originated with Toynbee because of the pain and untoward after effects of operations without anesthesia or antisepsis. Today these reasons do not exist. Reik has examined the records of 139 operated cases and in not a single instance did any serious complication result from or follow the operation. He urges surgical treatment for these growths without waiting for them to become particularly and perhaps dangerously troublesome. [A.G.E.]

New Method in the Treatment of Suppurative Otitis Media.—Ehrenfried,[3] after ordinary cleansing, places the patient in a horizontal position with the ear up, and permits a weak solution of lysol to run into the ear; this diffuses itself through the ear passages, and softening the pus and cholesterin in from 10 to 15 minutes. He then inserts a pipet (the bulb of which has been emptied by compression) as far as possible into the middle ear, and by suction dries the cavity, repeating the procedure until he is satisfied that no fluid remains, then repeats the lysol injection. He sometimes injects the fluid 3 to 5 times. He reports good results, stating that ears are cleansed of large masses of hidden, stringy pus plugs, in 1 or 2 sittings. In his opinion many operations are prevented by this method. In fact, he never operated, unless threatening symptoms of meningitis or pyemia existed, secondary abscesses diagnosed, or the external meatus so narrow as to prevent all effectual treatment. [E.L.]

Septicemias of Buccodental Origin.—Julien and Camille Tellier[4] give in detail their observations in a number of cases in which pyorrhea alveolaris gave rise to severe general infections. Such cases are comparatively rare when one considers the vast number of people suffering from gingival infections. But these observations show that such apparently mild local conditions are capable of producing serious, and even fatal, general infections in persons whose bodily resistance has been lowered in any way, as by alcoholism, diabetes, traumatism, etc. The general infections following pyorrhea may be classified under the following heads: (1) chronic septicemia; (2) acute septicemia without localization; (3) lymphatic septicemia; (4) phlebitic septicemia; (5) pyemia; (6) true pyemia with metastatic abscesses. The conclusion to be drawn is that local suppurations of the teeth or gums should not be neglected, as so often occurs; since they may, even though rarely, give rise to grave and sometimes fatal general infections. [B.K.]

Dental Sepsis and Systemic Disease.—H. Sewill[1] notes that there is nothing in the nature of dental caries of a virulently septic character. It is only when the exposed pulp has become inflamed and an abscess formed that septic effects develop. In a large number of instances pyorrhea alveolaris is associated with disturbance of the general health, causing sometimes pernicious anemia. General antisepsis of the mouth should be assiduously practised by the patient. The spaces between the teeth should be frequently cleared of particles by a toothpick and fluid should be forced to and fro. Bichlorid of mercury 1–3,000 should be applied to the necks of the teeth and gum pockets around on tiny twisted ropes of absorbent cotton, the mouth being carefully rinsed afterward. Condy's fluid, being practically nonpoisonous, can be entrusted to the patient, and good effects result. In searching for septic conditions associated with dental disease empyema of the antrum must not be overlooked. The pus is always foul and from six to eight hours out of the 24, when the patient is recumbent, he may be swallowing virulently septic matter, giving rise thus to grave systemic disease. [H.M.]

Rare Tumor of the Nasal Mucous Membrane.—Hamm's[2] case is that of a clerk of 17, who had a tumor at the anterior part of the inferior meatus, which was the site of frequent hemorrhage. It was so hard that it could not be removed with the cold snare, but had to be cut away; a recurrence had to be dealt with similarly a week later. At that time the base was cauterized with 50% zinc chlorid solution, and no recurrence has been noted since. Microscopic examination revealed a cavernous lymphangioma, and not a sarcoma as had been supposed. [E.L.]

The Unconscious Deaf.—E. Felix[3] says it may seem paradoxic to speak of affections of the auditory apparatus of which the patient is unconscious, but he adduces proof of the common occurrence of this condition. Tables showing the results of examination of 1,050 adults under 50, and of 1,038 children under 12, are given. Of the former, 290 had disease of the ear which interfered to some extent with hearing, but only 22 were conscious of that fact. Of the 22, 9 had bilateral affection. Of the 290 there were 192 males and 98 females. Among the children there were 327, 178 boys and 149 girls, that had impaired hearing, and of these only 12 were conscious of the defect. These findings emphasize the necessity of prophylaxis in infectious diseases, and the examination of the ears of school children by teachers or physicians. [A.G.E.]

The Operation for Cleft Palate.—C. P. Childe[4] states that the patient should be placed in the horizontal position with the head steadied over a firm pillow at the end of a table, the surgeon standing behind. Troublesome hemorrhage is avoided by separating the mucoperiosteal flaps rapidly while an assistant sponges the blood away. The flaps having been separated and freely pared, a small Hagedorn needle holder and a very small circular needle is used for closing. Fishgut or the finest horsehair for the uvula and stouter for the palate answers well for the sutures. They are passed in the following manner: The tip of the right half of the uvula is lightly held in a pair of long forceps and a small semicircular needle in a small Hagedorn holder, threaded with the finest silkwormgut is passed from

[1] British Medical Journal, August 29, 1903.
[2] Johns Hopkins Hospital Bulletin, March-April, 1903.
[3] Deutsche medicinische Wochenschrift, December 25, 1902.
[4] Lyon Médical, February 8 and 15, 1903.

[1] Medical Press and Circular, October 22, 1902.
[2] Münchener medicinische Wochenschrift, February 24, 1903.
[3] La Semaine Médicale, April 1, 1903.
[4] British Medical Journal, July 4, 1903.

before backward through its base and out in the cleft. The needle is released and drawn through. It is then readjusted in the holder, the tip of the left uvula is similarly held and the needle is passed again into the cleft and brought out from behind forward, transfixing the base of the left half of the uvula. This suture and a second one similarly placed serve to steady and to stretch the flaps and to bring them together, while the rest are introduced from behind forward. After 2 or 3 sutures have been placed in this way the lips of the flap can be held so close together by drawing gently on them, that the remaining sutures can be passed across both flaps as in stitching any wound with the interrupted suture and without bringing the needle out in the cleft. Passing the sutures after this method the author has had good success. [A.B.C.]

Anatomic and Physiologic Examinations of Animals with Congenital Labyrinthine Anomalies.—G. Alexander[1] reports the result of his investigations on deaf cats and Japanese mice. His researches included the anatomic contraction of their auditory mechanism and the physiologic behavior of the animals. All of them had anomalies of the auditory apparatus; in the case of the cats, the main change was found in the labyrinth, but the alterations could not be considered hereditary. In the case of the mice there were found in addition, changes in the semicircular canals; the inherited character of the changes in these animals could be clearly demonstrated. For the details of the changes which belong to aural anatomy, the reader must be referred to the original. [E.L.]

Tobacco Deafness.—W. Wingrave[2] divides deafness from smoking into 3 groups—mechanical or pneumatic, irritative or catarrhal, toxic or nerve deafness. The mechanical form arises from smoking a tightly-packed pipe, cigar or cigaret, especially in those with nasal obstruction. Negative pressure is thus exerted, causing hyperemia of the eustachian tubes. The chemic and mechanical irritation of the smoke causes the catarrhal form. The toxin is cumulative, since complete abstinence is essential to permanent improvement. Deficiency of appreciation of low bones in 50% of cases is presumptive evidence in favor of selective degeneration in the auditory as in the optic nerves. Treatment consists in complete abstinence from tobacco, with the administration of strychnia. [H.M.]

The Treatment of Acute Suppurative Otitis Media.—S. MacCuen Smith[3] emphasizes the fact that the early recognition and prompt treatment of acute inflammatory diseases of the organ of hearing is one of the most important duties devolving on every practitioner of medicine. It is impossible to differentiate between acute *catarrhal* and acute *purulent* otitis media, until the stage of perforation becomes manifest; hence the treatment to be applied during the hyperemic or acute stage is identical in each. In the interest of effective treatment, however, it is important to distinguish, so far as possible, between an acute otitis media caused by an attack of coryza, or other mild forms of the disease, and that of the more virulent type occurring as a complication or sequela of one of the exanthemas, or from epidemic influenza or pneumonia. The former variety usually yields to the application of the most simple remedial agents if employed during the stage of congestion; while the latter are generally purulent in character and demand prompt and heroic measures for their relief. It is a mistake to assume that the virulence of an aural discharge can be judged by its odor, or that the gravity of an otorrhea can be measured by its chronicity. The moment suppuration occurs the membrana tympani should be *freely incised*, carrying the incision from the most bulging point downward to the lower border of the canal, either in an anterior or posterior direction, until about the sixteenth part of a circle has been formed. This will not only provide for good drainage, but will insure the opening remaining patulous long enough to admit of proper after-treatment. Smith considers that paracentesis of the membrana tympani is an ineffectual operation, which has no useful place in aural surgery. After evacuation of the fluid from the tympanic cavity has been accomplished, a good recovery will be made in many cases by cleansing the canal and middle ear with an antiseptic solution, followed by introducing a strip of iodoform gauze well into the deep canal to provide good drainage, this to be renewed every day or two. [F.C.H.]

[1] Wiener klinische Wochenschrift, December 25, 1902.
[2] Medical Press and Circular, February 11, 1903.
[3] Philadelphia Medical Journal, June 6, 1903.

The Telephone as an Aid to Hearing.—St. John Roosa[1] states that many persons with impaired hearing can hear perfectly well through the telephone, the condition in which this improvement is possible being disease of the middle ear. The cause of the improved hearing is probably the increased vibration of the membrana tympani, caused by the rapid action upon it of the sound waves. An adaptation of the telephone is then desirable as an aid to hearing in these persons. The instrument sold as the acouphone more nearly approaches the principles of the telephone, but Roosa believes it can be improved. A competent physicist, devoting his attention to the subject, could probably greatly benefit a large class of persons with incurable diseases of the ear. [A.G.E.]

The Removal of a Nasopharyngeal Polypus by a New Operation.—A. Depage[2] reports the removal of a nasopharyngeal polypus in a young man of 18 with favorable results. The tumor produced a swelling on the right side of the face, and also some exophthalmus. The tumor was about the size of a hen's egg, and forced its way forward into the left nasal cavity. It was adherent to the base of the skull and the pterygoid process. The prominence in the temporal region and the exophthalmus showed that the neoplasm projected into the zygomatic fossa and into the orbit through the sphenomaxillary fissure. The patient breathed through the mouth. The left nostril was completely obstructed, while the passage through the right nostril was not entirely obstructed. The operation was first preceded by tracheotomy. The patient was put in the position of Rose, and the mouth fixed open. By means of a long chisel passed along the nares, the tumor was detached from the base of the skull and the pterygoid process. Hemorrhage was abundant, and necessitated the provisionary tamponing of the nasopharynx. A vertical incision about 5 cm. (2 in.) long was then made on the mucous membrane of the jaw in front of the ascending ramus. The tumor was separated as far as possible by means of the index finger introduced into the incision. The tampon was removed, and the tumor then removed by traction. Three months after the operation it was difficult to observe any trace of the operation whatever. The tumor was the size of a turkey's egg, and composed of fibrous tissue and bloodvessels, which accounted for the profuse hemorrhage during the operation. [J.H.W.R.]

The Mechanism of Hearing.—Zimmermann's[3] article is a reiteration of statements concerning sound-conduction made by him 4 years before, and which he has since enlarged by extensive observations. He says that the ossicles do not conduct sound, and that sounds are transmitted directly from tympanic membrane through air of middle ear to the cochlea. The ossicles serve the purpose of regulating the intralabyrinthine pressure, accommodating the swinging basilar fibers to the best degree of perception. He discusses the papers and arguments which have since appeared, both for and against his theory. [E.L.]

[1] Postgraduate, February, 1903.
[2] Jour. de Med. de Brux., 1903, No. 24, p. 372.
[3] Münchener medicinische Wochenschrift, December 16, 1902

THE PUBLIC SERVICE

Health Reports.—The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended November 27, 1903:

SMALLPOX—UNITED STATES.			Cases	Deaths
Alabama:	Mobile	Nov. 8–21	21	
Colorado:	Denver	Oct. 18–31	10	
Illinois:	Belleville	Nov. 8–21	11	
Louisiana:	New Orleans	Nov. 15–21	1	
Massachusetts:	Lawrence	Nov. 15–21	1	
Michigan:	Detroit	Nov. 15–21	4	
New Hampshire:	Manchester	Nov. 15–21	3	
New Jersey:	Camden	Nov. 15–21	4	2
New York:	New York	Nov. 15–21	4	
Ohio:	Cleveland	Nov. 15–21	1	
	Youngstown	Nov. 15–21	11	

Pennsylvania:	Altoona	Nov. 15-21	1	
	Carbondale	Nov. 13-21	2	
	Erie	Nov. 8-21	3	
	Johnstown	Nov. 15-21	3	
	Philadelphia	Nov. 15-21	68	7
	Pittsburg	Nov. 15-21	32	6
Tennessee:	Memphis	Nov. 15-21	3	
Utah:	Salt Lake City	Nov. 8-14	3	

SMALLPOX—FOREIGN.

Austria-Hungary:	Prague	Nov. 1-7	9	
Brazil:	Rio de Janeiro	Oct. 19-25	40	34
Canada—Manitoba:	Winnipeg	Nov. 8-14	1	
Colombia:	Barranquilla	Nov. 2-18		1
Ecuador:	Guayaquil	Oct. 18-31		2
France:	Paris	Nov. 1-7	3	
Great Britain:	Glasgow	Nov. 7-13	7	1
	Manchester	Oct. 25-Nov. 7	7	
	Newcastle-on-Tyne	Nov. 1-7	5	
Java:	Batavia	Oct. 11-17	21	6
Mexico:	Mexico	Oct. 8-15	1	
Netherlands:	Amsterdam	Nov. 8-14	3	
Russia:	Odessa	Oct. 19-25	5	1
	St. Petersburg	Oct. 25-Nov. 7	126	2
	Warsaw	Oct. 18-24		2
Spain:	Barcelona	Oct. 25-Nov. 7		2
Turkey:	Smyrna	Oct. 19-Nov. 1		68

SMALLPOX—INSULAR.

Philippine Islands:	Cebu	Sept. 1-30	5	1
	Manila	Sept. 27-Oct. 10	1	

YELLOW FEVER—UNITED STATES.

Texas:	Cannel	Nov. 19-23	4	
	Laredo	Nov. 20-23	68	5
	Minera	Nov. 14-23	6	
	San Antonio	Nov. 15-23	7	2

YELLOW FEVER—FOREIGN.

Brazil:	Rio de Janeiro	Oct. 19-25	1	
Mexico:	Ciudad Victoria	Oct. 25-Nov. 7	14	3
	Coatzacoalcos	Nov. 1-7	2	2
			Imported.	
	Linares	Oct. 25-Nov. 7	86	17
	Merida	Oct 25-Nov. 7	4	2
	Tampico	Oct 25-Nov. 7	3	
	Tehuantepec	Oct. 25-Nov. 7		2
	Vera Cruz	Nov. 7-14	17	5

CHOLERA—INSULAR.

Philippine Islands:	Manila	Sept. 27-Oct. 10	90	84
	Provinces	Sept. 28-Oct. 10	952	750

CHOLERA—FOREIGN.

China:	Shanghai	Oct. 3-10		7
Japan:	Nagasaki	Oct. 20-26	49	27
	Yokohama	Oct 4-10	1	1
Straits Settlements:	Singapore	Sept 1-Oct. 3	1	10
Turkey—Syria:	Alexandretta	Oct. 18-24	2	1

PLAGUE—INSULAR.

Philippine Islands:	Cebu	Sept. 1-30	11	8

PLAGUE—FOREIGN.

Brazil:	Rio de Janeiro	Oct. 19-25	54	20
China:	Newchwang	Sept. 26-Oct. 3	144	142
India:	Bombay	Oct. 20-27		64
	Calcutta	Oct. 18-24		13
Japan:	Yokohama	May 10-Oct. 17	29	23

Changes in the Medical Corps of the U. S. Army for the week ended November 28, 1903:

APPEL, Major DANIEL M., surgeon, is granted leave for two months, on account of sickness, with permission to visit Japan.

HOFF, Lieutenant-Colonel JOHN VAN R., deputy surgeon-general, is granted leave for one month, to take effect at a date in December to be fixed by the commanding general, Fort Leavenworth.

Orders of November 19 are so amended as to direct Lieutenant-Colonel Henry S. Kilbourne, deputy surgeon-general, to report for transportation to Manila on the first available steamer of commercial line leaving San Francisco, Cal., on or after December 1, there being no space now available on government transport.

The following changes in the stations and duties of officers are ordered: Captain Henry A. Webber, assistant surgeon, now at San Francisco, Cal., is relieved from further duty in the division of the Philippines, and will proceed to Fort Walla Walla for duty, to relieve First Lieutenant Arthur W. Morse, assistant surgeon. Lieutenant Morse will proceed to Vancouver Barracks for duty, to relieve First Lieutenant William H. Brooks, assistant surgeon. Lieutenant Brooks will proceed to Washington Barracks for duty.

SCHUMANN, Sergeant THEODORE, first class, company of instruction No. 2, Fort McDowell, will proceed to Fort Mackenzie, to relieve Sergeant Gustav Knapp, first class. Sergeant Knapp, first class, will proceed to Manila, P. I.

VAN DUSEN, First Lieutenant JAMES W., assistant surgeon, is granted leave for one month on surgeon's certificate, with permission to apply for an extension of one month.

RICHARDS, ALFRED, contract surgeon, is granted leave for one month.

MALONEY, Sergeant PATRICK J., first class, now at New York, having relinquished the unexpired portion of furlough granted him from Fort Crook, will report to the commanding officer, Second Cavalry, New York City, not later than December 15, for duty with that regiment aboard the army transport Kilpatrick, en route to Manila, P. I.

JEAN, First Lieutenant GEORGE W., assistant surgeon, now in Washington, D. C., is relieved from further duty in the division of the Philippines, and will proceed to Fort Adams for duty.

SHAW, First Lieutenant HERBERT G., assistant surgeon, is relieved from duty at Fort Miley and will proceed to San Francisco, Cal., and thence to the Philippine Islands on the transport to sail from San Francisco January 1.

POWELL, First Lieutenant WILLIAM A., assistant surgeon, is granted leave for one month, from about November 20.

LITTLE, First Lieutenant WILLIAM L., assistant surgeon, is assigned to temporary duty as assistant to the attending surgeon at headquarters, department of California, awaiting further orders from the War Department.

WILSON, First Lieutenant COMPTON, assistant surgeon, will report at the Presidio for temporary duty awaiting further orders.

PRESTON, WILLARD D., contract surgeon, will proceed to his home, Attica, N. Y., for annulment of contract.

WATERS, Sergeant JOSEPH, first class, is relieved from duty with the company of instruction, hospital corps No. 2, Fort McDowell, and will be sent to the Army General Hospital, Presidio, for duty until December 1, when he will report for duty with troops on the transport sailing for Manila on that date.

BUSHNELL, Major GEORGE E., surgeon, leave granted is extended 23 days.

MORGAN, Sergeant GORDON W., now at Washington Barracks, is relieved from further duty at Whipple Barracks, and will report at his present station for duty.

Changes in the Medical Corps of the U. S. Navy for the week ended November 28, 1903:

HUNTINGTON, E. O., surgeon, sick leave extended three months—November 20.

FAUNTLEROY, A. H., assistant surgeon, when discharged from treatment, ordered to the Scorpion—November 21.

URIE, J. F., surgeon, detached from the Bureau of Medicine and Surgery, Navy Department, and ordered to the Missouri—November 23.

DUBOSE, W. R., medical inspector, ordered to duty as assistant to the Bureau of Medicine and Surgery, Navy Department—November 23.

GRAYSON, C. T., acting assistant surgeon, detached from the Naval Proving Ground, Indian Head, Md., and ordered to the Naval Hospital, Washington—November 23.

Changes in the Public Health and Marine-Hospital Service for the week ended November 26, 1903:

SAWTELLE, H. W., surgeon, granted leave for two days from November 27—November 25.

GASSAWAY, J. M., surgeon, department letter granting leave of absence for one month, amended so that it shall be for twenty-six days from October 13—November 19, 1903.

STONER, G. W., surgeon, leave of absence for five days from November 24, 1903, under paragraph 189 of the regulations.

WICKES, H. W., passed assistant surgeon, granted leave of absence for five days from November 28—November 23, 1903.

CLARK, T., passed assistant surgeon, to proceed to St. Johns, N. B., and assume temporary charge of service during absence of Assistant Surgeon W. C. Billings—November 24, 1903.

LUMSDEN, L. L., passed assistant surgeon, upon expiration of leave of absence to remain at New Orleans, La., and await assignment—November 20, 1903.

BILLINGS, W. C., assistant surgeon, to proceed to Washington, D. C., and report to chairman of examining board to determine his fitness for promotion to the grade of passed assistant surgeon—November 24, 1903.

KERR, J. W., assistant surgeon, to proceed to Washington, D. C., and report to chairman of examining board to determine his fitness for promotion to the grade of passed assistant surgeon—November 24, 1903.

ROBINSON, D. E., assistant surgeon, to report to chairman of examining board, Port Townsend, Washington, to determine his fitness for promotion to the grade of passed assistant surgeon—November 24, 1903.

CORPUT, G. M., assistant surgeon, to proceed to Washington, D. C., and report to chairman of examining board to determine his fitness for promotion to the grade of passed assistant surgeon—November 24, 1903.

CURRIE, D. H., assistant surgeon, to proceed to San Francisco Quarantine, California, and assume temporary charge of service during absence of Passed Assistant Surgeon H. S Cumming—November 24, 1903.

MANNING, H. M., assistant surgeon, relieved from duty at Stapleton, N. Y., and directed to proceed to Honolulu, H. T., and report to chief quarantine officer for duty—November 23, 1903

MAGUIRE, E. S., pharmacist, department letter granting leave of absence for thirty days from December 5, 1903, amended so that it shall be from December 1—November 21, 1903.

Boards Convened.

Board convened to meet at Washington, D. C., December 7, 1903, for examination of Assistant Surgeons W. C. Billings, J. W. Kerr and G. M. Corput, to determine their fitness for promotion to the grade of passed assistant surgeon. Detail for the board—Assistant Surgeon-general L. L. Williams, chairman; Assistant Surgeon-general W. J. Pettus; Assistant Surgeon-general G. T. Vaughan, recorder.

Board convened to meet at Port Townsend, Washington, December 14, 1903, for examination of Assistant Surgeon D. E. Robinson, to determine his fitness for promotion to the grade of passed assistant surgeon. Detail for the board—Passed Assistant Surgeon J. H. Oakley, chairman; Passed Assistant Surgeon H. S. Cumming; Passed Assistant Surgeon M. H. Foster, recorder.

American Medicine

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PUBLISHED WEEKLY AT 1321 WALNUT STREET PHILADELPHIA BY THE AMERICAN-MEDICINE PUBLISHING COMPANY

VOL. VI, No. 24. DECEMBER 12, 1903. $5.00 YEARLY.

In order to prevent intemperance and venereal disease we wish to direct attention to the most admirable article of Dr. Kober in the issue of *American Medicine* of December 5. We do this to suggest to physicians that they may supply well-meaning but mistaken temperance advocates with convincing facts, and that they may instruct their representatives in Congress to act in reestablishing the canteen. If any reformer can read Dr. Kober's article and then go on blindly contending for the continued abrogation of the canteen, it will only demonstrate once again the power of prejudice over reason. Three hundred and forty-one additional "saloons" in the United States, and 371 in the Philippines, selling all kinds (except, perhaps, pure kinds) of ardent liquors instead of light wines and beer, as in the canteens, and often with gambling-rooms and houses of ill-fame attached—all this, and more, is a horrible responsibility for the reformers to carry. Do they care nothing for the fact that venereal diseases have doubled from this cause? Is it nothing that the savings deposits have decreased from $49.49 to $31.54, and that fines, etc., have increased from $1.88 to $6.82 per capita? Let us for the sake of discipline, health, and morality reestablish the canteen.

"Human Beings Without Human Qualities."—The Philadelphia Society for Organizing Charity last year issued a little booklet entitled "Short Stories With a Moral," and this year they follow it with another, called "More Short Stories." Every physician in his work sees, as few others do, what a vicious circle is made by disease, poverty, and indiscriminate almsgiving, each acting as a cause to increase the misery produced by the other factors. It is the object of the Society to prevent all three evil causes, but especially that of indiscriminate charity. This, as by all genuinely charitable persons is well known, is selfish charity, and it increases the evil it would abate. The motto or text of the "Short Stories" is this: "To favor the existence of human beings without human qualities is the ultimate limbo to which any society can descend." Our object in alluding to the work of the local Charity Organization Society is to urge physicians in all cities to become helpers of the Society, to secure copies of the pamphlets, to scatter them among the evil doers who give alms indiscriminately, and by securing the help of the Society to make their own professional work more enduring and effective. The rounder, floater, beggar, the sponge, the relapser, the perpetually ill, the lovers of illness, of poverty, and of thriftlessness, add enormously to the burdens of all physicians, and no means is so thoroughgoing as those offered us by these societies to strike at the primary sources of the self-perpetuating evils.

Personal Discrimination in the Practice of Medicine.—Tact and judgment are required in prescribing for patients, in telling them what to do and what not to do, what to buy, what treatment to undergo, or in demanding abstention from all work, business or worry—as the case may be. The etiology in two given cases may be alike, but the treatment may have to differ, for the physician should not be an automaton. He should treat each patient individually. This, of course, includes not only a proper diagnosis from a scientific point of view and a well-devised treatment, but also an adaptability to the patient's social position and financial condition from a common sense point of view. By the employment of inexpensive drugs in the place of much higher priced articles the same effect can, in nine cases out of ten, be produced upon the patient's state of health, and a proper discrimination in cases of this kind may well be classed within the humane office of the experienced physician. The importance of rest, change of air, etc., should not be underrated; in fact, in many cases of sickness they are essential factors for recovery. On the other hand, many cases can be cured, or at least mitigated, even when the patient stays at home without the benefit of absolute rest. To send the father of a large family who has worked hard and saved little or nothing, to Colorado for the benefit of his lungs, would frequently result in exposing the whole family to starvation. If a patient under these conditions were allowed to stay at home and continue his work he might, with the aid of proper treatment, bring his growing family up to a point where they could make their own living in the world and would no longer require the father's support by the time that his last hour had sounded. If, on the other hand, a patient living in moderate circumstances is sent to a more salubrious climate upon the advice of his physician, the family who must stay behind will have to fight its way through the world as best it may, and while there may be no hereditary disposition toward

pulmonary disease, the chances are that in addition to one sick father there will be half a dozen sick children.

Breaking Up a Home.—This fact is well illustrated in the following case: A physician diagnosed "diabetes" in a patient and told him that his only chance of recovery lay in a rather prolonged sojourn in Carlsbad. The poor man stood aghast, but there was nothing to be done but to take whatever mortgage he could raise on his small house which, after providing for the prospective expenses, left barely money enough to keep the family alive. But in the nick of time he came across a more experienced physician, who found no pronounced diabetes at all, but only a very mild case of glycosuria, which was perfectly amenable to a little care and home treatment. And forthwith the roof was replaced with joy over the home of that family. Cases of this description should cause the thoughtful physician to pause and reflect, before he makes up his mind to treat all classes of the population alike. The man whose wife had been ordered to the South by the family physician, and who told the latter also to prescribe the means to make the trip, was probably in any but a joking mood. A treatment which, under favorable circumstances, may work to the good of everybody concerned, may easily produce rank mischief in the case of less favored people. The really good physician is he who, just like every other serviceable man in any other walk of life, will not act in strict accordance with one particular scheme, but will use his commonsense and adapt himself to circumstances as they may arise. Immeasurable may be the injury inflicted upon the psychic condition of both the patient and his family by prescribing, as absolutely necessary, medical preparations, foods, and trips to spas which are beyond their means, and which would in many cases result in the ruin of business, home, and family life.

Nurse-training Schools should be on the Educational Basis.—The Johns Hopkins Hospital Training School for Nurses, and some others, give no salary or pay allowance, the training and technical education received being considered a full equivalent for the nurses' services to the hospital. But in the majority of the hospitals outside the large cities the school is a source of revenue—in many cases it is entirely self-supporting—and the hospital is staffed very cheaply by women, who, in order to secure their diplomas, must submit to much drudgery, long hours, and the unfairness of being sent out to earn money for the hospital during their undergraduate years. The American Society of Superintendents of Training Schools for Nurses, and the Nurses' Association Alumnæ have always stood for the educational advancement of the nurse and through their efforts the standards are being constantly raised. Instruction in the scientific branches which are auxiliary to the strictly professional training would be more advantageously acquired if given preparatory to the hospital training. Such courses have been organized at Drexel Institute, Philadelphia; Mechanics' Institute, Rochester; and it is hoped, before long, one will be established at Simmons College, Boston. For two years a six months' preparatory course has been given at Johns Hopkins Hospital. Physicians will have sympathy with the earnest attempts of the nurses to elevate their profession. Of the many ways in which this is being done none is more effective than the abrogation of the two old evils of training schools, that of making the student an object of charity, and that of exploiting her for the selfish benefit of the hospital.

Relative National Book Production.—The *Medical Library and Historical Journal* has compiled the statistics of the production of medical books by the four principal nations, from Octocer 1, 1902, to 1903, and the figures are of most suggestive interest. They are as follows:

	New Books.	Cost.	New Edit.	Cost.
American	367	$878.70	130	$430.60
English	250	£103.7.0	87	£51.13.1
French	288	Fr. 1,789.60	37	Fr. 440.2
German	354	M. 1,983.55	128	M. 972.5
Miscellaneous	25	$56.20	. .	. .
Total	1,284	$2,197.43	382	$997.7

The cost of the grand total of 1,666 new books and new editions published during the year was $3,195.18, o an average price of $1.92 per volume. The average pric of each new book was $1.71; of each new edition, $2.61

The average prices of books varied as is shown below

	New Books.	New Editions.	Both
American	$2.39	$3.31	$2.6
English	2.01	2.89	2.2
French	1.20	2.30	1.3
German	1.33	1.81	1.4

The percentages of the total medical book productio were distributed as follows:

	New Books.	New Editions.	Both
American	.29	.34	.3
English	.19	.23	.2
French	.22	.10	.2
German	.28	.33	.2
Miscellaneous	.02	. .	.0

Those nations that are falling behind in the medica race may say that the number of books does not indicat accurately the value placed upon knowledge, nor the zea for medical discovery, and there is just a grain of trut in that. But not two grains! That a nation as youn as we leads the world in the production of new medica books cannot be explained away by such arguments These books are bought by poor physicians, hungry fo knowledge and zealous to alleviate the sufferings of thei fellow-men.

The Case of Emperor William.—It is but natur that the medical profession in general and the public a large should be interested in the nature of the growt which has affected the German Emperor's throat. Fro a standpoint of diagnosis from the published repor certain deductions can be made from definite knowledg of growths situated within the larynx. It was state that the growth was a polypus of the vocal cord. To th mind of the general public the word tumor is alway associated with malignancy. It is a pathologic fact tha we have two varieties of malignant tumors—carcinom the embryonic epithelial type commonly known a cancer, and the other malignant growth which is an em bryonic connective-tissue tumor known as sarcoma. I as stated, the tumor removed from the Emperor's thro was a polypus, then it was a nonmalignant adult co

nective-tissue growth. However, such tissue being situated at a point where there is considerable irritation, it would form a suitable nidus for the development of an embryonic connective-tissue tumor—a sarcoma, which is malignant. If the polypus removed was the pedunculated variety, then the operation of removal would cause very little injury to the tissue, and practically no loss of the tissue of the vocal cord. While a polypus of the larynx is a very rare condition, it is usually not situated on the cord, but just beneath it. If it was the pedunculated variety it would cause a very slight wound, and heal very rapidly. If, however, the polypus was of the sessile variety, then its removal would necessitate considerable trauma, but in either case, without any element of malignancy, the process of healing is usually very rapid. As to the warty growth which is frequently seen in the region of the vocal bands or in the laryngeal structure, this variety of newgrowth belongs to the adult epithelial-tissue type and is non-malignant. Its removal would necessitate only a fair amount of injury to the parts and the process of healing is usually rapid. However, the great danger lies in the fact that the location is such that the warty growth is constantly subjected to irritation, and being of a low grade of tissue, it forms a suitable nidus for the development of the embryonic epithelial type of tumor—carcinoma—commonly known as cancer, which is highly malignant. These are facts which have been well established from a clinical and pathologic standpoint and must be taken into consideration in the question of diagnosis. From the published account of the Emperor's condition, it seems that from the removal of the growth the destruction of tissue has been considerable and the process of healing is very slow and the use of his voice has been greatly interfered with, showing that the deeper structures have been involved, all of which point to malignancy. It is a wellknown laboratory fact that a portion of tissue taken from the surface of a tumor may lead to an error in diagnosis, as the surface tissue may show inflammatory action, which disguises the real nature of the growth. No such error should occur in this case, as the entire growth was removed, and the pathologist had ample opportunity to study not only the surface, but the central portion of the growth as well, which would show the advanced changes of whatever pathologic condition was present. The question of heredity plays an important part in this particular case, and it must also be taken into consideration that the Emperor owing to his official duties is overtaxed and overworked.

Heredity and Logic.—A recent monograph on migraine by a very learned physician lays down as one of the incontrovertible facts concerning the disease that many or even most of the cases are to be explained by heredity. In almost every medical paper this unknown cause for an inexplainable occurrence is also appealed to. Whatever remains after all the other causes have been exhausted is credited to heredity. It is, in fact, not seldom "the unknown God" whom science ignorantly worships. But not only is the transmission of acquired characteristics not accepted, it is by the best scientific minds generally rejected. But if this was all it would not be so bad. There is much loose talk of the influence of heredity as regards qualities that evidently are very far from any possible effect of inheritance. An excellent satire on this assumption of transmission where there is only succession in time is contained in the following fable, called "After Its Kind," published by Bolton Hall in the *Independent* (New York), for November 19, 1903. It may be commended to the serious consideration of those who find a facile explanation of many inexplicable things in a broad theory of heredity: "A man bored a hole in a tree, and a woodpecker came and lived in it. 'The tree has conceived' said the man, 'and has brought forth a bird.' Next year the woodpecker went away and two flying squirrels lived in the tree. 'What a curious thing,' said the man, 'is heredity!'"

The Life Insurance Companies are not Doing Their Duty in Public Health Matters.—A humorous and newspaper method of inculcating this truth is suggested in the following excerpt:

Visitor—"You must have a remarkably efficient Board of Health in this town."

Shrewd Native (one of the many)—"You are right about that, I can tell you."

"Composed of scientists, I presume?"

"No, sir. Scientists are too theoretic."

"Physicians, perhaps?"

"Not much. We don't allow doctors on our Board of Health—no, sir—nor undertakers, either."

"Hum! What sort of men have you chosen, then?"

"Life insurance men."

Well, one may pertinently ask, who better than the life insurance companies has reason for taking a serious interest in public sanitation? They profit by every advance in medical discovery and progress; they toil not, neither do they spin; they sow not, but they do reap the most direct advantage from every lessening of the deathrate. In the last few years there has been a lessening of that rate in the general community, and in some cities it is as great as 33⅓%. Has there been an equal reduction in the life insurance premiums? And beside this, the companies accept only the selected risks, the healthy, while the man most needing insurance is rejected, or made by doubtful companies to pay an enormously increased premium. Sanitarians, legislators, and physicians—every citizen, in fact, should demand of these companies some practical recognition of their duties. Especially should the policy-holders do this. At present the companies allow the community and the medical profession to make the profits of the companies by prolonging the lives of their holders. It is strange that an enlightened selfishness is not recognized as the policy, if not the duty, of all concerned. The insurance companies should help to support hospitals, especially for the tuberculous, Boards of Health, public hygiene, etc.

New Additions to the (Eclectic?) Materia Medica.—A correspondent has sent us a pamphlet entitled "Wonderful Cures of Cancers, Tumors, and Growths made with Argon and its Companion Gases (the New Healing Power), Illustrative Cases, etc." The author

signs himself "Professor Materia Medica and Therapeutics, N. Y. E. Medical College." His paper is said to have been read before the Connecticut Medical Association in 1903. The suggestion of the wonderful powers came from the "almost magical healing of a cancerous ulcer" upon the face of an assistant, when at an elevation of 14,000 feet, while the author was "making researches for the government, etc." "An atmospheric ether" at this elevation brought about the cure, and "a quantity of it was compressed, the oxygen and nitrogen extracted, and the resulting atmospheric ether applied to diseased parts." Later "this atmospheric ether was found to contain argon, helium, neon, krypton, and xenon, and each gas had a different effect upon several morbid tissues," so that "diseases heretofore deemed incurable, etc." Then follow testimonials concerning "the miracles that Dr. Fitch's treatment has worked with me," the "boon to humanity," and all the rest. Strange to say, there is no price-current attached to the circular. One would suppose that only millionaires could afford the treatment unless the new drugs are applied in the utmost homeopathic measure instead of upon eclectic principles. The prices of "argon and its companion gases" in appreciable amounts must run into thousands of dollars per "treatment." But "science" conquers all things!

The phrenologists also despise us, and seek their clientele among those who advertise chiromancy, mesmerism, clairvoyance, the flaming sword, self-hypnotic healing, occultism, pneumatic oscillation, eye-sharpeners, the internal bath, astrology, concentration, focalization, etc. *Human Faculty* and *Human Nature* are two phrenologic journals that are largely devoted to the books and business interests of the editors, editorially and advertisementally, and yet are "entered as second-class matter, etc.; *e. g.*, in the reading columns we read:

A brief written description	$1 00
A brief written description and marked printed chart	2 00
An elaborate typewritten analysis	5 00

These periodicals are most funny, but the fun is not intentional. Health without drugs, scorn of "unprincipled medical opponents," "rascals and pigmies," the glories of phrenology, etc., are freely intoned. There have been many proposals as to "stirpiculture;" here is the phrenologic plan:

> Law should enforce adaptation in monogamic marriage, by having a Board of Physiologists well versed in the science of temperaments, physiognomy, and phrenology, composed of an equal number of males and females, whose functions shall consist in the power to examine into the mental and physical characteristics of candidates for matrimony—to grant or refuse marriage licenses, according to the congenialties of the parties presenting themselves.

An Object Lesson on Vaccination.—According to the Bulletin of the Chicago Health Department, the week ended November 28 furnished a good object lesson on vaccination. An unvaccinated woman contracted smallpox in some manner not yet traced. She was ill with the disease, in her home, for 3 weeks before the true character of her sickness was discovered. During this time her 7 children were in almost hourly contact with her. Two of the 7—the youngest and the oldest—had never been vaccinated; the remaining 5 had been vaccinated in early childhood. The unvaccinated mother and the 2 unvaccinated children are now in the isolation hospital; the vaccinated 5 escaped unharmed.

AMERICAN NEWS AND NOTES.

GENERAL.

Arsenic in Animal Cells.—Arsenic in appreciable amount has been found by Gabriel Bertrand in all parts of the hen's egg. This confirms the new belief that arsenic is in all living cells and probably serves a special function.

Smallpox as officially reported in the United States for the period from June 27, 1903, to December 4, 1903, amounts to 11,908 cases, with 491 deaths, as against 14,262 cases, with 729 deaths, in the corresponding period of last year.

Miscellaneous.—CHICAGO: Dr. Nicholas Senn, who, as previously announced in these columns, was suffering from septicemia, contracted while operating on a pus case, is reported much improved.—Dr. Maximilian Herzog, for more than 7 years professor of pathology and bacteriology in the Chicago Policlinic, a postgraduate medical school of Chicago, has been appointed pathologist in the Bureau of Government Laboratories at Manila.

Bequests to Charity.—BOSTON, MASS.: More than $250,000 in public bequests are contained in the will of George William Boyd; $175,000 is given outright to public charities. LEXINGTON, MASS.: By the will of the late George O. Smith, public bequests amounting to $24,500 are made; the sum of $5,000 being given to the Massachusetts General Hospital for the perpetual support and maintenance of a free bed as a memorial to the mother of the testator.

A New Use for Surgery.—Two remarkable surgical cases are reported from London. One was performed on a boy, who suddenly developed a brutal character, and the other on a soldier, who developed a love for stealing after being wounded in battle. Both had small sections of their skulls cut out and both immediately regained their former characters. It might be a good plan for some of our American financiers to have their heads examined.—[*Boston Transcript.*]

African Dwarfs for the World's Fair.—The party sent out by the department of anthropology of the World's Fair to the Congo country of darkest Africa to gather together for exhibition at the exposition, specimens of African pygmies, has sailed from New York. The Rev. Samuel Phillips Verner, president of the Stillman Institute of Tuskaloosa, Ala., and a noted traveler in African jungles, is the leader of the expedition. In company with several native African boys, whom he brought to this country several years ago, he will arrive at Las Palmas, on the west coast of Africa, not later than December 9. Dr. Verner has instruction to bring back with him 18 of the most interesting specimens of the human race that will probably be seen at the World's Fair. There will be none but pygmies in his party, classified so as to interest the scientific student of ethnology, as well as the mere curious spectator. His instructions are to bring back 1 pygmy patriarch or chief, 1 adult woman, preferably the wife of the chief; an adult man, preferably the son of the chief; and an adult woman, wife of the son. Others to be included in the exhibit are a male and female youth, 2 infants, 4 adults, a priest and priestess, either of the Batwa or Dombe tribes; 1 fine type of the red African, preferably of the Ndombe tribe; three more red Africans and 2 native pygmies, each of a distinct ethnic type from the others. After the Fair these people will be returned to their homes.

EASTERN STATES.

Medical College Burned.—The medical college building which formed part of the University of Vermont, was burned to the ground shortly before noon at Burlington, December 2. The loss is $20,000, covered by insurance. Starting in a storeroom underneath the amphitheatre of the building from some unknown cause, the fire spread quickly to all parts of the structure. The medical college building was erected for the late John Bradley. In 1884 it was purchased by John B. Howard, who presented it to the University of Vermont. It was at once occupied by the medical department of the University.

NEW YORK.

Nurses' School Opened.—The new buildings of the New York City Training School for Nurses, on Blackwell's Island, were formally opened December 2.

Glanders Reported at West Point.—Under date of December 1 comes news that an epidemic of glanders has broken out among the horses at West Point. It is thought that the disease was brought there by a polo pony recently purchased in the West. Every animal at the post will undergo a test, and diseased horses will be destroyed.

Miss Gould's New Hospital.—One of the finest convalescent hospitals and industrial schools for crippled children in the State of New York is nearing completion on Mamaroneck boulevard, on the outskirts of White Plains. The building, which will cost $100,000, is a modern institution. One of the largest contributors to the building fund was Miss Helen M.

Gould, who drives quite frequently from her country estate at Irvington to inspect the new home. It is proposed to run the new hospital on the same plan as Miss Gould does Woody Crest, her home for crippled boys at Irvington.

No Smallpox in New York City.—Commissioner Lederle, of New York, who was a guest of honor at a recent meeting held at Delancey School, Philadelphia, for the purpose of agitating the question of medical inspection of schools and other allied subjects, said, concerning the effect of vaccination: "I had a striking example of this last year in the work of stamping out smallpox. A year ago last January we were on the verge of an epidemic. Very little vaccination had been done. We employed 130 vaccinators, wrote personal letters to all large employers of help, explaining the visitation, asking their cooperation, offering free vaccination at their convenience, and also appealed to the public through the press. So generously were we supported and aided that we were able to show a record of 810,000 vaccinations for 1902, and have not a single case of smallpox in our city today. The dire results of our school work, as predicted, did not materialize, and we rarely have a complaint to record, lest it be on account of some overzealous or too officious inspector."

PHILADELPHIA, PENNSYLVANIA, ETC.

The Mount Pleasant Memorial Hospital, a new four-story structure, with a capacity of 40 beds, will be opened December 15.

The Department of Charities of Pittsburg has asked for an appropriation of $50,000 to build a hospital for the tuberculous. Many of the inmates of the City Home have tuberculosis and should be isolated.

New Hospital for Uniontown, Pa.—The new hospital erected at a cost of $100,000, has been formally opened for the reception of patients. This institution, which is said to be one of the best equipped in the State, will accommodate about 100 patients and includes wards for 14 private patients.

Smallpox is abating in Pittsburg, and the indications are that it will soon be under control in this vicinity. The city has been pretty thoroughly vaccinated and the cases are decreasing in number each month. There were 75 fewer cases of smallpox in November than in October, and 61 cases less in October than in September.

Toy Pistols.—A Philadelphia exchange says: "Chicago has put in operation an ordinance prohibiting the sale of toy pistols within her limits. We have plenty of law here to deal with that and other forms of the dangerous nuisance of an 'old-fashioned Fourth,' but about the only official that seems to interest himself is the coroner, and he is kept sadly busy for a portion of every year."

Care of the Insane.—The present overcrowded conditions that prevail in the State Insane Asylums have induced the Schuylkill County Commissioners to provide for the removal of 350 insane persons from the State institutions. An enlarged county asylum will be built at Schuylkill Haven to accommodate these patients. By this move the county will save $35,000 now paid to the State annually, and, in addition, will receive from the State an allowance of $1.75 per week for the care of each patient.

Philadelphia County Medical Society.—A committee has been appointed to arrange for a meeting of the regular profession of the Censorial District, comprising the counties of Philadelphia, Delaware, and Chester, late in December or early in January. This is in accordance with the By-laws of the Medical Society of the State of Pennsylvania, and is mandatory. It shall be in the form of a reception to the members of the above county societies, and the committee proposes to invite others in good standing. It is most important that every one who can possibly be present will make a point of doing so.

The typhoid epidemic at Butler, Pa., is now said to be fairly under control. The following report on the fever conditions and relief work has been made to the executive committee: The total number of cases which have occurred to date is 1,186, and the total number of deaths resulting from typhoid 33; about 200 families have received aid, and orders amounting approximately to $2,500 have been issued for this purpose. There have been 100 trained nurses employed by the committee and 2 hospitals established. The total expenses for the week ended December 6, amounted to $5,000. The committee anticipates a struggle of from 6 weeks to 3 months with the epidemic. It is estimated that a fund of at least $50,000, and perhaps twice that amount, will be needed to combat the epidemic successfully. The Pennsylvania State Board of Health has ordered a thorough examination made of the stream which supplies the town, and of all dairies, and also of the milk supply. A large incinerating plant, which the State Board sent to Butler with a view of burning the refuse at the hospital, is now in operation. The public schools, which have been closed during the past 2 weeks, will remain closed for at least a month longer.

SOUTHERN STATES.

The Wheeling Medical Library Association held its annual meeting, December 5, 1903, in the library rooms at the City Hospital. The library at present contains 4,000 volumes and 25 journals.

Increased Mortality in Baltimore.—During the week ended December 5, there were 194 deaths reported to the Health Department, as against 186 deaths for the corresponding period in 1902; 180 deaths in 1901; and 160 deaths in 1900. The annual deathrate per 1,000 was 18.34.

A Physician Sentenced.—From Asheville, N. C., under date of December 2, comes the statement that Dr. J. V. Jay was today found guilty of murder in the second degree and sentenced to 30 years at hard labor. A few weeks ago Dr. Jay, who was a prominent physician, murdered his 3 children. His mind was thought to be affected.

Mortality in Baltimore.—The monthly report for November, 1903, shows 756 deaths reported, as compared with 782 for 1900, 756 for 1901, and 720 for 1902, comprising 306 white males, 281 white females, 85 colored males, and 84 colored females. There were 202 deaths of children under 5 years of age, being 26.73% of the whole number.

Threatened Quarantine against a City.—From Louisville, under date of December 2, comes the information that the State Board of Health has instructed Dr. J. N. McCormack, its secretary, to notify the State of West Virginia that, unless precautions are taken to protect Kentucky against smallpox patients coming from that State, a quarantine will be established. All who enter Kentucky will be required to be vaccinated. The communities of Kenova and Ceredo, it is alleged, are unusually lax in their health requirements, and unless the sanitation of those and other towns is improved border regulations will be established.

Cocain Habit in Washington.—In his annual report to the District Commissioners, Major Sylvester, superintendent of the Washington police force, says that the cocain habit is greatly on the increase among the lower classes of the capital city and that vigorous measures should be taken at once to check the evil. He says: "It [cocain] is bound to become a destructive agency unless something is done to prevent its sale by druggists. Two years ago the drug was hardly known, but the habit has grown, and the wreck of lives which accompanies the use of this deadly drug and its sister drugs, morphin, chloral, and other pharmaceutical preparations and even patent medicines, is becoming apparent." He also calls attention to the fact that the police are powerless to raid the opium joints save on the charge of disorderly conduct, and that the fine for this misdemeanor is inadequate to check the scourge.

The Cocain Habit Again.—Apropos of suggestions in the report of Major Richard Sylvester, chief of police in Washington, noted in these columns, it appears that Representative J. M. Robinson, of Indiana, has become interested in the spread of the cocain habit in Washington, and is drafting a bill which he will introduce to regulate the sale of poisons in the District of Columbia. The measure is indorsed by the Medico-Legal Society of the District and is in harmony with recommendations made by the coroner, Dr. J. Ramsay Nevitt, in his annual report to the Commissioners of the District of Columbia. The bill, if passed, physicians believe, will reach opium joints which are alleged to be in existence, in addition to preventing the sale of poisons to would-be suicides. So far as it covers the sale of poisons, the bill is in form indorsed by the National Therapeutical Society. It is said by the Police Department that the only method of reaching opium joints is to arrest the proprietors and charge them with maintaining "disorderly houses," the penalty for which, to use a popular expression, "does not fit the crime."

WESTERN STATES.

Timely Warning against Typhoid.—President Harper, of the University of Chicago, has warned the students of a typhoid fever epidemic at the University. Several cases have developed recently, and the authorities, fearing a serious siege, have begun vigorous efforts to stamp out the disease before it gets a firmer hold among the students. Before a special meeting of all the students, Mr. Harper personally asked university men and women to do all in their power to help the authorities in their efforts to rid the University of the disease before the classes have to be broken up and the students sent to their homes. The students were asked to leave boarding places where the water was not boiled, and to take other precautions.

A Judge Finds Insanity Increasing.—Probate Judge White, of Cleveland, Ohio, declares insanity has increased 20% in the last 15 years in that city. "I believe," said the judge, "that our strenuous, competitive life, especially in cities of large foreign population, is filling asylums with lunatics. It will be worse if we fall on hard times, as insanity always increases in times of business depression. The large percentage of asylum inmates are persons of foreign birth. They arrive in the country expecting to get rich, and when they find they cannot realize their ambitions they become despondent. They get

discouraged, then melancholy. Alcoholism, insanity, and suicide sometimes follow. Increase of the suicidal mania is no less surprising than that of insanity."

CANADA.

Tuberculous Cases Demonstrated to Students.—News from Toronto has it that announcement has been made by the National Sanitarium Association that option has been secured on several desirable properties within that city, one of which will be selected for a free dispensary for out-door tuberculous patients. In the same building it is proposed to have a lecture hall for students of the medical colleges, so that facilities will be given to students to see patients in all stages of the disease.

FOREIGN NEWS AND NOTES

GENERAL.

Victims of Beriberi.—It appears that beriberi attacked and killed 3 of the Chinese crew of the British steamship Knight Errant, while bound from Java to Philadelphia. She anchored off Girard Point, December 3. The last of the sick died when the vessel was lying at Delaware Breakwater. The Chinamen were shipped at Singapore.

The Nervous Girl.—A Berlin nerve specialist has been inquiring into the ravages caused by the piano. Out of 1,000 young women whom he examined, all of whom had begun to learn the piano under the age of 14, he found that no fewer than 60% had some sort of nervous malady, while out of 1,000 who had never been taught to play on the instrument only 10% were so afflicted. There is a grim satisfaction in knowing that a prolonged course of 3-finger exercises is almost as destructive to the nerves of the torturer as to the tortured.

Pure Food Legislation.—The Royal Commission on Arsenical Poisoning from Food and Drink of Great Britain has recommended the prohibition of the sale of beer and other liquid food, or of any liquid entering into the composition of food which contains $\frac{1}{100}$ gr. or more of arsenic per gallon, and also the prohibition of the sale of solid food containing $\frac{1}{100}$ gr. per pound. The commissioners state there are serious defects in the present methods to safeguard the public, and urge that more extended powers be given to the authorities to condemn unwholesome food. They recommend the establishment of official standards at the creation of a board of reference, to which could be referred specific points. Their decisions should be carried out by the department concerned, and the latter's action should be subject to the control of Parliament.

Surgery in Vienna.—The Vienna Medical School, for a time the most famous in Europe, and then eclipsed by other schools, has of late made great endeavors to regain its former position. Professor Lorenz attracts patients from all parts of the world by his method of bloodless orthopedic operations. Professor Mosetig invented, last year, a method of filling cavities in bones; and people come to Vienna from long distances to have the benefit of his treatment. Professor Gersuny is famous for his success in improving deformities in the face and other parts of the body by injecting sterilized vaselin beneath the skin. A week or two ago he introduced to the Medical Society a young actor, whose crooked nose had been transformed into a straight one by his new process. Hundreds of people, it is said, are now waiting for the professor to deal with their noses in the same way. Professor Gärtner, a few months ago, introduced his pulse controller, a little apparatus intended to diminish the danger of the narcosis, and at the last meeting of the Vienna Society for Internal Medicine he explained a new and easy method of measuring the blood-pressure in the right auricle of the heart, which promises to rank with auscultation and percussion. Observation shows that if the arm is raised above the head the veins at the back of the hand are no longer visible, but again become distinctly perceptible as soon as the arm is lowered. Professor Gärtner orders a patient to raise his arm to the level of the right auricle of the heart, of which the exact place has been previously determined, and to hold it there for about 2 minutes. When the arm is lowered again the observer can tell whether the blood-pressure in the right auricle is normal or not; and, as that auricle is the receptacle of venous blood, he finds, in the alternations visible in the veins at the back of the hand at different movements of the arm, an exact measure of the strength of the heart as expressed by the work it is capable of doing within a measured time. The method was exhibited before the society on Friday, and within a few minutes every one present was able to apply it.—[*Vienna Correspondence London Standard.*]

OBITUARIES.

Cyrus Edson, of New York City, December 2, aged 46; a graduate from the College of Physicians and Surgeons in 1881, and early in 1882 he entered the health department as temporary inspector in the summer corps. In 1884 he was made chief of the Division of Food Adulteration. In 1886 he was promoted to be chief of the Bureau of Contagious Diseases, which position he held and raised to its present effectiveness until the arrival of the typhus fever plague ship Massilia, in the spring of 1892, when he was promoted to be sanitary superintendent. He was one of the best known physicians in New York, was an authority on contagious diseases and had written much on sanitary and medical subjects. On March 31, 1893, he was appointed one of the health commissioners of New York City, and as such waged warfare against the adulteration of various kinds of foods and drugs.

Horace M. Paine, of Atlanta, Ga., December 5, aged 76. He was graduated from the University of New York City in 1849. He was one of the founders of the Homeopathic Medical Society of New York State in 1850 and served it later as secretary and president. He served for twenty-one years as one of the State homeopathic examiners; was one of the first trustees of the Albany Homeopathic Hospital; an incorporator of the Middletown State Hospital; and was largely instrumental in securing the legislation establishing the Gowanda State Hospital. He was a member of the American Institute of Homeopathy, the Hahnemann Association, of several similar local societies and an honorary member of many homeopathic societies here and abroad.

Albert Blumberg, of Pittsburg, was killed in a railway accident at Braddock Station recently. He was 55 years of age, was born in Germany, and came to Pittsburg 35 years ago, after having graduated from the Koenigsberg College at Heidelberg, Germany. He was a conspicuous member of the masonic and other fraternities in Pittsburg.

George B. Acker, Jr., of Lawrenceville, Pa., recently after a short illness from pneumonia; he was 35 years of age; a graduate of the Western University of Pennsylvania, of the class of 1897.

William Hutton, of Elizabeth, Ill., aged 58, was drowned November 28 while crossing Apple river near his home. He was graduated from the University of Michigan, Ann Arbor, in 1874.

Samuel Talmage, in Brooklyn, N. Y., November 20, aged 72. He was graduated from the New York University in 1870, and was a member of the King's County (N. Y.) Medical Society.

Alphonse J. Mervy, of San Francisco, at San Diego, Cal., November 17, aged 56. He was graduated from the Cooper Medical College, San Francisco, in 1876.

John W. Van Osdol, of Dillsborough, Ind., at Rushville, Ind., November 2, aged 58. He was graduated from the Miami Medical College, Cincinnati, in 1879.

Frank L. Swallow, of Pittsburg, Pa , at Manor, Pa., November 17, aged 27. He was graduated from the University of Pennsylvania, Philadelphia, in 1900.

John Tascher, formerly of Chicago, at Albuquerque, N. M., November 16. He was graduated from the Eclectic Medical Institute, Cincinnati, in 1878.

H. H. W. Crittenden, at his home in Crewe, Nottaway county, Va., November 30; a graduate of the Washington University School of Medicine in 1867.

Benjamin F. Sippy, in Belle Plaine, Kan., November 19, aged 55. He was graduated from the St. Louis College of Physicians and Surgeons in 1884.

Theodore A. Trulson, of Chicago, Ill., November 18, aged 42. He was graduated from the College of Physicians and Surgeons, Chicago, in 1885.

Thomas J. West, in Tiffin, Ohio, November 18, aged 68. He was graduated from the Charity Hospital Medical College, Cleveland, in 1868.

James G. Dickson, in Cannonsburg, Pa., November 14, aged 78. He was graduated from the Jefferson Medical College, Philadelphia, in 1851.

Henry T. Templeton, in Lawrence, S. C., November 10, aged 62. He was graduated from the Medical College of Georgia, Augusta, in 1867.

Raymond P. Eddy, in Providence, R. I., November 11, aged 80. He was graduated from the Eclectic Medical Institute, Cincinnati, in 1860.

B. Brown Henry, of West Newton, Pa., November 17. He was graduated from the University College of Medicine, Richmond, in 1900.

Jefferson K. Heltman, in Oaklandin, Ohio, November 8. He was graduated from the Medical College of Indiana, Indianapolis, in 1895.

Thomas A. Barr, in Lebanon, Mo., November 15, aged 62. He was graduated from the Eclectic Medical Institute, Cincinnati, in 1864.

Lewis H. Dravo, in Pittsburg, Pa., November 18, aged 50. He was graduated from Jefferson Medical College, Philadelphia, in 1881.

Douglas W. Tice, of Troy, Mo., at St. Louis, November 11, aged 70. He was graduated from the St. Louis Medical College in 1860.

John A. Hickman, in Cynthiana, Ky., November 18, aged 76. He was surgeon in the Confederate service during the Civil war.

Z. W. Monroe, in Monroe, Wis., November 20. He was graduated from Rush Medical College, Chicago, in 1890.

James Van Dyck, of Boston, Mass., died from the result of an overdose of morphin, December 3, aged 68.

William Joseph von Mitden Emerhand, in Newport Ky., November 10, aged 81.

CLINICAL NOTES AND CORRESPONDENCE

[Communications are invited for this Department. The Editor is not responsible for the views advanced by any contributor.]

THE PULLMAN SLEEPING-CAR.

BY

H. M. BRACKEN, M.D.,

of St. Paul, Minn.

To the Editor of American Medicine:—In your issue for November 21, 1903, page 831, the Pullman Company is said to have sent out the statement as to just what the process of cleaning a Pullman car is. The statement reads as follows:

As soon as a Pullman car arrives at its destination, it is entirely stripped—the carpets are beaten and aired and the interior of the car is thoroughly scrubbed with soap and water. The blankets are taken out of the car and are thoroughly blown out with compressed air at a 90-pound pressure. It is impracticable to wash them after every trip, but they go to the laundry several times a year, which is oftener than is the case with hotel blankets. All linen is renewed each trip. Every case of sickness in a car, however trivial, is followed by the antiseptic cleansing of the section occupied by the sick person, and the entire car is sprayed with formaldehyd. As a further sanitary precaution, in the newer cars of the Company, purely decorative draperies are being omitted, and the necessary ones, such as berth curtains, are being made of lighter material, which does not hold dust or odors.

A short time ago it seemed advisable to take note of the methods of car cleaning, etc., in Minnesota, and I delegated a special inspector for this work. His report upon the care of Pullman cars is as follows:

The ——— railroad averages 10 to 12 sleepers in service per diem. The cleaners claim that they have no orders to air bedding, although there is a platform with a roof over it for that purpose. On 4 different inspections I failed to find any cleaning going on, except that with the ordinary feather duster and scrubbing brush.

The ——— railroad operates on an average 6 sleepers per diem. An employe told me that he never saw a mattress or blanket taken from a car, and that he had been in the employ of the company for a long time. There is no platform upon which bedding can be aired or cleaned.

In the terminal yards of the ——— railroad, of the ——— railroad, and of the ——— railroad, all of which use the Pullman sleepers, there are no facilities for cleansing or airing bedding. The porters of these various lines state that there is no cleaning of cars at the other end of any of these routes; that ——— (the place under inspection) is the only place where any car cleaning is carried out on these routes.

The only sleeper cleaned during the period of inspection in these terminal yards was that of a private railway company. The car was chartered for a month; the bedding and mattresses were removed at 3 p.m. and replaced in the car at 7 p.m.

This report covers an observation of Pullman cars operated by several railways, and so far as can be learned there was seldom, if ever, any airing of the berths, and practically no cleaning of the cars beyond that of a very casual dusting and scrubbing that could be carried out with the expenditure of but little time or trouble.

A car-cleaner foreman, who has had much experience stated that the cars are not properly cleaned because there is not sufficient help given for such work, and also because conveniences in the yards are not such as to aid in the work. Cars are not cleaned at all, or hurriedly cleaned, in some instances, because of a shortage in cars. Under such conditions the cars may be in the yards but an hour or so.

In other instances conditions may be such as to demand extra attention in the cleaning of certain cars. This demand comes upon the regular cleaners without extra time or help. In consequence, the time that is put upon any one of these special cars or train of cars, takes so much time from the regular cars, and as a result, these are sent out imperfectly cleaned. This person further stated that the bedding of the Pullman cars is seldom, if ever, aired. The cleansing of cars by means of the compressed air-blower is not in use in this section of the country.

Lately I have noticed many of these statements in journals from the Pullman car people; the criticisms passed upon the methods of taking care of cars at the recent meeting of the American Public Health Association, seem to have aroused a desire for the contradiction of these criticisms. As a matter of fact, a great deal more severe criticism than has yet been given seems necessary. It is quite possible that in a few places these cars receive ideal treatment, but I do not believe that there is any proper cleaning or care of Pullman cars west of Pittsburg.

TECHNIC OF McGRAW'S METHOD OF GASTROENTEROSTOMY.

BY

J. McFADDEN GASTON,[1] M.D.,

of Atlanta, Ga.

To the Editor of American Medicine:—In your issue of October 31 in an article by Dr. Samuel Lloyd, of New York, on "Technic of McGraw's Method of Gastroenterostomy," he describes the method in full without attempting to go into the history of the origin of this method. Dr. Theodore A. McGraw, of Detroit, Mich., has carefully gone into the history of this operation, describing how he came to use the elastic ligature. As it has been several years since Dr. McGraw made his address before the Surgical Section of the American Medical Association, I think that it is proper at this time to put on record the experiments that I myself performed in regard to this operation, but applying it to the gallbladder and ducts. These experiments were performed on dogs here in the city of Atlanta, and the first publication, I think, was made in the October, 1884, number of *Gaillard's Medical Journal.*

I feel that it is a source of congratulation to the profession that these operations of Dr. McGraw and Dr. Samuel Lloyd, as well as of Dr. H. C. Walker, of Detroit, have resulted successfully, as the method has not been tried in cases of duodenocholecystostomy, except by James F. W. Ross in 1894.

In the recent literature on gallbladder surgery, as given in the "Transactions of the Congress of American Physicians" at Washington during this year, some attention is paid to the pioneer work in this department, but the American surgeons, while they have received credit from the German surgeons, do not appear always in their proper place. For instance, the lamented Dr. W. E. B. Davis, of Birmingham, is not mentioned, although his method of draining is fully given.

Dr. Hans Kehr passes over the subject of duodenocholecystostomy with a very few words, to the effect that the field of this operation is very limited. It seems to me that the elastic ligature may still bring this operation into successful use and, therefore, I give the following extracts from the original article:

Thus a finger may be introduced and bring the surface of the alimentary canal below the insertion of the duct in contact with a portion of the wall of the sac, so that a needle with an elastic ligature may be passed through the tissues of both, having their adjoining surfaces united closely in the loop which constricts the enclosed walls until they are cut through, so as to leave a communication between the two, such as has been observed in the ulcerated opening of the gallbladder into the upper portion of the small intestine. As the elastic ligature might divide the tissues without proper adhesion between the surrounding surfaces, a circular stitching should be made by alternately catching the wall of the sac with that of the intestine with a continuous catgut ligature, which would secure adhesion between their surfaces. This could be left for absorption, while the elastic ligature would naturally find its way into the alimentary canal and the opening externally may be closed up, with the expectation that the bile shall find its way through the artificial connection into its proper channel for intermixture with the contents of the alimentary canal.

Notwithstanding the uncertainty of demonstrating surgical procedures upon inferior animals, I have undertaken some experiments upon dogs which are calculated to illustrate the practicability of uniting the walls of the gallbladder and duodenum by an elastic ligature and encircling this with stitches of catgut, so as to effect adhesion of the surrounding surfaces when the opening is made by this constriction and cutting of tissues. I have operated upon 5 dogs: On August 9, 1884, No. 1. On August 11, Nos. 2 and 3; on August 12, No. 4, and on August 13, No. 5. In the case of No. 3, on August 14, the stitches being torn loose, perhaps by the tongue or the teeth of the dog, the intestines were found upon the ground, with indications of peritonitis. Being washed and returned, the wound was well closed with interrupted suture and a broad bandage placed

[1] Dr. Gaston died November 15, very soon after this communication was received by *American Medicine.*

around the body of the animal. On August 15 this dog was found to have died during the night, and a necropsy revealed the interesting facts that the elastic ligature had cut through entirely and disappeared in the intestinal canal, while the catgut continuous stitches used to approximate the adjacent surfaces of the gallbladder and duodenum had effected a slight adhesion. Upon slitting up the duodenum to the point of the opening it was evident that too much tissue had been included in the ligature, as the orifice was unnecessarily large; and in repeating this experiment I would suggest that the needle and ligature should include only so much of the respective walls as to secure an orifice from the cavity of the gallbladder into the alimentary canal. While the escape of bile left the sac flaccid, there was no evidence of discharge into the peritoneum, thus showing the efficiency of the mode of proceeding.

The remaining 4 dogs are still alive, and there is a probability that some of them may survive, so as to afford an opportunity of testing the ligation of the bile duct and turning the discharge altogether into the artificial opening, of which due notice will be given subsequently.

Taking up the cases in the order of sequence, it may be stated that after the escape of omentum on 2 consecutive days from the tearing out of the stitches, dog No. 4 died on the afternoon of August 18. A necropsy revealed the gallbladder full of bile, and the unknotted elastic strip was lying loosely upon the external surface of the duodenum, which presented a minute opening into the canal with some thickening of its walls adjacent to this orifice. Upon a close inspection of the gallbladder, a small circumscribed portion of its surface was found to be adherent to the under surface of the left lobe of the liver, and the cicatrix of the wound by the ligation was soldered up by this adhesion. As the ligature had broken in the application of it originally upon tying the second knot, I infer that so soon as the tension ceased, by partially cutting through the tissues, it was unknotted by its own elasticity, and, as in this case there was no circular stitching, the parts immediately separated, thus failing to present any solution of the single ligature problem.

The fistulous communication between the cavities of the gallbladder and the duodenum effected by the action of the elastic ligature, and the adhesion around this opening caused by the continuous circular stitching of the adjacent serous surfaces, prove the correctness of the principle upon which I have proceeded in these experiments.

As the stitches placed in the incisions of the intestinal canal pass ordinarily into its cavity, it might be supposed that the same thing would occur in this union of the gallbladder with the duodenum, but quite a different principle operates in the 2 cases. In the case of suturing the incised wall of the abdominal canal alone, coagulable lymph is thrown out exterior to the site of the suture, so that it is protected on the outside and cuts its way into the cavity. But in the junction of the walls between 2 loops of intestine by a ligature no such process ensues, and in the union of the bile sac with the duodenum there is a division of the intervening tissues without any chance for such suppurative effusion, so that the ligature is most likely to go in the direction of the knot. It should hence receive special attention in tying the ligature, that the knot be drawn toward the wall of the duodenum, so as to have the ligature carried into the canal after the tissues in its loops are entirely divided.

CESAREAN SECTION ON "CHIQUITA, THE DOLL QUEEN."

BY

F. A. WALSH, M.D.,

of Erie, Pa.

One of the Staff of Physicians and Surgeons of St. Vincent's Hospital, Erie, Pa.

Chiquita, aged 31, is a native of Cuba. Her height is 35 inches; weight, 30 pounds. She traveled with Bostock's show for 10 years, and was married at Buffalo 2 years ago. She entered St. Vincent's Hospital October 1, 1903, being in the eighth month of pregnancy. Repeated examinations showed no evidence of fetal life, but delivery by natural channel, instrumental or otherwise, being impossible, cesarean section was determined upon. Her general condition was poor, urine loaded with albumin, pulse 106 to 118, temperature 99° to 100.8°. On October 10 labor began in the night, and at 11 o'clock a.m. she was removed to the operating-room, where I performed cesarean section, with Doctors Silliman, O'Dea, Reinoehl, Reed, Ray, and Montgomery assisting and witnessing the operation. Incision was made from the ensiform cartilage to the pubes, the uterus was raised from the abdominal cavity, and sterile towels placed back of it to protect the abdominal contents. The uterus was opened anteriorly from fundus to cervix, the vessels of broad ligaments were held by an assistant, and very little hemorrhage resulted. The sac, containing fetus, placenta, and fluid, was removed without rupture. This proved very fortunate, as the fetus had been dead at least 10 days and the contents of the sac were in a septic condition. On examining the uterus evidence of septic material was found, and therefore the uterus and ovaries were removed. The pelvis was closed after putting a gauze drain in the cervix, using silk sutures to close the anterior and posterior peritoneum, and tying the arteries with silk. The abdominal cavity was then flushed out with salt solution leaving it filled, the abdominal wound closed with silkworm-gut through-and-through sutures, 22 in number. The operation was completed in 1 hour and 5 minutes. The patient reacted nicely only requiring three 2-mg. ($\frac{1}{30}$ grain) strychnin hypodermic injections since operation. No vomiting after operation, highest temperature was 100 8° on day of operation. The cervical drain was removed in 36 hours. Boric acid was used as a douche as the urethra was irritated. Six ounces of urine was passed during the first 24 hours; the quantity increased rapidly, and the albumin disappeared; 6 mg. ($\frac{1}{10}$ gr.) calomel every hour for 10 hours moved the bowels on the third day, cascara sagrada was then used. In the night of the third day, the temperature became subnormal, 96.6°. Pulse 80, strong, patient was cold. I noted that she had slept from 9.20 p. m. until 2 a. m. without nourishment. I therefore ordered 2 mg. ($\frac{1}{30}$ gr.) strychnin hypodermically and 1 ounce beef tea every hour. She soon reached the normal temperature and with frequent nourishment had no trouble to maintain it. Mention is made of this as it is possible patients may go too long without nourishment in postoperative cases. The wound was not dressed for 10 days, when I removed the 22 stitches. The result was perfect, there was not a drop of pus and the wound healed solid. The patient was kept in bed 3 weeks, then allowed to sit up. She is now well, pulse and temperature are normal.

The child, a male, weighed 3§ pounds, length was 16 inches, distance around head over ears 12¼ inches; uterus 1 pound, placenta ⅝ pound, fluid 4§ pounds, total weight removed 10⅛ pounds.

The interesting features in this case are the size and weight of patient and weight of parts removed, and the necessity of frequent nourishment in postoperative cases as indicated by the subnormal temperature in this case.

PER CENTUM AND PER MILLE SOLUTIONS AND MIXTURES.

BY

AUSTIN O'MALLEY, M.D.,

of Philadelphia.

In *American Medicine* for November 14, 1903, rules were given for per centum and per mille solutions and mixtures, and in the percentage solutions and mixtures, 480 was given as the average weight of an ounce. Dr. J. C. Malster, of Stromburg, Nebraska, draws attention to the fact that a fluid ounce weighs ordinarily about 455 grains. The rule, therefore, should be: Multiply 480 for solid menstrua, or 455 for liquid menstrua, by the number of ounces of the excipient, then multiply this product by the percentage-number of the active drug to be used, and the result will be the number of grains of the active drug in the required mixture.

In the third example given, "$.001\times2\div2=.002$, or 2 grams," should be $.001\times2\div10=.0002$, or .2 of a gram.

A DENIAL.

To the Editor of American Medicine:—I have been told by some professional friends that the representative of the John Aulde Manufacturing Company, who is calling upon them in the interest of this company, states that I approve of the Aulde method for the treatment of tuberculosis and thus endeavors to add another argument to those by which he is trying to persuade them to buy his remedy. The statement made by this man has no foundation in fact.

SOLOMON SOLIS COHEN.

Smallpox in Philadelphia.—During the week ended December 5 there were 99 new cases reported to the Board of Health. Since January 1, 1903, there have been 1,579 more cases than appeared in a similar period two years ago. The disease continues to spread in the city and there is hardly a ward without several cases. It is not confined to any particular locality, as was the case during the epidemic two years ago, when most of the victims were in the Twenty-eighth ward. Negroes are the greatest sufferers, many being obstinately opposed to vaccination. They also frequently refuse to call a physician upon being stricken, and from the fact that their illness is not generally known, persons are permitted to go in and out of their homes, and thus hundreds are exposed to contagion. The Health Department has taken every precaution possible, laying special stress upon vaccination as the sole preventive.

ORIGINAL ARTICLES

THE RELATIVE IMPORTANCE TO THE COMMUNITY OF PNEUMONIA AND TUBERCULOSIS.[1]

BY

ARNOLD C. KLEBS, M.D.,

of Chicago, Ill.

The mortality statistics in this country show a decided increase of deaths attributed to pneumonia and this has caused serious apprehension among some sanitarians. A study of the statistical material at hand and a comparison between pneumonia and tuberculosis seemed to be in order, especially since this latter disease has so far always been considered as the most serious danger to the health of civilized communities.

Before general conclusions are drawn from the mortality figures it is absolutely necessary to analyze the different factors on which they are based. First of all we must hold in mind that the information given by mortality statistics in regard to certain diseases and their importance to the community is extremely limited. "It is" as Dr. Dickson says "the amount and duration of sickness rather than the mortality that tell on the prosperity of a community" or to quote Charles Dickens: "It concerns a man more to know his risks of the fifty illnesses that throw him on his back than the possible date of the one death that must come. We must have a list of the killed and of the wounded too."

To judge the disabling power of a given disease it is necessary to analyze its clinical features, its course, and the length of period of illness, its infectiousness and curability. Mortality figures alone give no information whatsoever on these points.

Furthermore, in analyzing mortality figures, and especially in comparing those of one with those of another for a period of years, we ought to be reasonably sure that the recognition of the cause of death in one case is as easy as that in the other. Ill-defined conditions will frequently become the source of statistical errors on account of a lacking uniformity of the nomenclature used by physicians. As Newsholme points out: "There appears to be a fashion even in the names of diseases, in one doctor's practice nearly all the deaths from respiratory diseases will be returned as bronchitis or congestion of the lungs, in another perhaps as pneumonia." The prevalent classification of diseases in this country is thoroughly unsatisfactory, and gives great possibility for error; the introduction of the "international (Bertillon) nomenclature" will probably bring about a great improvement in this direction. But erroneous certification of deaths arises not only from the ignorance of the reporter, but quite frequently also from the desire to protect the surviving family members from the odium of being considered predisposed to that same disease, which holds good, especially in chronic and contagious diseases (tuberculosis, syphilis). That the insurance risks are hereby frequently considered is only too well known. It is easy to recognize that the certifying physician, in reporting a case of death in which he has not been able to observe the course of illness or for only a short period preceding death, will incline to name it in accordance with the description he receives from the relatives, and they of course will mostly always avoid the admittance of a chronic ailment. And he very frequently will, in case of doubt, avail himself of the name of the most notoriously fatal disease, especially if it has been announced as such persistently in the public press.

These considerations show us that the figures for total deaths are subject to variation from other causes than actual changes in their intensity. But the mere statement of total mortality figures alone does never in itself give a measure of the real importance of the disease under consideration. At any rate, from an economic point of view, the causes of death at different ages and often also those of the two sexes must be taken into account. It is evident that a disease causing the highest mortality in the wage-earners is infinitely more serious to the community than one among infants and old people. For us here, it may therefore be well to remember Dr. C. Kelly's admonition: "It is always well to distrust a very low death-rate, and careful inquiry should be made into the age and sex distribution before coming to a conclusion." Moreover the age distribution is of especial importance in communities where the population is constantly increased by immigration. "The mortality of most large and growing towns would stand higher than it does but for the large number of young and healthy immigrants from the country." (Newsholme.) There is unfortunately no method in use by which the effect of migration can be accurately measured.

The calculated ratio between deaths and population or that between deaths from one given cause to those from all known causes necessarily opens great possibility for error and especially in communities where the total population figures are subject to great variations and are therefore frequently inaccurate. Here in this country population figures are but little reliable and it is most evident that death ratios, computed on such a basis will give but little trustworthy information. Nevertheless, *some* information can be gained from the deathrates, but only by a careful consideration of the two composing factors.

From this general standpoint we will now consider the relative importance of pneumonia and tuberculosis.

Unfortunately there are no morbidity statistics at our disposal, at least none based on sufficiently large figures. The clinical observation of hospital patients suffering from these diseases gives us the best basis at our disposal determining their relative disabling power. Pneumonia and tuberculosis are essentially different in their clinical course. The first is of a markedly acute type, while the latter's course is eminently chronic. The average length of disabling sickness for pneumonia does not exceed 4 weeks, while for tuberculosis it frequently exceeds 50 weeks. Furthermore termination in complete recovery in pneumonia is very frequent, while in a marked case of tuberculosis it is quite rare. This is, of course, of prime importance in regard to the prophylaxis of these diseases.

The average mortality among pneumonia cases treated in 15 different hospitals does not exceed 23.8%, which is quite low, especially when we consider that the hospital receives, as a rule, the worst cases, that they were usually sent late and that the transportation to the hospital in itself must aggravate the disease. This is well illustrated by reports from military hospitals, where the patients are young and robust and are put under appropriate treatment at once. Fraentzel reports 100 cases in soldiers without any deaths. Andrew Smith a mortality of 3.5% to 7.5% in military hospitals. The latter author also insists on the distinctly greater mortality in pneumonia cases in hospitals, as compared to that in private practice.

A tabulation of the results of hospital treatment of pneumonia, from which the above mortality rate was calculated is herewith given:

	Percent.	
Montreal General Hospital	20 4	(Osler)
Massachusetts General Hospital	25 0	"
New Orleans Charité Hospital	38.0	"
Boston City Hospital	29 1	"
Pennsylvania Hospital	29.1	"
Presbyterian Hospital, New York (458 cases)	33.2	(A. Smith)
St. Thomas Hospital, London	20.0	(Osler)
St. Bartholomew's Hospital, London	18.6	"
Edinburgh Royal Infirmary	28.8	"
Vienna General Hospital 7,942 cases)	24.5	(Koranyi)
Basel Bürger Hospital (922 cases)	23.1	"
Stockholm Hospital 2,612 cases)	10.7	"
Christiania Government Hospital	16.8	(Wingen)
St. Petersburg Maria Magdalen Hospital	21.0	(Barr)
Zurich Hospital (873 cases)	19.8	(Eichhorst)
Average	23.8	

[1] Read before the Chicago Medical Society, November 11, 1903.

These figures speak for a relatively good prognosis in pneumonia. This is especially so in the otherwise healthy and temperate individual. For the one afflicted with other diseases, and especially for the alcoholic it becomes much more serious.

Andrew Smith reports his observations of 428 cases of pneumonia admitted to the Presbyterian Hospital, New York:

Of the markedly alcoholic	(36) 70% died;	(15) 29% recovered.
Of the moderately alcoholic	(52) 32% died;	(109) 67% recovered.
Of the nonalcoholic	(45) 20% died;	(171) 79% recovered.

The prognosis of tuberculosis, on the other hand, as to complete recovery is dubious in every case. True it is, that by the institution of a systematic plan of treatment on hygienic-dietetic lines and with a persistent out-of-door life, relatively excellent results are obtained, but only when this treatment is begun at an early stage of the disease. The fatality of the disease among well-developed cases of tuberculosis, that is, those in which there cannot be any mistake about the diagnosis, is almost absolute; the hospital reports and the opinion of clinicians are unanimous on that subject. And then its greatest number of victims is not among the children and the old, but among the wage-earners between the ages of 15 and 65.

And when we compare the clinical courses of the two diseases we find a still more striking difference. In pneumonia the individual is attacked suddenly without hardly any warning, he is well one day and is profoundly ill the next, he goes through a few days of grave illness and in most instances (except in the cases already cited) he recovers complete health after a comparatively short convalescence. In tuberculosis the beginning is most insidious, the victim goes through periods of comparative well-being and partial disability, that can go on for years, until, and always among bad hygienic surroundings, the period of consumption sets in with all its wellknown mis ry and total disability, which again can be prolonged for years until death comes as a relief.

The comparative infectiousness of the two diseases has also a distinct bearing on their relative importance. In the light of modern research there can be no doubt of their communicability under certain conditions. For tuberculosis at least this is proved beyond any doubt. For pneumonia we have in this respect only indirect evidence, since its bacterial etiology is by no means yet clear. The observation of several pneumonia epidemics, the spread of the disease through a house, and other factors speak for its communicability. The whole course of the disease speaks for its infectious character and still we are lacking definite information as to its mode of communication. We presume, and probably correctly, that the infective germ is contained in the expectoration, and in prophylactic efforts we will always bear this in mind. But the fact that outside of a few reported epidemics we have but rare evidence of its spread within one family or from one individual to another, forces upon us the disbelief in its marked infective powers. On the other hand in tuberculosis we are, since 1882, well acquainted with its bacterial cause, so much so that its discovery in the excretions or organs of a victim in itself and alone insures an absolutely certain diagnosis. The tubercle bacillus is probably the most thoroughly investigated of all pathogenic microorganisms, we know its biology, its chemistry, and its pathogenic properties. That there are still many features of its life history to be investigated does not detract from the fact that it is responsible for the lesions in the animal body, which we know under the name of tuberculosis, and that the proof for it can be seen almost daily in every bacteriologic laboratory as well as in actual life. The spread of tuberculosis in families is perfectly well recognized and its infective origin beyond doubt, especially since we have recognized that a direct inheritance of the disease is extremely rare. The infectiveness to the community at large has been much exaggerated and this exaggeration is largely responsible for the very prevalent and unreasonable fear of microbes. But that the possibility for infection is quite great cannot be denied in view of the fact that living germs in great numbers are constantly being given up by tuberculous patients and that such cases are very numerous, probably much more so than of any other disease. In this regard we must always bear in mind, and Behring's latest researches emphasize it strongly, the possibility of a latent infection (especially in childhood), which may become manifest only after long years. Therefore the possibility for infection from tuberculosis must play an important role in regard to preventive measures, although this should always go hand in hand with a due consideration and application of our knowledge that concomitant causes, as unhealthy surroundings, unhygienic mode of life, certain occupations, etc., are necessary to bring about a manifestation of the disease.

In speaking of the prognosis in pneumonia I have already pointed out its great curability, but that should not be taken as speaking for the greater effectiveness of our therapeutic procedures. It only meant to indicate that the natural termination of the disease is recovery, at least in healthy, robust and temperate adults. For tuberculosis the same considerations have shown a different result, especially for the well-marked cases. A disease for which permanent recoveries of incipient cases are reckoned at 40% (Statistics of German Insurance Office 1897–1900) and for which these results are cited as quite remarkable, cannot be considered an easily curable disease and its disabling power can furthermore be gauged by the fact that the shortest duration of treatment in the cases from which the above figure was derived was 3 months, that is, total incapacity for that period.

Since the correct diagnosis of a disease has an important bearing on the conclusions one can draw from mortality statistics, this point must also be considered here. In speaking generally of pneumonia we have always in mind a definite clinical picture, based upon definite pathologic changes, that is the type of the genuine lobar (croupous, fibrinous) pneumonia, and we necessarily exclude from this the lobular or bronchopneumonic type which with the former has only its name in common. Atypical pneumonias and ill-defined pathologic pulmonary conditions, sometimes make a differential diagnosis difficult and great confusion in the nomenclature of pneumonia is the result, especially since there is no marked etiologic factor to consult. The presence or absence of the pneumonococcus is of no diagnostic importance whatsoever. What I have said on the impropriety of using data, derived from ill-defined and with difficulty recognizable causes of death, for the purpose of making comparisons applies therefore also to the general term of pneumonia as such.

In tuberculosis in its advanced stage, and especially when it approaches its natural termination, the diagnosis is usually made by any casual observer, lay or professional, it offers no difficulty whatsoever, and with the aid of the microscope becomes absolutely exact. There is very little danger that a case of death from pneumonia will be returned as tuberculosis, while on the other hand, a good number of caseous pneumonias, or of chronic tuberculosis with a fatal general exacerbation of the process or a miliary tuberculosis, will be returned as pneumonia. This is not speculation but fact, and every consultant can cite such cases out of his practice, not to mention cases erroneously diagnosed for reasons given above. We also know that in certain cases of tuberculosis, even of an advanced type, it is very difficult to find the tubercle bacillus; such cases when death occurs are very apt to be returned under some other name.

With these general considerations in mind we may now analyze the figures at our disposal. The Twelfth

United States Census for the year ended May 31, 1900, is probably the most accurate national source of information at our disposal. The local (Chicago) information is since 1898 available only in weekly and monthly bulletins, no annual report being issued by the Department of Health since that time, and since several bulletins were not accessible to me, I have asked Dr. Reynolds, the Commissioner of Health, for the missing figures, which he supplied most readily. The Chicago Bulletins give only very limited information as to age distribution in causes of deaths, there being only stated the total number of deaths at the ages under 1, between 1 and 5 years, and over 60 years, leaving out entirely the period of from 5 to 60 years, and it is just this period which interests us primarily from an economic standpoint. We also do not receive any information as to the number of deaths in the various age groups.

The relative rate of mortality in Chicago in percent of total mortality for pneumonia, tuberculosis, and bronchitis for the years 1879 to 1902 is indicated in chart (I). It shows for tuberculosis a marked increase in the years 1882 to 1885, which being coincident with the discovery of the tubercle bacillus and the introduction of bacterial diagnosis based thereon, may be due to more correct returns in the certificates of deaths. A decline is then noted until 1891. In other countries (Prussia, Kayserling) we also note in the decline of the tuberculosis death-rate the influence of Koch's discovery in 1882, but it became manifest only in 1887 by a very decided decline in the death-rate. Not so in Chicago, where we observe a decrease in 1890 to 1891 from about 10.3% to 8.8%, followed immediately by a distinct increase in the following years up to 1898 from about 8.8% to 12.3%, and slightly declining from there on. This is absolutely different from the experience in other cities in which the death-rate has distinctly decreased since about 1887. The curve for pneumonia, on the other hand, shows a steady ascent from 1879 to 1891, from about 5.2% to 10.3%; then follows a marked decline to about 6.8% in 1894, followed again by an increase, almost all the figures after 1895 being markedly higher than in previous years. It would be most interesting to analyze the causes of this increase, which for reasons stated is quite difficult. Such analysis being not at hand, the import of these curves has to be taken with a great deal of caution, although they seem to indicate an unusual importance of tuberculosis and pneumonia in this community of late years.

The method of compilation used by the United States Census Office is perhaps not beyond criticism, but, since it allows an analysis of the different basic factors it is for our purposes the best available statistical information, and being founded on very large numbers obtained by uniform methods escapes the frequent fallacy caused by a paucity of dates. To what extent the census reports of different years are comparable is necessarily a matter of conjecture, and at any rate it is unsafe to go too far back in making comparisons.

The figures from the twelfth United States Census for the year 1900 are:

Total number of deaths from pneumonia	105,971	
" " " " " consumption	109,750	
Death-rate per 100,000 living, pneumonia	192.0	Reg. area.
" " " " consumption	187.3	Reg. area.
" " 1,000 deaths from all causes, pneumonia	106.1	
" " " " " " " consumpt'n	109.9	

The corresponding figures from the eleventh United States Census for the year 1890 are:

Death-rate per 100,000 living, pneumonia	186.9	Reg. area.
" " " " consumption	245.4	Reg. area.
" " 1,000 deaths from all causes, pneumonia	90.6	
" " " " " " " consumpt'n	122.3	

These figures show an increase of the pneumonia death-rates and a decrease of those from consumption for the 2 census years 1890 and 1900.

When we analyze the total number of deaths from pneumonia and consumption given in the twelfth census as to their distribution in the different age groups, we receive some astonishing information. (Chart II, A and B.)

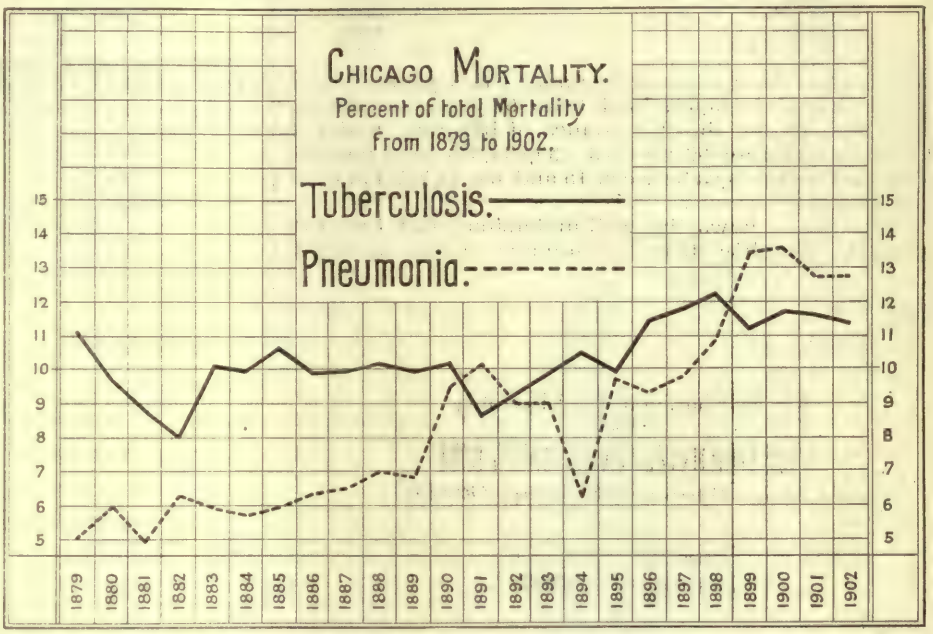


CHART II, A and B.

AGE DISTRIBUTION OF TOTAL MORTALITY AND PROPORTIONS OF DEATHS AT CERTAIN AGES TO 1,000 LIVING AT THESE AGES FROM PNEUMONIA AND CONSUMPTION, TWELFTH UNITED STATES CENSUS.

Age.	Consumption		Pneumonia.	
	Total number of deaths.	Per 1,000 living.	Total number of deaths.	Per 1,000 living.
Under 1 year	2,011		19,662	
1 "	1,168		9,796	
2 years	622		4,349	
3 "	375		2,189	
4 "	278		1,310	
Under 5 "	4,454	0.47	37,206	3.90
5-9 years	1,287	0.14	3,322	0.37
10-14 "	2,210	0.27	2,042	0.25
15-19 "	9,704	1.20	3,474	0.45
20-24 "	16,031	2.10	4,326	0.58
25-29 "	15,811	2.40	4,077	0.62
30-34 "	12,805	2.30	4,065	0.73
35-39 "	10,833	2.10	4,532	0.91
40-44 "	8,376	1.90	4,431	1.04
45-49 "	6,453	1.80	4,400	1.20
50-54 "	5,465	1.80	4,700	1.50
55-59 "	4,424	2.00	4,566	2.06
60-64 "	3,652	2.03	5,198	2.90
65-69 "	3,193	2.40	5,325	4.08
70-74 "	2,396	2.70	5,156	5.80
75-79 "	1,459	2.80	4,170	8.02
80-84 "	615	2.40	2,725	1.08
85-89 "	214	2.40	1,229	1.30
90-94 "	49	2.04	336	1.40
95 and over	23	2.30	115	1.17

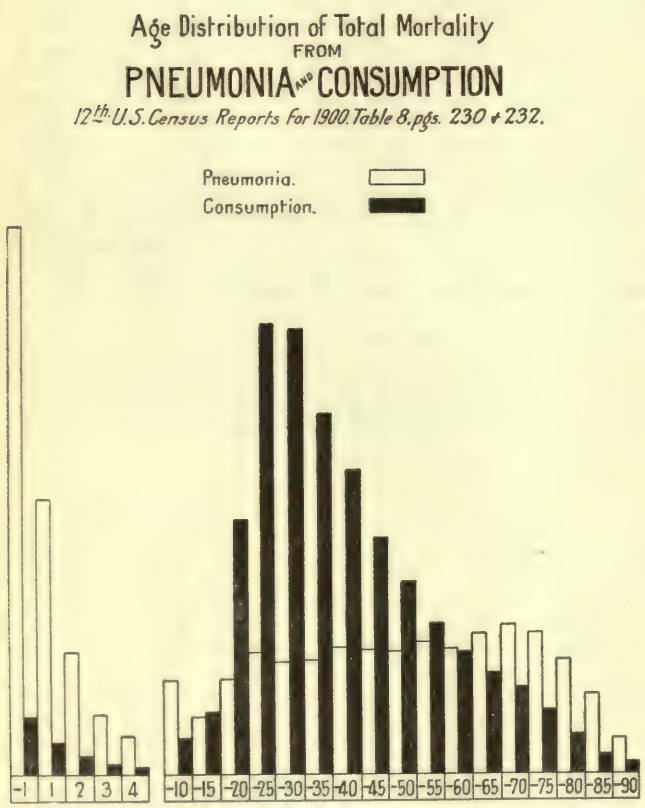
The age distribution of the total population given by the twelfth census was as follows:

Under 1 year	1,916 892
1 year	1,768.078
2 years	1,830,532
3 "	1,824 312
4 "	1,831,014
From 5 to 9 years	8,874.123
" 10 to 14 "	8,080.234
" 15 to 19 "	7,556 089
" 20 to 24 "	7,335,016
" 25 to 29 "	6,529,441
" 30 to 34 "	5,556,039
" 35 to 39 "	4,961,781
" 40 to 44 "	4,247,166
" 45 to 49 "	3,454,612
" 50 to 54 "	2,942,829
" 55 to 59 "	2,21 ,172
" 60 to 64 "	1,791,363
" 65 to 69 "	1,302,926
" 70 to 74 "	883,841
" 75 to 79 "	519 857
" 80 to 84 "	251,512
" 85 to 89 "	88,600
" 90 to 94 "	23 992
" 95 and above	9,770

which gives for the ages from under 1 to 5 years, a total population of 9,440,628, and from 60 years and above, 4,871,861, or for the 2 extremes of life, viz., under 1 up to 15, and from 60 upward: 30,996,846 total population, and for the ages between 15 and 60, 44,797,145 total population.

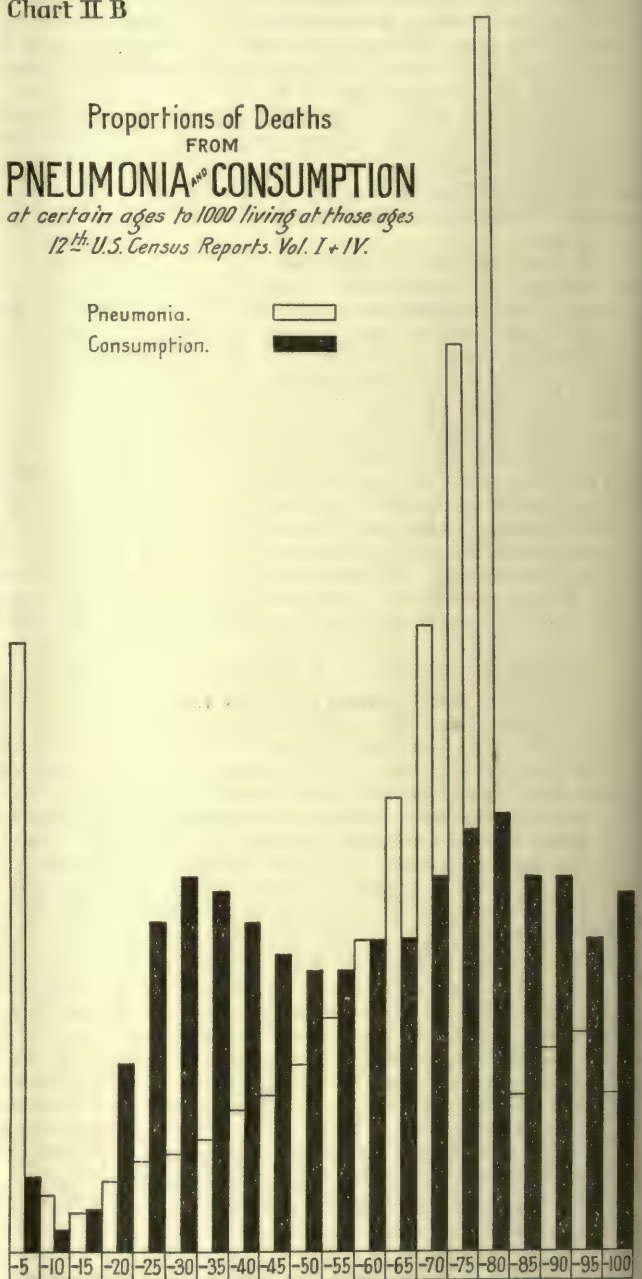
The chart shows the well understood fact that the greatest mortality from pneumonia occurs in the 2

Chart II A



extremes of life, while that of tuberculosis selects chiefly the adult age period for its victims. In the age period from 15 to 60 years the tuberculosis mortality exceeds the one from pneumonia more than twice; in the extremes of age the mortality from pneumonia is considerably higher than that from tuberculosis. But the extreme height of the mortality figures for the ages under 15 for pneumonia, and especially that under 1 year of age, induces further investigation. Particularly for the reason that genuine lobar pneumonia is generally a rare disease in infancy. It is very likely that in a great majority of the cases returned as pneumonia in these ages, death was caused by bronchopneumonia or some other ill-defined disease of the respiratory organs. Holt puts the relationship between croupous pneumonia and bronchopneumonia as 25% to 75% for children in the first 2 years. Schlesinger gives a proportion of 37 to 270 for lobar pneumonia and bronchopneumonia, respectively, in children up to 14 years of age. These figures vary somewhat, but nevertheless speak for

Chart II B



the decidedly greater frequency of bronchopneumonia in childhood as compared to that from lobar pneumonia. Also is the prognosis of lobar pneumonia in infancy infinitely better than that of the lobular type. Sturges and Coupland, in their work on pneumonia, state: "It is probable that the smallest mortality from lobar pneumonia at any period of life whatever occurs in early childhood." (Their chart, based on an analysis of mortality statistics [2,038 cases], shows a curve ascending gradually through the different age periods from under 1 year to above 70, from under 5% to above 55% mortality.)

The enormous mortality from pneumonia for childhood, given in the census, can therefore be only explained by the assumption that in the greater proportion of these cases the deaths were not due to genuine lobar pneumonia, but to the greater extent were due to bronchopneumonia and capillary bronchitis. This is quite plausible, since we know very well that the diagnosis of lobular pneumonia is one of the most difficult tasks in pediatrics—that is, its differentiation from other pulmonary affections, the line of demarcation between all these catarrhal conditions being very indistinct. On the other hand, lobar pneumonia is mostly a very typical

Chart III A.



disease with sudden onset, and not secondary to bronchitis, measles, whoopingcough, etc. But so long as we have no distinct etiologic factor which we can utilize in differential diagnosis of the two affections, there will necessarily be considerable confusion in the returns of deaths from these diseases, and the general death-rate attributed to pneumonia will be unproportionally swelled.

In emphasizing these facts I do not ignore the great importance of the high mortality in childhood from respiratory diseases; it certainly merits the fullest attention of sanitarians, only I wish to show that lobar (fibrinous) pneumonia (and that is what is generally understood by the term pneumonia) plays only a very inferior role in these mortality figures, and that a clearer nomenclature would make us much better acquainted with actual conditions.

In further analyzing the chart (II, A and B) we see that for the successive decades (from 15 to 60) the mortality from pneumonia is fairly uniform, and that it increases distinctly for the following 15 years. Taking into consideration the fact already alluded to that the prognosis of pneumonia in adult age is quite favorable, and that the greatest percentage of deaths is among

Chart III B.



those individuals affected by other (chronic) diseases, and especially among alcoholics, we may safely conclude that the great majority of individuals dying of pneumonia at this age belong to this class. This is most important from an economic and prophylactic point of view. Individuals between 70 and 80 years of age and those suffering from heart and kidney diseases, and the alcoholics, belong to the "economically weak;" their importance to the prosperity of a community is relatively small, and this holds especially for the alcoholics. A wise, and energetic, action against the excessive use of alcohol will probably have a marked bearing on the

mortality from pneumonia, much more so than general hygienic measures, which, so far as our present knowledge goes, have only an indirect influence on the mortality of the disease. *The very fact of an increasing mortality from pneumonia in late years, when general hygienic conditions have steadily improved, would disprove the efficiency of such a course of prophylaxis.*

When we now glance at the corresponding figures for tuberculosis during the adult period, and when we consider the length of the preceding disabling sickness and that it is quite within the range of permissible theory that even these high figures underestimate actual conditions, for reasons already given, we can only draw one conclusion—that is, that the two diseases in their relative economic importance to the community can hardly be compared.

But we will, furthermore, analyze the nature of the increase and decrease of the death-rate of the two diseases. Charts III, A and B, give the percentages of mortality from pneumonia and tuberculosis, respectively, for the 2 census years 1890 and 1900, arranged as to the different age groups. Again, we see a similar distribution of the figures at the age periods, as that given by the total mortality figures. We further note that the greatest increase in the death-rate of pneumonia has taken place in the period under 5 years of age, and also, but to a lesser extent, in the period above 65 years. On the other hand, we note a quite appreciable decrease in the age period from 5 to 65 years.

For tuberculosis we note that the death-rate in the 2 years has remained about stationary for the period under 9 years of age, has decreased some from 10 to 25 years, and from above 50 years, but that for the age period of from 25 to 50 years there has been an increase.

These figures are, of course, only comparable with the restrictions already alluded to. However, the marked increase of the death-rate of pneumonia among children under 5 years of age, which is so largely responsible for the apparent general increase in the death-rate from this disease must command attention,

CHART III, A and B.

THE AGE DISTRIBUTION OF MORTALITY FROM PNEUMONIA AND CONSUMPTION. ELEVENTH AND TWELFTH U. S. CENSUS. THE PROPORTIONS OF DEATHS AT EACH AGE PER 1000 AT KNOWN AGES FROM THE TWO DISEASES

Age.	Consumption.		Pneumonia.	
	1900	1890	1900	1890
Under 1 year	18.3	18.3	196.1	150.7
1 "	9.4	10.3	106.5	82.5
2 years	5	5	44.8	37.8
3 "	3.6	3.1	22.1	20.8
4 "	2.2	2.4	13.0	12.8
5-9 years	10.6	9.9	28.0	29.0
10-14 "	17.1	18 9	11.8	13.0
15-19 "	70.6	78.7	19.2	28.1
20-24 "	136 7	142.2	30.4	43.2
25-29 "	153.7	149.0	35.5	49.7
30-34 "	132.7	124.7	37.6	49.8
35-39 "	113.6	102.5	43.9	53.0
40-44 "	82.0	78.8	40 1	49.2
45-49 "	67.0	65.4	40.6	53.2
50-54 "	50.0	50 4	44 7	51.9
55-59 "	39.5	40.1	46.0	49.5
60-64 "	31.4	34.7	51.5	51.8
65-69 "	25.8	27.8	52.9	50 5
70-74 "	17 5	17.7	50.5	43.4
75-79 "	11.2	11.9	40.4	37.9
80-84 "	4.4	5.2	27.2	24.9
85-89 "	1.6	2.0	12.1	11.6
90-94 "	0.3	0.4	3.5	4.1
95 and up	0.1	0 2	1.0	1.01

and it would be valuable to investigate the factors responsible for the increase, which, for reasons stated above, cannot be due to a greater mortality from lobar pneumonia. On the other hand, we have again an illustration of the fact of the overwhelming prevalence of deaths from tuberculosis in the most active age period of life. In summing up we must come to the following conclusions:

1. That the relative economic importance of pneumonia and tuberculosis cannot be estimated by a mere comparison of total mortality figures for each disease.

2. That the apparently high mortality figure and its increase of late, for pneumonia is produced by the enormous death-rate and its increase attributed to this disease, in early childhood.

3. That, therefore, the high mortality from pneumonia and to a certain extent its increase is due to a classification of different ill-defined pathologic conditions under one name, while that from tuberculosis represents that of a well-defined morbid entity.

4. That for this reason and on account of the relative shortness of disabling sickness and frequent recovery in pneumonia, the great length of disabling sickness and infrequent recovery in tuberculosis, the relative importance of the two diseases is so vastly different, that a comparison on economic grounds reveals the overpowering danger from tuberculosis.

5. That the steady decrease of the tuberculosis death-rate can be explained on the grounds of increasing improvement of hygienic conditions in late years and as the result of specific prophylactic measures.

6. That the increase of the pneumonia death-rate occurring in a time of improving hygienic and sanitary conditions and of a general application of antiseptic principles, shows its independence of these features.

7. That, therefore, and in view of the still enormous mortality from tuberculosis, its demonstrated preventability and the possibility of its arrest *only* in its earliest stages, the institution of educational measures in regard to personal and public hygiene widely and specifically applied, for the prevention of this disease, seems to be distinctly indicated.

8. That since for pneumonia, as pointed out by E. F. Wells, "the fundamental information on which prophylactic rules may be formulated is not yet at hand" this subject needs further investigation from a bacteriologic and epidemiologic standpoint as well, before "exaggerated and irrational notions in regard to its dangers and its avoidance" are communicated to the public, which in view of the facts given are out of all proportion.

ADDRESS ON HERNIA.[1]

BY

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of Philadelphia.

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Mr. President and the Members of the New York State Association of Railway Surgeons. Gentlemen:—In acknowledgment of the honor of an invitation to read a paper before your Association, I have selected the subject of hernia, believing it to be quite as practical as any.

The protrusion of part of the abdominal contents through various defects in the wall of the abdomen, and the correction of such conditions has always been a subject of great interest to surgeons, be they specialists in certain lines or not. While hernia, in the absence of strangulation, offers no menace to life, it cripples the power of an individual to perform heavy labor, and diminishes his earning capacity. For this reason, and also because of the nearly perfect results attained by correct treatment, we are justified in seeking to perfect every point in the mechanics of the radical cure, and to inquire of others their experience and opinions.

I will, therefore, rather broadly and in outline, state the conclusions to which a large number of hernia cases have led me, and briefly discuss some of the points in technic and operation which are as yet open questions.

The diagnosis of the various forms of hernia is not

[1] Read before the New York State Association of Railway Surgeons, November 12, 1903.

often attended by marked difficulty, the femoral variety being responsible for most of the mistakes made.

Hydrocele of the cord has been confused with inguinal hernia, but the peculiar fluctuating tumor, movable laterally from the cord, tense to palpation, dull to percussion, together with the absence of the impulse on coughing (usually), should aid in the correct diagnosis. Sometimes the omentum in the hernial sac becomes inflamed, there is an exudation of serum, and the neck of the sac becoming obliterated, the fluid collection may resemble a hydrocele of the cord.

Hydrocele of the tunica vaginalis is the source of greatest error in the scrotal (?) or complete inguinal hernia, but the points in the differential diagnosis are well known. Inflammatory lesions of the testicles and cord have also been responsible for some mistakes, though never when the lesion is typical. The history of the case, the absence of the physical signs of hernia and the presence of the hernia in front of the vas, which in testicular inflammation is large and tender, must be borne in mind.

Enlarged lymphatic glands are also at times a fatal source of error, particularly in the femoral variety of hernia. The swelling in adenitis is more diffuse, by reason of the perilymphadenitis, the mobility of the mass is more restricted from the adherence to the skin, and the latter may be reddened. The source of infection can often be determined, though such glandular swellings sometimes arise within a few hours, and in some cases it is only by the most careful examination for the physical signs of hernia that the correct diagnosis can be determined. Not long since a patient came under my observation whose case had been diagnosed as an obturator hernia. I found a circumscribed myositis of the adductor longus muscle, which from its position and relation to the tendon, range of mobility, inflammatory infiltration, and the absence of physical signs of hernia, was differentiated from the supposed condition.

From the clinical standpoint hernia is usually classified as reducible, irreducible, inflamed, obstructed, and strangulated.

The treatment of a reducible hernia may be considered under (1) palliative and (2) operative.

This brings us to a consideration of the truss. I do not think that any patient should wear a truss, except in the presence of a certain few counterindications to operation. As a hospital surgeon of 25 years' experience I have seen many deaths from strangulated hernia, nearly, if not all of which could have been prevented had a timely operation been performed. It is true that in those of the leisure class or in the well-to-do a properly fitting truss may answer every purpose, yet such patients by long familiarity become careless of the fit of the truss and may at any time become the subject of strangulation of the gut within the sac. The pressure of the truss may cause more or less attenuation of the internal oblique muscle and at operation considerable difficulty is encountered in closing the lower part of the inguinal canal.

The exceptions to the radical cure that I would make are:

1. In children under 4, in the hope that time would remedy the defect in the abdominal wall. I do not agree with Dr. Coley, however, that probably two-thirds of these children are cured by a truss. I believe the percentage of cures is much less, two-fifths perhaps.

2. In adults the subject of serious organic lesions of the heart, lung, or kidneys, or in those very fat individuals in whom the intestine and omentum are adherent to the sac.

3. In adults over 60 when the hernia can be held in place by a truss.

In irreducible hernia a truss that causes pressure is harmful and for this reason I believe that physicians should be most careful to see to the proper application of the truss, themselves. The common mistake made is to allow the instrument maker to apply the truss without inspection and supervision by the attending surgeon or physician.

Strangulation of the gut is responsible for most of the deaths from hernia, many of the patients losing what chance they had by prolonged taxis and the delay in operation.

Irreducible hernia is always to be considered as a dangerous condition, even without symptoms indicating that strangulation has taken place, because the latter state with its attendant pathologic lesions can occur so gradually that by the time the patient has sought medical advice the bowel has advanced to the point of gangrene. The constricting of the gut obstructs the circulation, there is a serous and cellular infiltrate, the bowel becomes soft and bluish in color, and if unrelieved, as is well known, gangrene and necrosis result, and some 6 or 10 inches of injured bowel must be resected.

I agree with Coley that taxis should never be prolonged for more than 5 minutes, and also believe that anesthesia should never be induced when performing taxis unless the failure of such manipulation can be immediately followed by herniotomy. The dangers of taxis are many, even if success follow the effort. Reduction of the hernia *en masse* has often been reported. The serous exudate in the sac may become infected by the passage of microorganisms through the damaged intestinal wall, and in these cases a successful taxis would return the infected serum into the peritoneal cavity along with the other contents of the sac. The same result might be obtained by the bruising or laceration of the friable intestine during manipulations.

Many of the patients whose hernias become strangulated are past the middle period of life, the frequency of hernia reaching its maximum at the age of 70, and therefore arteriosclerosis must be considered. A fatal abdominal apoplexy may be caused by the effects of violent taxis upon vessels whose walls are the seat of fibrous changes or calcareous deposits.

Bearing in mind these dangers, one is inevitably led to the conclusion that irreducible or incarcerated hernias are very dangerous conditions, the inability to determine the degree of inflammation present, or whether strangulation has occurred increasing the danger, which prolonged efforts at taxis may convert into a fatal condition.

Failing to reduce a hernia by the aid of moist heat and a few intelligently applied efforts at taxis, herniotomy should always be resorted to. The common practice of exhausting hot baths or continuous application of the ice-bag are to be condemned.

Two points frequently neglected when performing taxis should be remembered, viz., the neck of the sac must be compressed with one hand, while the other endeavors to replace the hernia, and the leg placed in a position of flexion and adduction thereby securing relaxation of the upper and outer margin of the saphenous opening in the femoral variety and of the aponeurosis of the external oblique muscle in the inguinal form.

In operating upon strangulated hernias I perform the radical cure in all cases in which such is practicable. If the patient is in extremis, rapidity is paramount to completion, and again, in some patients, particularly old people, the tissues are infiltrated with inflammatory products or partly organized blood, and no radical cure would be successful.

I usually give ether when anesthesia is permissible, and use cocain infiltration when organic kidney, lung, or heart disease counterindicates the use of general anesthesia. In very fat people, and when an irreducible hernia makes a large protrusion in the scrotum, local anesthesia by cocain has given excellent results. Pain is not experienced during the cutting, but only when the omentum is dragged upon. In general, however, the use of cocain interferes with the performance of good work, and the drug undoubtedly has severe toxic properties.

Intraspinal anesthesia by cocain should not be considered for a moment in my judgment.

The radical cure of hernia, nonstrangulated, is an operation attended by but little risk to life in skilled hands, and with good tissues to work upon and good technic, is one of the most satisfactory operations in surgery. Sultan and Coley, in a collected series of over 6,000 cases, found a mortality of about 0.5%. Coley recently has reported 1,075 cases, with 2 deaths, or less than ½%. On the other hand, strangulated hernia gives a mortality of 20%.

Nonstrangulated hernia is best studied under its anatomic classification. Inguinal hernia, constituting, as it does, 75% of all hernias in both sexes and 95% of all hernias in the male, has naturally attracted the greater amount of consideration. A number of ingenious operations, with numberless modifications, have been devised to cure inguinal hernia, of which MacEwen's (1886), Bassini's (1888), Halsted's (1890), and Kocher's (1892) are the most worthy of note at the present time.

For some years I practised a modification of MacEwen's operation, or rather a combination of that method and Bassini's, dividing the anterior wall of the inguinal canal, excepting the internal oblique muscle, freed the sac and reposited it at the internal abdominal ring, after the method of MacEwen. The canal was then closed as in Bassini's operation. At present I always perform the Bassini operation, transplanting the cord, as this method has given such superior results, and is now employed by most surgeons.

The modifications to the Bassini operation have been made because of the two apparently weak points in the operation, the site of the transplanted cord and the lower angle in those cases where the conjoined tendon is deficient. For these reasons Halsted reduces the size of the cord by excising its veins, believing that the cord, "reduced to a diminutive size by the excision of the veins will be as little likely to be the cause of a recurrence in the lower angle of the wound as in the upper angle when it is transplanted."

Personally, I occasionally excise the spermatic veins when they are markedly enlarged, but would not make a routine practice of such excision for fear of epididymitis or atrophy of the testicle. O'Connor reported 129 cases operated upon by Halsted's method in which atrophy of the testis occurred in 20% of the cases.

With the technic of the Bassini operation you are all quite familiar, and it is needless to state that in an operation, the success of which depends upon perfect primary union, the most complete asepsis should be observed. Every bleeding vein or oozing capillary must be controlled by ligation or hemostat. After reflecting the aponeurosis of the external oblique, the sac is freed from the surrounding structures and the peritoneum at the internal ring separated to the extent of fully an inch. This allows retraction of the sac within the abdomen, when the neck is tied off, transfixing it to avoid slipping of the ligature. In opening the anterior wall of the inguinal canal I do not split the internal oblique muscle beyond the internal ring, merely pushing it aside, thus avoiding retraction of the fibers at the cut edges.

In many cases the cremaster muscle may be separated from the cord and made use of to strengthen the closure, particularly in those cases of old direct hernia and in those of the indirect variety, when from long pressure the walls of the canal are thinned. The cremaster should be detached from the cord without disturbing its origin or insertion, and placed in contact with the floor of the canal. I have made use of this muscle in this way for some years, and only recently, when reading Halsted's last paper on hernia, found that the method was evidently known to other surgeons. Halsted, however, adopts a somewhat different procedure, "drawing up the lower flap of the cremaster muscle and its fascia under the mobilized internal oblique muscle and holding it in this position by fine silk stitches through the aponeurotic portion of the internal oblique and tied on the external surface of the latter."

I have never stitched the cremaster, but if in doubt as to its retaining the transplanted position, it could be sutured by transfixing the internal oblique well to the inner side of the outer margin and tied over the latter muscle, thus leaving sufficient of the edge of the internal oblique to sew to Poupart's ligament.

The closure of the canal is made by a continuous suture of kangaroo tendon, which unites the shelving margin of Poupart's ligament to the conjoined tendon and arching fibers of the internal oblique and transversalis, suturing from below upward. I place a mattress suture of the same material above the cord to strengthen the upper angle.

In old direct hernia when the conjoined tendon has been much attenuated, in addition to placing the cremaster muscle in contact with the floor of the canal, I transplant the rectus muscle similarly to Wolfler's method.

Halsted ingeniously strengthens the canal still further by reflecting a flap from the anterior sheath of the rectus muscles and stitching it to Poupart's ligament over the conjoined tendon. In this wise the cord rests upon the rectus muscle and sheath, arching fibers of the internal oblique and transversalis muscles and the conjoined tendon; the aponeurosis of the external oblique and the skin are then closed over the cord.

In the congenital form of hernia the technic of operation varies somewhat. After freeing the sac it is split in the long axis of the cord and behind the latter and then separated from the cord. The sac is divided and the upper portion treated as previously described. The lower portion is folded and sewed with catgut, thus making a new tunica vaginalis. Any redundant sac between the two points of ligation is excised of course.

Undescended testicle associated with hernia is sometimes encountered (1–500) and has excited much interest of late years. Eccles and Bevan have written exhaustive papers recently upon this subject. One of the causes of the interstitial hernias is the obstruction which a partially descended testicle may offer to the downward passage of a hernia through the vaginal process of the peritoneum which has preceded the testicle and is not drawn down behind. The *vis a tergo* created may force the hernia into one of the interspaces and a variety of the interstitial hernias result. Such testicles are liable to become injured or susceptible to inflammation.

The treatment of a hernia with undescended testicle consists in removing the testicle, leaving it alone after drawing it outside the external ring when performing the Bassini operation or lastly transplanting the testicle into the scrotum.

From the fact that the testicle has a very important function and that it probably contains an internal secretion essential to the virility of the individual its removal is not justifiable, except when markedly atrophic.

When the external abdominal ring is closed above the testicle and the testicle left alone it may find its way into the scrotum, particularly in children before puberty. This is the safest method of procedure. Owing to the fact that malignant changes are believed to be more common in these organs, that the function becomes developed to a greater extent when the testicle is in the scrotum and that the moral effect is better, transplantation of the organ into the scrotum is the better surgery, in the absence of complications.

A. D. Bevan, of Chicago, has made this operation more satisfactory than hitherto, and his operation, with a modification, is the one I use. It consists in brief, in exposing the sac, opening it and ligating, as in a hernia operation, well up at the internal ring. The portion of the sac in relation with the testicle is closed with a purse-string suture, forming a new tunica vaginalis. The testicle is lifted and the cord gently stretched, loosening

the bands of connective tissue by the tissue forceps until the organ can be laid on the thigh. When the testicle is well within the abdomen, Bevan ligates the spermatic vessels, and has no difficulty in making the transplantation. A pocket is then made in the scrotum by blunt dissection and the testicle dropped into it, and retained by a pursestring suture at the neck of the scrotum through both pillars of the external abdominal ring and above the cord. The remainder of the operation follows along the lines of a Bassini, without transplantation of the cord.

The dangers of the Bassini operation may all be avoided by care and perfect technic. The vas must be handled with great care and delicacy, and its presence accurately determined before ligating the sac, as it is easily cut. Rough handling of its veins may cause thrombosis. In introducing the sutures care must be taken to avoid penetrating the femoral vessels, and as a precaution the shelving margin of Poupart's ligament is grasped with delicate tissue forceps and held forward, in this wise avoiding any possibility of such a complication arising.

Femoral hernias may be operated upon by either the Bassini operation or by the socalled pursestring method. I usually use the latter.

Umbilical hernia, if congenital, is best treated by the use of a truss until the child has reached the thirteenth or fourteenth year, when a radical operation can be performed, if the hernia has not been cured, and particularly if it shows a tendency to enlarge.

Acquired umbilical hernia, unfortunately is most common in those obese persons with fatty heart and liver, who are poor subjects for operation. Strangulation may occur, and is a much more serious condition in this than in the inguinal or femoral forms, and gives a mortality of nearly 50%. My personal mortality in strangulated umbilical hernia has not been more than 30%.

The radical operation upon those whose hernias have not been held by the truss should not be delayed for too long a time. Various grades of inflammatory lesions occur within the sac, making the subsequent operation a most difficult one. The viscera may become adherent to each other or to the sac, the latter is frequently loculated, and masses of omentum becoming adherent to the wall of the sac within these diverticulums complicate the operation and make it more difficult to free the sac than in either inguinal or femoral hernia. The operation in this variety of hernia differs from that in either of the two last-named forms in that the sac is not dissected free, except at its neck, which is exposed by carrying an elliptic incision through the integument and fascia overlying this portion of the hernia. The neck of the sac having been exposed, it is separated from the margins of the opening. The sac is next laid open and the contents, if not already reducible, are rendered so. The omentum requires, in most instances, considerable ligation and dissection before it is free, and such ligation should be performed upon small areas of the omentum at a time, thereby better avoiding any slipping of a ligature or subsequent hemorrhage.

After the gut and omentum are reduced, the whole of the sac with the overlying integument is cut away. The neck of the sac, viz., the peritoneum, is closed with silk sutures, and the remaining structures closed in tier suture. In performing this most important step of the operation, I am very careful to expose thoroughly the recti muscles, together with their anterior and posterior sheaths. Several interrupted kangaroo tendon sutures are introduced through the rectus muscle and both of its sheaths on either side and held in hemostats. The anterior sheath is then closed by a continuous kangaroo tendon suture, and over this the interrupted stitches are tied, acting as additional supports to promote close union. The superficial structures are then closed with silk.

Mayo has devised an operation for the cure of this condition which aims to avoid the weakness of the natural separation of the recti muscles at the level of the umbilicus and the consequent difficulty in approximating these muscles. He makes transverse elliptic incisions, excises the sac and contained omentum, and separates the lower aponeurosis of the upper flaps from the peritoneum. Silver wire mattress sutures are passed through the anterior sheath and rectus muscle of the upper flap, the loop firmly grasping the margins of the lower flap. The peritoneum is sutured, and by drawing on the silver wire ends the loop pulls the lower flap up under the lower aponeurosis of the rectus between the latter and the peritoneum. The free margin of the upper flap is fixed by catgut sutures to the surface of the anterior sheath below and the superficial structures closed in the usual manner.

Hernia of the linea alba above the umbilicus is frequently confused with subperitoneal lipomas, which are common in the same region. Many vague gastric disturbances and epigastric pains are associated with these hernias, and may, in the absence of a physical examination, simulate gallstone disease; traction upon the peritoneum acting reflexly, causes the symptoms.

A radical operation, reducing the hernia or excising the lipoma, and closing the peritoneum, recti muscles, and the aponeuroses, is the only method of procedure.

Incisional hernias frequently follow operations upon the abdomen when gauze drainage has been used. They rarely become strangulated owing to the absence of a constricting ring, unless adhesions have formed as well.

Treatment is operative with the separation of all adhesions and suturing the wound by tier sutures, after carefully dissecting out each layer of the abdominal wall and matching layer to layer.

ON AMPUTATIONS.

BY

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of New York City.

Surgeons have always been in accord on the question of severing a mangled limb, when by traumatic or pathologic influence, it has been totally destroyed; but in olden times when suppuration, mortification and death so commonly followed the serious mutilation of a limb, and when its mechanical detachment from the body was a performance entailing great suffering and shock, all were not agreed as to the time and mode of performing amputation. The more aggressive maintained that to amputate immediately, before reaction set in, was less painful, did not increase shock, shortened the healing processes, and resulted in prompt recovery. The more conservative regarded a major amputation as a humiliating acknowledgement of the impotence of the healing art. They denied that immediate intervention did not add fresh dangers, and alleged that by such premature action many useful limbs had been destroyed. The writings of many illustrious surgeons show that a major amputation properly performed under any circumstance is always attended by serious dangers, and calls for special skill and experience in its performance. Since the unrivalled and invaluable publication of M. Ollier on "Experimental and Clinical Observations on Osteogenesis and Osteoplasty," there remains little, if any justification for such procedure as a primary amputation in civil life, under any circumstances. The late Dr. B. A. Watson, in "Amputations and their Complications," tells us that "prior to the invention of the tourniquet and other effective hemostatic agents, surgeons entered on the performance of an amputation with great reluctance. Their minds were filled with the darkest forebodings; before their eyes flitted visions of death; they saw their patients blanched from the loss of

blood, and the eyes dimmed; and this imagination was commonly realized during the operation, or immediately after it. . . . The surgeon having completed the operation went forth with the death cries of his patient ringing in his ears, and if he attempted to sleep these horrible visions appeared in a more dreadful form."

With the introduction of Moril's tourniquet, a new era was inaugurated, and the pendulum swung the other way, for now surgeons boasted of the number of amputations performed; "and without doubt," said Watson, "many useful limbs were sacrificed to satisfy the surgeon's ambition. Schmucker remarked that while in Paris in 1738, he saw limbs sacrificed for simple fracture.

Fever, inflammation, and gangrene were feared, hence their source must be removed and the limb severed.

In 1756, the French Academy of Surgery moved in the matter, when the eminent army surgeon, M. Faure, presented his famous thesis on "Conservatism in Amputations."

In 1761, while Surgeon-General of the Prussian Army, Bilgier published in German his monograph, entitled "The Very Rare Employment, or the Total Avoidance of Amputations on the Human Extremities." His orders to his subordinates were that there should be no primary amputations performed. Schmucker was inclined to the same course as his colleague. Both were confident that more limbs were spared and lives saved by this means.

It appears that Lowndham, of London, was among the first, in 1676, to employ the flap covering of a stump. He was promptly followed by Verdier, Koederendier, Vermohz, and Ravaton, in 1739. O'Halleron, of Limerick, was the first to employ the oval flap, in 1780. Hey, Allison, and others since made modifications of it.

Watson said that the remark was commonly made that the early age of the patient is favorable for amputations; and he quotes Paget as declaring that "after 2 or 3 years, the increase of age is attended with a liability to death and other ill consequences of operation."

Sir William Gull said that amputations were performed chiefly: First, for the preservation of life; second, so as to put the patient in a position in which he could the more conveniently earn a livelihood; third, for the removal of an unsightly deformity which could not be effected by a less dangerous procedure.

The stages during which amputation should be performed are usually the *immediate* or *secondary;* or, as Hamilton puts it, the immediate, mediate and secondary. The immediate would be anything under 6 hours; the mediate, between 6 and 24 hours; the secondary, after 24 hours, when pathologic changes have developed.

It is most remarkable that though the late Dr. Watson was a most enthusiastic devotee of scientific progress, and dedicated his work to the illustrious Lister, yet, to the end, he preserved an unfaltering loyalty to the more ancient views, and always, with singular eloquence and zeal, defended and recommended the primary amputation. As a surgeon of advanced rank, he having gone through the Civil war, he was preeminently qualified to speak on this question. He saw many shattered and mangled limbs, and it may be supposed that in the hot, moist, malarious climate of the South, where the mortality was so great among those on whom conservative measures were employed after battle, he imbibed the radical views and opinions which remained unaltered through life.

Dangers in Amputations.—There are, perhaps, a few so shortsighted or so superficially acquainted with amputations following serious traumatisms, as to suppose that the chief danger of an amputation resides in primary hemorrhage. The loss of blood is but *one* of the dangers. Nature does not permit the severance of a member from the trunk without protest, but the moderate loss of blood in certain amputations is both helpful and salutary, for certainly, the economy does not need the same quantity of circulating fluid in 3 limbs as it formerly did in four. Beside, the distribution of this redundant blood, suddenly in the arterial system, cannot be without dangerous distention of the pulmonary and cerebral circulation. Excessive loss of blood certainly diminishes the prospects of recovery after an amputation; however, it is now possible by a very simple, yet effective technic, to render an amputation of any member practically bloodless. Yet it appears that the mortality remains about the same. It will not do to appeal to comparative statistics in support of hemostatic agents, when one's figures and experience are based on pathologic cases exclusively, for there is little or no analogy or comparison between these, and such as follow traumatisms. Let not the novice then suppose that an amputation in itself is not an operation of great gravity after an injury, and be deluded into sacrificing a life or limb that might be spared.

Velpeau said that the mortality after amputations was always large, and quoted at length from the figures of Welchius, Baudens, Pointier, Hennan, Chelius, Larrey, Brodie, Guthrie, and others, through which it appears that in amputations after traumatisms the mortality was nearly 50%. It is a simple matter to understand why the mortality in amputations after injury should not be contrasted with those following a pathologic condition.

It is rare that a limb is hopelessly mutilated by an accident without great shock to the system, either psychic or physical. The patient has been terribly frightened and is on the verge of syncope when struck or crushed. His sufferings have been, perhaps, very great. In the majority of these cases, there is indisputable evidence of coexistent injury to the internal organs, the brain, the lungs, kidneys, liver, spinal cord or other deepseated organs.

Seidéllot declared, that "amputations present difficulties and dangers of an exceptional character, over which the efforts of our best surgeons have yet failed to triumph, in spite of increased dexterity, invention, and sagacity of the most renowned and eminent operators."

The mortality in the Civil war after amputations was, at wrist-joint, 55%; forearm, 165%; shoulder, 39%; ankle-joints, 13%; leg, 26%; knee, 55%; thigh, 64%; hip-joint, 85%.

Spence declared that there were few operations which the surgeon is more frequently called on to perform than amputations, and none which requires more consideration as to the best method of operating, more care in its performance and more attention to the treatment. He declared that as an amputation entails mutilation, the surgeon is bound to use his best endeavors, not only to obviate the dangers to life, but to avoid also those conditions likely to interfere with the future comfort of the patient. He must not only remove the limb with safety, but he must avoid leaving a painful and irritable stump.

"An amputation" said Barron Larrey, "is one of the gravest and most important operations in surgery. Nevertheless, however cruel the operation, we must perform it with a fearless hand, when it is decided that it alone, will save a life."

Mr. Ferguson declared that, "few operations have attracted more attention than this; although, it is the fashion of some to speak of amputations as the opprobrium of surgery. It is improbable that there will ever be a time when amputations can be entirely dispensed with. Modern surgery has done much to obviate the necessity of such an operation, in cases of disease; but unquestionably, many damaged limbs, which would have been formerly deemed beyond remedy, are now successfully treated otherwise. It is almost needless to say, that amputations should be performed only under circumstances when no other means will avail." Thus spoke this eminent authority, more than 30 years ago; and who can fail to read the accurate forecast with regard to the possibility of advanced surgery; prac-

tically, dispensing with amputations, as a primary procedure, altogether, after traumatisms of a limb?

Mr. Thomas Bryant regards the present position of amputation "as one of surgery's greatest triumphs;" though, he admits, it requires nicety and high mechanical skill in execution.

In perusing the older authors' writings on amputations, it is quite clear that a wholesome conservatism, was not unknown in former generations, even on the field of battle. Mr. Guthrie, who followed the Duke of Wellington through his famous campaigns, declared that "the upper extremity should be amputated for almost no accident that could happen to it from a gunshot wound, as there is scarcely an injury of the soft parts likely to occur, which would authorize an amputation here as a primary procedure." This was a remarkable statement from a military surgeon of Guthrie's vast experience. It is obvious to anyone, that in the exigencies of war, in the days when railroads and steamships were unknown, after a great battle, in the times when the conqueror regarded his victory incomplete without a merciless extermination of the captured and the maimed, that there were cogent reasons why the surgeon should lop off, as expeditiously as possible, any member of the body which would hamper the precipitant flight of the unfortunate wounded.

Primary Amputation and Open Fracture. — John Hunter observed that:

> Compound fracture differed from simple, in the first and second modes of union being lost, and therefore the third takes place between the ends of the bones, and thus the lacerated surfaces take on an ossific deposit, and suppuration is always surrounded by adhesive inflammation, so that it extends pretty far and consequently the callus is large; hence, these fractures are tedious and dangerous, especially when in the lower extremity, where they usually occur. There are no bounds to the mischief which a compound fracture may do; the loss of the uniting substance by the wound, the loss of the living principle to what remains by exposure, are the causes of failure of the first process, and beside, the ends of the bones are so locked together as to be required to be sawn off; or they are so denuded of their living membrane as to lose their living principle, when they exfoliate or are thrown off before the parts can unite. This sometimes takes 6 months, and is so extensive as to be dangerous. The inflammation which follows the accident is commonly very considerable, and many proceed to mortification.

If Hunter preserved a wholesome fear of the consequences attending open fracture, he had a most pronounced aversion to treating any of them by immediate amputation. In this regard he observes:

> Nothing can be more improper than such practice—primary amputations—for the following reasons: In such a situation it is quite impossible for a surgeon in any instance to make himself sufficiently master of the case so as to perform so capital an operation with propriety; and it admits of dispute whether at any time and in any place an amputation should be performed until the inflammation is over. When a case is so violent as not to admit of cure in any situation, it is a chance if the patient will be able to bear the inflammation therefrom. In such a case, it would seem at first sight that the best practice would be to amputate at once, but if the patient is not able to bear the inflammation arising from the accident, it is more than probable he will not be able to support an amputation and its consequences. On the other hand, if the case be such as will admit of being brought over the first inflammation, although not curable, we should certainly allow of it, for we may be assured that he will be the better able to bear the second. If the chances are so even when the common circumstances of life favor amputation, how must it be when they are not? How must it be with a man whose mind is in the height of excitement, arising from fatigue, fever or distress? The circumstances must add greatly to the consequent mischief and cast the balance in favor of forbearance. If it should be said, that agreeable to my argument, the same circumstances of amputation will render the accident itself more dangerous, I answer, that the amputation itself is a violence, added to an injury, and will therefore heighten the danger, for when an injury itself proves dangerous it is by slower means.

Indeed, this great authority was positive that nothing would justify an amputation, even on the field of battle, except, that perhaps, it would permit the safer transport of the wounded; even this he doubted. We all know, on the authority of Pitcairn and Hennan, that in the wars of the early part of the nineteenth century neither Hunter's protestations nor Bilgner's anathemas made the slightest impress on military surgeons, and that, as a rule, all limbs the seat of compound fracture, of a serious nature, were promptly amputated.

Astley Cooper said that "the effect of a compound fracture is to produce on the constitution a violent reaction. The degree of this effect on the system will depend on the manner in which the part is treated, and I shall say that it is an important injury or otherwise, according to the plan of treatment which is pursued; for if you are careful in the management of the case, you may procure adhesion of the external wound, and thus reduce the accident to a simple fracture." He would not recommend amputation for compound fracture except of the worst description. The operation is only called for, he averred, when the bone is badly shattered, or when a joint is seriously involved in the mischief. He continues: "The superior skill with which compound fractures are now treated is productive of a large degree of success. Many limbs are now saved which in former times would be sacrificed without delay. In fact, with all the advantages of private practice, and the judicious principles which prevail in this part of surgery, it is, indeed, only the worst kinds of fractures that call for a primary or secondary amputation." Cooper's plan was to bring the parts into apposition and fill in the lacerations in the integument with lint soaked in blood.

The eccentric Abernethy expressed his opinion in his own characteristic manner by saying he

> was decidedly opposed to immediate amputation after injury of a limb. . . . If there is much injury we must then consider whether the limb can be saved or not. Then we are in an awkward predicament; but I have no fear that the surgeon will be in a hurry to cut off limbs; that he will recollect that the people will say, "I wish I had my own surgeon, and he would have saved my limb," so that self-interest, if nothing else, will make surgeons conservative. In surgery we must do as we would be done by, when we will be acquitted at the grand tribunal. I am very shy of amputating, because I have seen too many patients, which if saved, would do well, and escape with good and useful limbs. We have no warrant for lopping off the limbs of another person's body but for the preservation of the whole. I am averse to sudden amputations, for there is shock already imparted to the constitution by the accident, and another is imparted by the operation, of which very many die, but even if not, there is a useless stump, the muscles retract, the bone sticks out and exfoliates, when the case is a discredit to you. There have been numbers of compound fractures at St. Bartholomew's Hospital since I have been connected with it, but they have all done well, except those which had been amputated, and not one had a good stump. It appears that amputations below the knee do the worst; those in the thigh better, and in the arm best. Indeed, I have no objection to amputation of the arm below the elbow for a serious crush of all the parts.

South advocated primary amputation after serious injuries to a limb, yet he stated his views in such language as left no doubt as to the extremely rare character of the lesions which should only permit its performance:

> The proceeding of a surgeon on such occasions, more than any other, perhaps, shows his greater or less knowledge of the principles of his profession. He may be an excellent operator, but unless he pay the most strict attention to points of practice like these, which are often too lightly considered and risk the well-being of the patient, he is no surgeon, and should have no credit for the performance of an operation, the necessity for which in the beginning had been caused by his own improper conduct. He should recollect, as has often been said, such operations are the opprobrium of surgery, and should never be performed or recommended until all other means have failed.

South touches the core of the question, and enumerates principles for the conduct of an operation which should be kept constantly in mind by all. He informs us that Cooper rather advocated primary amputation when a limb was irreparably injured, than to delay until inflammation and suppuration set in.

Cooper taught that, "if a limb must come off, it is better to amputate within 12 hours than to wait 2 or 3 days." "If you amputate immediately," he said, "the system has but one shock to sustain, and in general, rallies much better than when amputation is delayed.

But, when you wait 12 hours, there is a great degree of inflammation set up. The loss of blood is better than otherwise to precede the operation." He regarded the moderate loss of blood rather salutary than otherwise, in amputations after injury; shock alone he dreaded as a primary element.

Chelius regarded amputation necessary only after compound fractures on account of 3 conditions: 1. The severity of the injury; if the bones be broken into many pieces; if the muscles, tendons, ligaments, nerves and important blood-trunks be injured; if the joint-ends of the bones be extensively split, or so destroyed, that mortification might be looked for with certainty. 2. Speedy mortification. 3. Impending tetanus or blood-poisoning.

Legouest divides the indications for amputation after gunshot fractures into 2 classes; which, he adds, will apply to all classes of compound fractures. The first category has reference to general indications, and the second to special. In the first he includes all cases in which the limb is torn completely off, or in which the fracture extends into a major articulation, with mangling of the main arterial trunks and nerves of the limb; and those injuries in which there is an extensive mangling of the limb, with bleeding that neither the ligature nor pressure will control. All of these, he declares, demand amputation without delay, but, he adds, when assured that there are coincident internal hemorrhages into any one of the 3 great cavities, we had better delay until reaction sets in, as most of these end fatally. The changes in his judgment, which may occur locally consecutive to a bad fracture, and which may demand amputation, are, (*a*) suppuration extending into the soft parts and articulation; (*b*) incoercible, consecutive hemorrhage; (*c*) gangrene resulting from the lesion, attacking the blood-vessels; (*d*) traumatic gangrene; (*e*) foul air in a hospital.

Legouest declared that special indications are of 2 orders; one is the condition in which we find the parts, and the other the seat which it occupies. The condition in which we find the parts will always very much influence or determine the course of the surgeon. When the conditions are favorable, that is to say, when the injured are admitted into a well-regulated hospital, then we should exhaust every resource of our art, before we entertain a thought of amputation. On the contrary, when conditions are unfavorable, when gangrene is epidemic, and when in severe, inclement weather the wounded must be hastily transported long distances over rough roads, immediate amputation becomes imperative; nevertheless, with the improved facilities and hygiene which modern invention have given us for transportation, the matter of distance will in future give us little concern, and all the conveniences will be given in transit that can be rendered in a hospital. When that time arrives, the principles on which we now proceed will undergo a great revolution."

Legouest, a writer of great authority on military surgery, did not live to see the fulfilment of his marvelously correct prophesy. He did not live to see palatial flyers sent through space at the rate of a mile a minute, a train of a thousand tons sent from one end of the continent to the other, at a great rate of speed, without any uncomfortable motion, and abundantly supplied with every possible convenience that is to be had in any home or hospital. Indeed, there are no good reasons why amputations may not be performed as well on moving trains as in stationary hospitals. Abundant light, ventilation, water, etc., can be supplied. Who can fail to realize what modern inventions have done to revolutionize the future of the surgery of war? With the progress made in the art of surgery, and the advantages which the ingenuity of man has placed within our reach, it would now seem little less than a crime for any nation to permit any of her wounded to perish on the field of battle or in a hospital, whose injury was not mortal at the outset.

Let us quote Hennan, of Waterloo fame, again on the subject of hygiene for the wounded. He begins by describing at length the wide differences which exist between the wounded soldier and the wounded civilian; from the effects of change in associations, in climate; the effects of overcrowding in hospitals; and he makes an eloquent appeal to surgeons to attend diligently above all things to the hygiene of the wounded. "When I reflect," he says, "on the wonderful changes which I have seen wrought by simply shifting patients from one hospital to another, giving them fresh air, good food, and pleasant surroundings; and contrast, on the other hand, the poor, sallow, dejected fellows that have filled the hospitals; the flabby, nonadhering stumps, livid with discolored sanies, which have disappointed my most sanguine hopes, I shudder at the contrast."

He expressed himself in strong terms on what might have been accomplished in the wars of his time if ample means of transportation had been provided, ample bedding, victualing and attendance; and how many valuable lives would have been saved that had to be sacrificed.

Thus it is seen that while there was not a general consensus of opinion among surgeons on the question of primary amputation in the past, yet, with few exceptions, all agreed that when a limb presented such an aspect after injury as rendered an amputation probable in the near future, the patient's prospects of recovery were greater when it was severed before active inflammation or "septic infection" was manifest.

For reasons heretofore stated, the assertions of those whose experience was chiefly derived from what they witnessed in military life, must be accepted with great reserve, for as a general thing the most skilled and experienced members of the profession did not follow armies. Indeed, we are informed by Guthrie that the medical corps of the British army in the Peninsular War was chiefly composed of apothecaries, barbers, and hospital dressers.

Those past the meridian of life know too well what a sudden change of climate with the hardships of war mean. Therefore, the few who go to the front and keep in close touch with the combatants in the event of a bloody engagement, are quite overwhelmed with a multitude of formidable cases. As formerly, anything approaching comfortable transportation was quite impossible for the seriously mangled, and proper attendance quite out of the question; in order to shorten the course of treatment and reduce the labors of the surgeon, prompt amputation was the general rule. The surgeon must in varying degrees partake of the depressing influence of war in a foreign clime; poorly nourished and badly sheltered, he is not at his best. Possibly in poor health himself, with indifferent materials, at best his duties can be but indifferently performed.

In reviewing the literature of traumatic surgery it strikes one as rather singular that no author makes prominent mention of the role which the infliction of pain played in the production of shock before 1840; nor do we gather from the writers on amputation, since anesthetics came in vogue, that the mortality has been reduced by them, from which it must be inferred that anesthetics of themselves give no additional safeguard against the dangers inherent in all major amputations. Nor do we find any operator in speaking of the site of selection, make mention of prothetic apparatus, or where the division shall be made with the best prospects of later bearing a comfortably adjusted artificial limb, which would imply that the general adoption of those artificial substitutes for those destroyed parts of the anatomy, is a recent custom, and their manufacture a new industry. Hennan's observations on the utter uselessness of attempting to preserve the limb in case of bad fractures in poor hygienic surroundings and a depraved state of the system are most significant, and point to the futility of undertaking any serious operations on those whose recuperative powers are at a low ebb, when the blood is defective in fibrin, plasticity in the tissues is wanting, and thereby solid union of the mutilated parts improbable.

Bilguer, no doubt, went too far for his time, when he declared that "no primary amputation of any kind should be performed." But, the principle embodied was in the right direction, as time has proved. Hennan denounced him, because of his strong language against the too free use of the knife, in serious compound fractures; and, because of the great number of cripples who survived his plan of treatment and became a great burden on the Prussian government after the war. But, this is greatly wanting in logic, and carries with it evidence of its own weakness and instability; for, if those who recovered with their limbs the seat of such distressing symptoms as he claims they had, why did they prefer to carry them to their graves and defective as they were, prefer them to any artificial substitutes? No doubt, many shattered, mangled limbs or parts of limbs which Bilguer preserved were very inferior to sound, healthy, whole ones; but the patient escaped with his life, and it was at any time thereafter a safe and speedy measure to have an amputation performed.

But, one with a limb sacrificed is not a whole individual, moreover, how many amputations leave painless, useful stumps? Abernethy was only too well aware of this when he reminded his pupils that in many cases the ends of the bones project through, exfoliate and demand resection or a consecutive amputation. But it may be said that in Abernethy's time stumps were not formed as artistically as in our days, that the divided bone was not covered in by the integument as now. But, it may be remembered, that O'Halleran devised and recommended the flap amputation in the latter part of the eighteenth century, and that bone-covering has been a practice in a modified manner ever since. The mortality attending primary amputations through or above the major articulations has always been large. Even now, with all the hemostatic agents which ingenuity can devise in the immediate severance of a mangled limb, the mortality remains very great after shattering of a limb. This has no reference to the sacrifice of limbs the seat of pathologic growths or deformities.

Until the antiseptic epoch, or somewhat earlier, the surgeons who held diverse opinions on the subject of immediate amputation might be divided into 2 classes.

1. Those who recommended prompt and decisive action in all cases in which the parts at the seat of bone lesion were totally destroyed, or in which it was feared, the resulting, consecutive pathologic changes, as inflammation or gangrene, would necessitate an amputation later.

2. Those who thought it justifiable to delay operative intervention, and make an effort to spare the limb, even though life might possibly be placed in greater peril. They fortified their position by declaring that primary amputations were always attended with great danger to life; greater than when amputation was postponed until reaction was well established; and that sensitive, painful, useless stumps so commonly followed severance of a limb regardless of the skill of the surgeon. They were almost exclusively those who based their views on observations in civil life. They were observers of keen discernment and of large experience; but they knew little or nothing of the difficulties which confront the surgeon after a great battle, in which the carnage has been terrible, and almost no sort of provision has been made for the immediate care of great numbers on the spot. Clearly then, their conservatism could have but little application beyond the range of civil life.

However, social evolution is making steady advance, and now that popular governments have gained firm foothold, the masses from whom warriors are recruited will demand that he who risks his life for the nation's defence must be treated humanely, and that no pains be spared to extend to him every comfort enjoyed by the neighbor at home by his comfortable fireside.

Within the past 3 years we have closely watched the surgical histories of our war with Spain, on the Islands of Cuba and Porto Rico, our war in the Philippines, and England's war in the Transvaal, and from what we can gather through the army surgeons' reports, extreme conservatism is the established rule after gunshot fractures, and invariably after perforation from smaller missiles the limbs are saved.

It is true that in these recent wars there has been little use of artillery, and practically no fighting at close quarter with cavalry, so that the wounded have suffered less from large mutilations. Moreover, every soldier going into action carried with him the "first aid dressings."

Facilities for transportation have mitigated enormously the sufferings of the wounded, so that the time is short from the infliction of a wound attended with bone shattering, until ample facilities are provided for cleansing the wound, adjusting the fracture and comfortably placing the patient.

In Treves' communications to the *British Medical Journal*, he reports that within 48 hours after the battle of Spion Kopje nearly 2,000 wounded were safely transferred to the base hospital at Frere.

The British Boer war entailed a large destruction of life and limb. From McCormick, Stokes, Cheyne and Treves who were at the base hospitals, we gather that primary amputations were never performed after a gunshot fracture, unless the large blood-trunks were simultaneously destroyed. Each of these distinguished surgeons records numerous examples of prompt union after shattering from gunshot wounds. And this often, too, under the most adverse surroundings, in an atmosphere of intense heat, deficient food and water, and indifferent nursing.

Advanced conservatism has now become the established rule on the battle-field, as well as in civil life, and to this end, our governments have left nothing undone so to provide the surgical equipment that nothing is lacking.

AMYOTROPHIC LATERAL SCLEROSIS.[1]

BY

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This is one of the most rare of the organic diseases of the nervous system. As it affects both the cerebral and spinal segments of the motor tract widely, it is subject to much variation in its symptoms according as it affects one or the other segment primarily and chiefly. In the majority of cases the spinal neurons are affected earliest as shown by paralysis with atrophy, the spastic symptoms developing later. In this case the cerebral neuron appears to have been first affected, as shown by the weakness and stiffness of the lower limbs.

G. R., aged 47, worked in cement works for the last few years, and was, therefore, much exposed to wet and cold. There is nothing of moment in his family history. His habits were good, and he had always been well.

His present illness began in September, 1901, with twitching and weakness in the thighs, and shortly afterward in the hands, forearms, and arms; he was soon unable to work. The left leg became affected first, and later the right one. They both became stiff and heavy, and he found it difficult to get about; he has not walked since late in August, 1902. The hands and arms became weak without stiffness, and wasting in them became evident a few months after the symptoms began, and has increased rapidly, especially during the last few months.

Speech became affected early in the summer of 1902, and swallowing about the same time.

The following entry was made on admission:

He is a large man. His expression is anxious and quite staring, owing to the wide palpebral fissures, but he has full power to close his eyes. The lower part of the face has little expression, and the movements are not free. He can close the lips, but not purse them to whistle, nor hold them together

[1] Presented at the Canadian Medical Association, London, Ont., August, 1903.

while puffing out the cheeks. The movements of the tongue are awkward, and it is protruded with difficulty. The soft palate is not affected. Phonation is good, but speech is barely intelligible. Swallowing is difficult, so that food can be taken only in the erect position; solids and semisolids are taken more easily than liquids. Jaw-jerk is easily elicited, and is very marked.

The arms are almost powerless. The shoulder-girdle muscles are quite paralyzed and atrophied. He can flex the elbow with difficulty so as to bring the hand up on the chest and



Fig. 1.—Showing atrophy of face and upper extremities, and apparently normal condition of legs.

extend it again, and he can barely flex the wrist and fingers through the action of the long flexors. Power of rotation of the hand is lost. There is much atrophy of the forearms. The muscles of the hands are almost completely atrophied and the hands present the typical claw-like appearance.

Elbow-jerk is marked, but there is no wrist-jerk, the forearm muscle atrophy having advanced too far.

The trunk presents no change from the normal, except lessened expansion of the chest in respiration.

The lower extremities appear well-nourished, and are very firm. Slight fibrillary twitching is present in many parts, chiefly in the inner sides of the thighs, less so in the legs.

The knees are flexed with much difficulty, resistance being continuous during flexion. Knee-jerk is extremely exaggerated. Ankle-clonus is difficult to obtain owing to the extreme spasticity of the calf muscles, but sufficient relaxation was obtained on one or two occasions to give marked clonus. Tendo-achillis jerk is marked. There is typical dorsiflexion of the great toe of the right foot, ankylosis of the left metatarsophalangeal joint prevents extension of the great toe beyond the straight line. There is no cremasteric reflex, but the abdominal reflex is easily obtained.

There are no sensory disturbances, but he gave a history of



Fig. 2.—Showing atrophy of hands and clawlike condition.

some girdle pain in the abdomen for a few months; it disappeared a month before admission.

The bladder and bowel functions are normal.

His mental condition is clear, but his emotions are easily disturbed, so that he laughs immoderately and is as easily made to weep.

He went home into the country in June. The bulbar symptoms continued to grow worse so that swallowing became increasingly difficult. He died early in September, 1903. An autopsy could not be obtained.

Remarks.—The duration of this case was unusually long—2 years after the onset of the first symptoms, and 15 months after the bulbar symptoms first showed themselves. Most cases terminate in about a year.

The symptoms were quite characteristic; the paralysis with atrophy in the upper extremities and face showing degeneration of the motor neurons in the cervical and bulbar portions of the spinal cord; and the spastic paralysis of the lower limbs with the marked irritability of the wasted muscles of the arms and face, indicating equally clearly, degeneration of the cerebral neuron processes in the crossed pyramidal tracts. The extremely marked jaw-jerk showed that the pyramidal tract degeneration had extended up at least through the medulla beyond the motor nucleus of the fifth nerve. Judging from the long duration and marked character of the spastic symptoms, it is reasonable to suppose that the sclerosis extended up to the internal capsule, and that there may have been degenerative changes even in the motor cortex itself.

In amyotrophic lateral sclerosis the onset is usually with weakness and early atrophy of the muscles of the upper extremity, as the spinal neurons of the cervical cord are as a rule first affected. In this case weakness with spasm of the legs occurred first, and without demonstrable atrophy, indicating that the peripheral parts of the cerebral neurons in the lumbar part of the spinal cord were the first to degenerate; the absence of atrophy shows that the spinal neurons in the lumbar cord remained practically healthy.

That his emotions were easily disturbed was doubtless due to his difficulty in making himself understood. There were no other signs of mental weakness.

The full-length illustration (Fig. 1) shows very well the loss of tone and atrophy of the lower part of the face, of the arm, especially the deltoid muscle, and of the hands. The legs and feet are well nourished, and the position of the feet shows that the muscles have not lost their tone.

INFECTIONS OF THE KNEE-JOINT.[1]

BY

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The knee-joint being the largest joint of the body and the least protected by the surrounding tissues, is more liable both to external and internal, direct and indirect violence. It is protected behind by the posterior ligament and the oblique fasciculas of the semimembranous muscle, and the other muscles and tendons posterior to the joint; on the sides by the internal lateral ligament and the two external ligaments; in front by the quadriceps extensor muscle with the patella, and the patellar ligament. On the side of the patella we have the accessory fibers from the vasti muscles with the fascia lata as an additional support to the large capsular ligament. Situated on the top of the tibia are the 2 semilunar cartilages and in front and behind the spine of the tibia are the anterior and the posterior crucial ligaments. The synovial membrane of the capsular ligament extends under the extensor muscles and the patellar ligament, and has a projection from the ligamentum mucosum, backward below the patella into the joint toward the intercondyloid notch.

[1] Read before the Baltimore and Ohio Railroad Company's Surgeons' Meeting, Cleveland, Ohio, June 24, 1903.

This also has fringes projecting from its sides, which extend upward between the patella and the femur and are known as the ligamentum alaries. The capsular ligament is pulled upward in the complete extension of the leg by the subcrureus muscle. There are several bursas around the joint.

Because of the anatomic relations we are unable to open this joint except in front and at the sides, and within the joint the structure is such that thorough drainage and cleansing are as difficult as in the abdominal cavity. Drainage of the knee-joint is not a simple problem, and one should carefully consider the complications and difficulties which arise in all cases.

Acute arthritis is traumatic, hematogenous or secondary to diseases in the vicinity. Hematogenous arthritis may occur in various infective diseases—scarlet fever, pneumonia, pyemia, smallpox, measles, scurvy, hemophilia, etc. Rheumatic arthritis has to be considered in this group, for it is doubtless due to infection carried to the joint through the blood.

In all cases of arthritis, whether fibrinous, serous, or seropurulent, there is congestion of the serous membrane with more or less inflammation of the ligaments and the cartilages. In dry or fibrinous arthritis there is a deposit of fibrin in the joint. In serous form of inflammation we have a serous exudate, and frequently this becomes seropurulent. Occasionally we have a purulent exudate or empyema of the joint. In milder cases of inflammation of the joint, resolution may take place without any destruction of the tissues. In more serious cases there may be destruction of the capsule, ligaments, cartilage, and bone. Periostitis and osteomyelitis may follow. In the process of ulceration, sinuses may form and complete destruction of the joint with luxation and ankylosis may occur. The ankylosis may be fibrinous, cartilaginous or bony. These forms are seen after inflammation of the joint, both in acute and chronic cases. General systemic infection may supervene during acute inflammation of the joint. Chronic arthritis may be the result of repeated attacks of acute arthritis, or may be primarily chronic. Among the causes of chronic arthritis are traumatism and the infections. It occurs also in gout, and in some nervous diseases probably the result of trophic disturbance. Chronic arthritis of the aged may also be due to the same cause, and rheumatoid arthritis is allied to it. The same etiologic factors may give rise to different kinds of arthritis in individual cases. Chronic purulent arthritis is always due to attacks of acute arthritis. This always ends in more or less destruction of the joint.

In tuberculous arthritis, the primary center is generally in some part of the surrounding bone. In some of the cases, the swelling around the joint and sometimes within the joint presses out the skin and gives to the fingers the feeling as if some fluid or semifluid contents were within. There may be a greater or less degree of puffiness or swelling around the joint. The inflammation of this character about the joint most often comes on slowly and without pain. Pain may be present, however, if there has been infection of the joint with pyogenic bacteria. When the bones have become inflamed, pain of a dull, continuous, aching character is present in varying degrees. In infections of the joint when this occurs, one should be careful not to mistake the condition for sarcoma of the end of the tibia or femur. Both tuberculous arthritis and sarcoma may be antedated by an injury, and if such be the case the diagnosis may be made more difficult. In tumors around the joint, the swelling is oval and symmetric. Care should be taken in the treatment of these diseases, for, should a joint be put up in plaster and allowed to remain some weeks or months, and in the end a sarcomatous joint be found which had been mistaken for rheumatism or tuberculosis, valuable time will have been lost, and possibly the life of the patient.

Warren Gould divides diseases of the knee-joint into 3 classes: Synovitis, capsular arthritis, and osteoarthritis. Synovitis may be brought on by a twist or sprain of the knee-joint, or by slipping of the semilunar cartilages. There is a bulging forward of the patella and of the capsule on either side of it. Fluctuation can be readily elicited. Synovitis may subside under suitable treatment, which is rest, secured by the application of a splint. Should the synovitis continue and show no signs of decreasing, and should there be increase of temperature with pain and symptoms of septic infection, the joint should be cleansed and some fluid from the joint removed and examined microscopically. Swelling of the knee-joint may come on gradually, and the patient may have his attention called to it only by accident. When swelling comes on rapidly, it may be due to acute or chronic rheumatism, or gonorrheal rheumatism, or tuberculous inflammation, or from some intercurrent disease, such as smallpox, measles, pneumonia, typhoid, scarlet fever, erysipelas, or pyemia. It may be due also to inflammation and irritation about the joint. Effusions into the joint may be either serous or bloody. Bloody effusions are generally caused by some systemic disease, or disease of the bone, such as sarcoma or inflammation about the joint. Continuous swelling in the joint stretches the capsule and the ligaments, the muscles atrophy from nonuse and the knee becomes more or less useless. In all cases of inflammation about the joint we should aspirate and draw off the fluid. Should the fluid contain pyogenic bacteria, the joint should be thoroughly washed out and drained. Afterward the leg should be put up in suitable splints and kept at rest.

In capsular arthritis there is a thickening of the capsule and deposits of fibrin. After repeated attacks there is loss of motion, due to the thickened capsule and fibrin deposits. This is most often found in tuberculous infections of the joint.

Infections of the joint, due to rheumatism and the following endocarditis and intense septic infections, bear such a close relation to the results following microbic infection that some have considered rheumatism due to microbic organism, and Poynton and others claim to have isolated the germ.

In children there may be an acute arthritis without any seeming cause. It is not due to rheumatism, yet often mistaken for it. Therefore, in all children, and in fact in all persons with a swelling of the joint, with symptoms of infection, the joints should be aspirated, the contents examined, and if infection is present the joint should be thoroughly cleansed and drained. In children this is especially important, for in them effusions often become rapidly infected by various organisms. These cases of joint infection are surgical and not medical. Just as we find in pyothorax, the rapid evacuation of the fluid from the chest with suitable drainage enables the lung and pleura to recover with the least possible injury, so it is in joint infections, one should treat them with free drainage at once, and not hope that nature will effect a cure without our services.

Acute arthritis of infants usually comes on under 2 years of age, and, as a rule, attacks only one joint. It may be an extension from some acute disease of the epiphysis or may be due to bacteria circulating in the blood. It readily becomes purulent and symptoms of septic infection develop. It must be treated surgically by free drainage of the joint.

A chronic infection of the joint from tuberculosis may at any time become infected with other organisms and acute symptoms supervene. In such instances after free opening, if there is much destruction, the joint should be resected.

I do not advise the aspiration and opening of every joint which is presented, but after suitable examination, it should be ascertained whether the contents are sterile or not. If the fluid is sterile, then we may rely upon aspiration to help in the cure. Should the joint be infected, aspiration must not be depended upon, but

free incision with suitable drainage used. One should be sure of his technic before aspirating a joint. Otherwise it may be infected by the surgeon.

In arthritis due to gonorrhea, the synovial membrane and cartilages around the joint are early involved, and degeneration takes place rapidly. These cases are amenable to aspiration and drainage. If left alone ulceration with destruction of tissues and bony ankylosis results. Blood extravasated in the joint may remain fluid for a long time. If allowed to be absorbed the clot may become organized between the bones and the ligaments, and more or less loss of motion be the result.

A fractured patella is best treated by opening the joint under strict aseptic precautions. After cleaning out all clots of blood and cutting off the lacerated tissues, the pieces of the bone should be held in apposition. In compound fractures opening into the joint, it should always be opened thoroughly and cleansed. Whether the joint should be closed with or without drainage must be decided in each case after carefully considering the circumstances under which the injury occurred, the length of time before seen by a surgeon, the intervening and after-treatment. When drainage is decided upon, the best place is on the sides just above the lateral ligament. If necessary, the incision may be carried the entire length of the capsule.

A joint that has been injured and infected is liable, like an infected appendix, even if it recovers for the time, to be the seat of future trouble. While it is not possible to remove the source of the trouble as is done in the case of the appendix, yet by suitable surgical treatment the likelihood of recurrence of the trouble may be reduced to a minimum.

CASE I.—In February, 1903, a colored woman, aged 27, well nourished, chambermaid by occupation, presented herself at the City Hospital. Her left knee-joint was semiflexed, swollen and had the typical appearance of a tuberculous joint. The disease had been coming on slowly for 12 months. There was pain on motion. Under an anesthetic, the joint was freely opened, and finding it destroyed and the ends of the tibia and the femur tuberculous, the joint was resected, the capsule removed, and the bones wired together. The leg was put in a plaster cast, and the patient kept quiet for 3 weeks. At the end of that time the cast was removed, the skin sutures taken out, and another cast put on. The woman was then allowed to go about on crutches. She returned home cured at the end of 3 months.

CASE II.—This patient, seen in October, 1902, was a white man, aged 30, whose left leg had been paralyzed when a child, leaving it almost useless. In consequence of this, his right leg did all the work. He had fallen some 10 years before, and had been laid up with inflammation in the right knee-joint. The present history was, that one week before admission to the hospital, while unloading a box from a wagon, it slipped, and his right knee-joint was severely twisted in trying to hold the box. Synovitis began at once. The temperature, pulse, and respirations were normal, the urine was negative, heart and lungs sound. The man was put up in a snugly-fitting cast, extending from above the knee to the ankle. He remained in bed for a week. At the end of that time the cast was removed, but the synovitis had not decreased. The joint was aspirated, and a culture made from the fluid showed it to be a pure streptococcus infection. A slide made from the fluid showed the same. Under an anesthetic an incision parallel with the femur was made on either side of the joint in front of the lateral ligaments, and the joint was thoroughly irrigated with salt solution. The incision was closed, with the exception that on each side a twisted wire drain was left in the joint. The leg was put up in plaster. At the end of 10 days the cast was opened, the drains removed, and skin stitches taken out. The leg was put up in a plaster cast, and the man allowed to be up and about on crutches. At the end of 4 weeks he was permitted to go home, and he resumed work with no further discomfort in his knee.

CASE III.—In March, 1903, a colored man, aged 30, an oysterman by occupation, applied for treatment. While pulling a gun out of his boat he had received a charge of duck shot in his right knee-joint. The load struck him on the outer side of the joint in front of the tibia and passing upward tore into the knee-joint. Shot were embedded in the patella, tibia, and femur. He was received at the hospital 4 days after the injury with acute septic infection of the joint. The man was given an anesthetic and the joint freely opened. The incision was extended on either side the full length of the capsule and a through-and-through drainage was instituted. After 2 months the man returned home with the skin surface nearly healed and with some motion in the joint. He now has a good leg, which allows of his earning his own living.

CASE IV.—In September, 1902, a boy of 8 years was admitted to the hospital with acute osteomyelitis of the right femur. The leg was freely incised, and openings made into the dead femur, so as to cleanse out the central canal. The bone was not removed, but left in the shell of periosteum. Later on he developed acute infection of his right shoulder-joint. The shoulder was freely opened and drained, and subsequently a resection of the head of the humerus was done. The boy recovered from the operation, and has a good useful shoulder with free motion. This is an example of a case of pyemia with infection of the joint, and shows what results we may get from freely opening it. At times we are able to save the joint; and when it is destroyed, by resecting one or both bones, the limb may be saved.

These cases are taken from a number of similar ones which were under my care at the City Hospital during the past winter. The only points which I wish to emphasize are these: 1. A most careful diagnosis should be made in all instances of inflammation in or about the joint. 2. When a purulent inflammation is present in the joint it should be opened early in the disease, and means taken to prevent the formation of pockets of pus. By so doing, we may save the lives and joints of many of our patients.

CARE OF THE UTERINE CERVIX.[1]

BY

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It may seem unwise that one should force a paper before this section of the society on a subject of which so much has been written and said, but that the uterine cervix is both misused and abused must be taken without argument, and something must come out of agitation of this subject or the frightful death list from malignancies will continue unchecked without our thought or care.

I do not say that all malignancies of the uterus are due either to fault or neglect, but that many of them are, seems obvious. The cervical tears, with the resulting changes, bring on a lowered resistance which is but the proper culture ground for the initiation of any disease. Neither should I fail to call attention to the frequency of the malignancies of this organ, and to the many neuroses and infections which are often the result of injury to the cervix.

We may say regarding cancer that according to the Registrar General there died in England between 1847 and 1861, 87,348 persons, 61,715 of whom were women, and of these 25,000 died from cancer of the uterus. Since by far the greater number of these were primary involvement of the uterine cervix, should we not bestir ourselves at the thought of this frightful mortality? Park, of Buffalo, has recently attempted to show that cancer is frightfully on the increase in this country, and so much thought has been paid to it in Germany that some authorities have advocated that women be made acquainted with the prevalence of uterine carcinoma through the popular writings of medical men. Again, as regards its surgical significance, it is the most difficult thing to remove in this location; traveling as the disease does through the lymphatic channels, it soon invades the adnexa, inguinal, and pelvic glands, and often before the diagnosis has been reached the case is inoperable. Quoting Winter, of Leipsic, let me say, "the diagnosis of cancer of the uterus is the most responsible the physician is called upon to make. The price for every failure of diagnosis or for a diagnosis made so late that the cancer has already become unsuited for operation, is a human life. Under all circumstances, and with all means at our disposal, we must strive to diagnose cancer at the very first examination." The reason I emphasize the necessity for diagnostic acumen is because at a certain early stage of the disease, cancer has

[1] Read at the section meeting of the Wayne County (Detroit) Medical Society.

much the same general appearance as a well-marked cervical tear accompanied by erosion. So let me say again that the innocent look of the papillary cervix and cauliflower growth should not fool the practised eye, but when the least suspicion manifests itself, the microscopist should be our consultant.

In subinvolution we have another source of pelvic distress and sympathetic symptoms. Of course not all the subinvolutions are responsible to cervical tears for their presence, but of all causes known, local ones are the most frequent.

For the proper and perfect condition of involution, we must have two factors: (1) A firm and continuous contraction of the muscular fiber; and (2) a lessened blood-supply. Now, can either of these be possible in the presence of a laceration of any magnitude? Let us see—an injury of any kind is excitant and calls forth a continued increase of blood to the part so long as repair is imperfect. This general rule is strictly true of the uterus. Here, however, we have the injured surfaces retracted by the physiologic action that the whole organ undergoes in its effort of return to normal size; the blood-supply is increased instead of diminished, and in the process of repair a large amount of scar-tissue (which is but nature's adhesive plaster) is thrown out, and this by virtue of its structure is an obstruction to the free circulation of blood to the entire lower uterine segment. It is in a measure a foreign body, and as such is a menace to human life, and is simply a case in which our good old friend nature has done the best she could.

Omitting a general description of the uterus, let us revert for a moment to its circulation and nervous supply. The fundus and body are well supplied by the ovarian artery, which is a direct branch of the abdominal aorta; the lower segment is supplied by the uterine artery, a direct branch of the internal iliac. These arteries, coming as they do, directly from such important volumes of blood show how free the circulation should be in a normal organ, and how any obstructions, such as plugs of scar-tissue, will of necessity produce chronic congestion and all the resultant forms of pathologic change so familiar to us. The nerve distribution is just as important, with its close association with both the pelvic and sacral plexus of the sympathetic and third and fourth sacral nerves of the cerebrospinal system. When we consider that branches more or less direct from this same set of nerves supply the rectum, anus, bladder, clitoris, and vagina in front and the lumbar and sacral muscles behind and above, we can not wonder that a woman suffering from an unrepaired uterine cervix complains of constipation, sometimes alternating with diarrhea, or an excessive desire to urinate, a pruritus not controlled by drugs, and a backache which only is subdued, but not cured, by anodynes. Is not this nerve distribution, with its close association with the cerebrospinal system sufficient to explain the constant occipital headache and the despondency which may be but the initiator of a true melancholia? Pain is not always the worst thing in the world, and so if the cerebrospinal system does not cry out aloud, probably a worse condition may be going on through a perturbed sympathetic system, and instead of pain we have a progressive malnutrition, the various forms of autointoxication or palpitation of the heart, stomach disorders, etc.

Back of every result there is a cause, either hidden or apparent. Now is there just cause for believing that many of the extensive cervical tears might be obviated? We think there is. Williams, of Johns Hopkins, in his very excellent book, published recently, says: "Slight degrees of cervical laceration must be regarded as an inevitable accompaniment of childbirth. Such tears heal rapidly." Now in this we would all concur, but what of the deep, extensive tears and the socalled stellate injuries? Is the obstetrician always blameless here? Are not the instruments too frequently applied, or on being applied in cases of necessity, is not labor precipitated too suddenly? Deep cervical tears occur occasionally during the course of spontaneous labor, and under such circumstances their genesis is not always easily explainable. More usually, however, they follow attempts at rapid manual or instrumental dilation, or perhaps much more frequently from attempts at delivery through an imperfectly dilated cervix. The amniotic sac with its contents is nature's way of performing a complete dilation, and under ordinary circumstances this should not be disturbed until the canal is fully open. This is a trite expression, of course, but in spite of the constant and repeated caution from all good authorities, the practice is common to break the bag of waters and do an instrumental delivery before dilation has been completed. In the ordinary case such practice ought not to be tolerated. It is meddlesome midwifery, and cannot find its excuse alone in the hurry of a large practice. So much for the prophylaxis of cervical tear, but supposing the damage is done, a deep rent is before us, what shall we do for it? One of 3 courses is open to us: (1) Immediate repair; (2) repair later on during the puerperium; (3) to delay all effort at repair for weeks, months or years, or until nature cries out in some of her many positive ways. We have got now to a place where our judgment must be on the throne. We cannot always do as we would like, with the environment found in the home, neither can we do the best for our patient without 2 important things, namely, cleanliness and good assistance. When we have these, in my judgment, immediate repair should be done. The lack of these 2 requisites would counterindicate it. The chance of infection, of course, is the stumbling block, but under fair circumstances, it seems to me, that the immediate repair is fraught with as little danger of infection as would be the wide, raw surfaces of the womb left free to the ingress of bacteria. Here the damage is recent, the repair is quick, and usually completed at the end of the lying-in period.

If we wait, we take an equal or greater chance of infection of the cervix, and instead of our patient getting up at the usual time, she has a delayed convalescence, the usual symptoms of cervical tear, subinvolution, etc., with an operation staring her in the face for a future prospect. It is the latter chain of circumstances that cause in women the death of the desire for other children. Should we wonder? The lacerated cervix is undoubtedly a predisposing cause of infection, a gaping raw wound presents itself as a proper culture-ground for bacterial growth. Now the uterine cervix is easily brought down to the introitus, and in view of our field we can readily repair it, and it seems to me, shut off the chance of infection. A rat-tooth forceps, 1 or 2 catch forceps, a pair of scissors, needle, and catgut are all the instrumental requirements. It has often occurred to me, and sometimes at rather trying intervals, that we undertake too much without skilled assistance. There may be an excuse for this in a country practice, but in the city, where the telephone puts us in easy touch with competent fellows, do we not assume too much in many of our obstetric experiences? It is not a sign of weakness to ask for an assistant when one sees he is going to have either a difficult or prolonged instrumental application. No single individual should assume the giving of an anesthetic and the surgical work at the same time, and yet who of us holds strictly to this practice? It is the assuming of all this responsibility that unfits one to make the immediate repairs in question. Here one must have cleanliness and maintain it, if he hopes to have an ideal result, and this is nearly impossible to carry out without the trained assistant in the person of a well-trained nurse or a physician. But for some reason the immediate repair is not done, and months, perhaps years, after delivery, a patient seeks relief from the symptoms of laceration and its accompaniments. What are our findings now? Probably a simple bilateral tear, not extensive in character, but with the greater part of

the V-shaped injury full of dense scar and covered by granulation tissue. Now all of this is in a way a foreign body and one of lowered resistance, therefore, we must remove every vestige of it, or degenerative changes may continue and malignancy may result. Granting that the latter, of course, is the exception, there are many other symptoms quite as trying to the patient's comfort as those of more severe character. Our aim should not be merely to denude the surfaces, approximate and suture, for this is only dabbling in surgery. Many women have but little soreness of the cervix, as it is not a sensitive organ, and so they do not seek relief from these symptoms. It is the greatest folly to sew up these lacerations without removing all the scar. In fact, the complete removal of all scar tissue is the operation, and when we have done this we coapt the surfaces and can rest assured that no foreign body remains. If the cicatricial tissue is not too abundant, the flap-splitting operation of Emmet is suitable, but when the laceration is very extensive, and the cervix is all dense and hard, as is often seen with the stellate variety, an amputation of the cervix by a suitable plan is called for.

In closing my paper let me again insist that in the old laceration it is not the mere denuding of surface and suturing that is called for, but an absolute and complete removal of foreign tissues, which are dangerous tissues—when this is done let the wound be closed. I am constrained just here to say that abundant as the symptoms are which come from these neglected cases, the backaches, headaches, hot flashes, gastralgias and the like, we should be careful in the statement to our patient that these may all come from the womb. I fear that much harm has been done this operation by the physician in his promising too much. Simply because a patient has a laceration of the cervix does not argue that all the reflex phenomena she manifests come from the womb. I say this because I now have an hysteric patient who has been the rounds of doctors for years, and about every other one has cureted her, told her she had a misplacement, and the like, that explained her nervous symptoms. As a matter of fact, she has a normal uterus. Yet she delights in telling how many operations she has had, but always ends up with the significant remark, "But none of them has done me good." Now, she is not responsible for this, indeed they have done her no good, and it is wrong to our patients individually, and to the community in general, that they should get the impression that we refer all these sympathetic disturbances to the female organs of generation.

Women Nurses for Insane Men.—The experiment of women nurses in the male department of the State Insane Hospital at Norristown is proving satisfactory after less than a month's trial; the nursing by females is confined to the infirmary.

National Standards of Foods Announced.—Secretary Wilson has approved and proclaimed the official food standards which have just been formulated by the United States Food Standard Commission and the Executive Committee of the National Association of Pure Food Commissions. The standards consist of definitions and chemic limits, and embrace meat and its products, milk and its products, sugar and related substances, spices, and cocoa and cocoa products. No chemic limits are named for the meat products, the standard being fixed by definition only, which gives this description: "Sound, dressed, and properly prepared edible parts of animals in good health at the time of slaughter." The standard of milk is fixed at not less than 12% of total solids, not less than 8½% of solids not fat, and not less than 3¼% of milk fat. Standard cream must have at least 18% of milk fat. "By acts of Congress approved August 2, 1886, and May 9, 1902, butter may also contain additional coloring matter." A similar statement is made with reference to coloring matter in cheese, based on the act of June 6, 1896. The standard of butter as fixed contains not less than 82½% of butter fat. Ice cream, to be standard, must have a minimum of 6% milk fat. Standard molasses contains not over 25% of water, and not over 5% of ash. Standard syrup contains not over 30% of water nor 2½% of ash. Standard glucose syrup contains a maximum of 25% of water and 3% of ash. Candy is given the same definition as in State food laws.

SPECIAL ARTICLES

THE BRAIN OF CHILDREN AND SOME SUGGESTIONS FROM THE STANDPOINT OF THE PHYSICIAN AS TO HOW IT SHOULD BE REGARDED BY THE TEACHER.

BY

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The scholar in our public schools of today is indeed a most fortunate individual. Schools, especially the newer ones, have been constructed according to the most enlightened ideas of the needs of the growing child and equipped with the object in view not only of teaching him his three R's, but of conserving the proper growth and development of his body and its functions. To this end the buildings are designed with the special object of giving large, correctly-lighted and evenly heated apartments for the daily gathering of the children. Their seats are arranged so that the light falls conveniently upon their books to conserve the eyesight. The seats and desks are made adjustable so that a tall stripling does not have to fold up a yard or two of legs in unsightly and uncomfortable masses in order to get them under his desk. He does not have to bend over a desk too low for him and thus lay the foundation for future spinal curvature. He is provided with well-printed books, given pens and pencils, ink and paper, and many other details too numerous to mention.

As the crowning act in this thoughtful care a thoroughly instructed corps of teachers has been provided, whose training has had ever in mind the developing and fostering of all that is best in the young idea. The teacher has been taught physiology and perhaps psychology and is familiar with the general principles of optics and acoustics as applied to the school-room, and in these latter days she knows not a little of the general hygiene and care of the small men and women in her charge. Careful plans of study are laid out which are built up and adapted to the needs of the average scholar and represent what ought to be done by him in a given time. All this represents years of study, experience, and accumulated evidence to have arrived at its present state of perfection. And the end is not yet. The teacher is now to be asked not only to look after all that she has formerly had in mind, but she must with discerning eye look over her roomful of children in the morning and discover at a glance those who do not look or act well, question them, and refer them to the principal, who at his discretion holds them for a physician's inspection, sends them home, or returns them to their rooms. This has in view the early detection of contagious diseases and the prompt isolation and quarantine of the patient.

In some cities where medical inspection of the schools exists it has developed into more than simply this and has resulted in the mentally defective and grossly stupid scholars being carefully studied and referred for special instruction. The medical supervision has had the eyes and ears of pupils gone over and the manifestly defective ones recommended for treatment to properly qualified physicians.

However, there has been in all this a remarkable and peculiar lack of attention to that part of the body which is the very one that the teacher is supposed to seek most to develop, namely, the brain. This statement is true unless all that is done is supposed to have this one organ in mind. Yet even granted this latter view of the case, it is singular that so little mention is ever made in a specific way of the brain and its needs. The desks and chairs are regulated with infinite pains to suit the needs of the body, but do teachers always select and allot the work of the brain to suit the size, *i. e.*, the power and ability of that organ to acquire and appropriate? Do they always bear in mind that the brains of the scholars before them are not merely wax cylinders upon which they are recording impressions, and which later the pupil, on demand, must make vocal for their criticism, which statement expresses with almost painful exactness the machine work of some automatic

instructors. The process of "gavage" is a refined procedure beside the hammer-and-tongs method sometimes employed to cram ideas into children's brains.

A physician is often called upon to take up the tattered remnants of a child's intellect and patch it up into a semblance of the intact article, or he may find a nervous system so out of repair that he wonders how and why so many others escape. I believe that by presenting things from a physician's standpoint there may occur to you who teach, some practical remedy. When the brain has passed through the many hands necessary to evolve the material which is given to us to make into doctors in the professional schools, in one of which I am a teacher, we find it still far from easy to arrange a curriculum which will be adapted to the needs of their various mentalities. Even all the belaboring which these brains may have received through grammar and high schools and the university, has failed to reduce them to anything like the same caliber, so that I realize full well in speaking to you the inherent difficulties of the task. It would seem that with all the years antedating the experience that has evolved the present perfected system of teaching there might be a method devised which would be elastic enough so that all children could be suited—an adjustable one.

The great trouble is that children present such disparity of material. The delicate susceptible daughter of generations of gentlefolk finds herself set to do the same tasks as the sturdy but phlegmatic son of a recent immigrant. They both must learn the same amount in the same time. The former desires to excel and is rushed along, and the other by easy stages must slowly and painfully climb the ladder of knowledge, arriving at the top later, to be sure, than the other, but without the ruffling of a single nerve. The former is taken out of school a year or two during the course perhaps, or may be, permanently; the other is well and strong and all the better for his hard work. The first one broke down because the task was too severe. It was not physically too great for her, but her brain did not need the forcing that it received, and hence took on too much speed for so long a pull. It is much better to prevent such a broken down condition than to mend it afterward. It not infrequently happens that the equilibrium of these small brains becomes permanently upset by the unfortunate accident of routinism or of neglect, hence the least we can do is to seek to find some remedy even if not immediately successful. It seems no more, no, not half as unreasonable a request as many which are made—that we demand from the teacher that she shall look after these brain-tire cases and prevent them if possible. Teachers also are not at all unreasonable in inquiring what is to become of them when they get brain-tire from the multiplicity of duties which year by year are saddled upon them. I feel that there is a difficulty here to face and we must meet it.

The child brain of 8 years weighs as much and has anatomically all the essentials which it will possess when a mature brain of 30. As this sensitive tissue is molded at this time, so it will remain all through its after life. There is reason to believe that at the time mentioned all the brain cells upon whose delicate operations we are so dependent are already present in the tissues, and although nerve and brain cells do die, many preserve an uninterrupted existence throughout years if not for life, a condition quite different from that in many other portions of the body where cells are forever changing, multiplying, and dividing, and being renewed without end.

Now the simplest of mental acts in the school-room is most wonderful in detail; and the reaction produced by a simple question in one mind is very different from the effects produced in another. How subtle and refined is the process which records all the facts connected with the simple brain action evolved in a pupil whose teacher asks him to write the one word "cat." Then think of the two extreme types of children to which we have referred a few minutes ago.

The boy writes somewhat slowly but correctly, c-a-t, and if he thinks at all, has a mental picture before him of an animal covered with fur, with four legs, and a tail, and claws occasionally manifest; only fit to throw stones at.

The girl writes rapidly, apparently without thought, c-a-t, and then stops and thinks, "I wonder if I spelled that right?" and before she has scarcely finished she thinks, "pretty pussy! Oh, weren't those kittens cunning I saw the other day?" and away goes her imagination into a whole series of mind and word pictures until she is recalled by some sudden remark from the teacher that she ought to have had the next word done, and she may not even have heard it given out, much less does she like to be looked upon as inattentive. Her little brain is responsive, the spoken or written word reaches the recording center for impressions received in that way, and passes to the center of associated ideas, which latter responds with a whole album of pictures, suggesting many trains of thought. The act of receiving the word and spelling was reflex and almost automatic, as that simplest of reflex actions in which the brained frog wipes off the acid from its back with its paws because the nerve tracts are used to responding, and do not need the intervention of the higher centers. The same might be said in a way of the first mental picture in each case. The difference lies in the multiple and complicated act which is started in the more sensitive brain, and which every mental impression all day long is sure to produce. All this means work for some cells, and hence the need of a supply of the necessary energy. Nothing, not even a thought is evolved without the expenditure of some force, some life action of the cells whose duty it is to produce it. The greater the mental activity, the greater the wear and tear.

Perhaps it might be well at this juncture to give some brief suggestions as to the anatomy of the brain. The brain and spinal cord are made up of gray and white matter, the latter being, as a rule, simply a conductor, while in the former are located the active cell elements which are characteristic of the central nervous system as they also are the creators of brain and nerve function.

The brain is the organ of the mind, containing all the higher centers of thought, association of ideas, control centers, and the general machinery for conducting the business of life through the medium of certain ganglia situated at its base and throughout the spinal cord. All connection with the outside world, as evidenced by muscular action, speech, facial expression, writing, and emotion, first go from the centers to certain ganglia, or through these for further association to get up joint action, and then to the parts designated by the original impulse.

The spinal cord and its upper end, the medulla oblongata, contain also centers of action which are capable of working entirely independently of the mind or may be in part influenced by it.

Most of our vital functions can and do go on without our brain interfering or being cognizant of them except as there is some interruption or wrong action. We breathe, and our hearts beat, both going faster when there is need, without our knowing, and in the case of our heart without our will or wish. Our digestion goes on entirely without our volition, as do all other internal functions, the question of the necessity for more or less work on the part of each is certainly never decided by us. This continued action, measured to the needs of the economy, never ceases.

How little we think of our breathing, and yet we modify it as we will. All the complicated muscular action necessary to the completion of one expiration and the subsequent inspiration are evolved entirely without our thought, and the center of respiration, with perfect tempo, sends out the necessary impulses during the long hours of sleep, when the activity of the brain and higher centers is almost entirely in abeyance. We can cough, scratch an irritating spot, such as a mosquito bite, turn over, and even walk in our sleep without any effort of our consciousness.

These are all reflex, automatic actions, and are accomplished because certain pathways of nerve action in the spinal cord are stimulated. A part of the body itches, and the spinal cord is so accustomed when that particular demand comes to respond in a certain way that the act occurs exactly as we have described in the brained frog, which will move either the front or back leg, whichever can best reach the desired spot. In other words, selective action is possible without any brain activity whatever.

A sensory impulse cannot of itself cause motion, but it can so influence certain cells which preside over the necessary muscles that they originate an impulse which will contract any number of muscles necessary to perform an act. These

cells do their duty as unerringly as a galvanometer measures a current of electricity, for there are cells which run from the spinal cord down to the furthermost muscles of the body. For instance, there are cells in the lumbar region of the spinal cord which have a long process extending completely down to the toes. These are not spliced wires or interrupted circuits, but a straight insulated fiber which runs directly as a part of a cell in the spinal cord. It is insulated all the way from the surface of the toe, if you will, to within a short distance of the cell body. Suppose so slight an impression as a pin prick is made on the toe. Perhaps a single nerve fiber transmits this to a certain cell whose body has certain filaments projecting from it which intertwine with, but are separate from other filaments belonging to certain motor cells. The commotion started in the sensory cell is transmitted to the motor filaments, and the motor cells transmit the message to the muscle fibers moving foot or toe, and the person jumps. At the same time there has been sent up from certain other filaments in the neighborhood of the receiving cell to the higher centers in the brain a sensation which we interpret as pain, and the person exclaims "Oh!" He does this latter by virtue of certain other impulses sent down from the higher centers to the muscles controlling breathing and speech. Both the exclamation and the movement of the foot may be simultaneous, or the foot may move a little bit ahead of the exclamation. Each cell which is concerned in these various actions had a special function which it got by virtue of inherited and inviolable rights, and it acted purely from force of habit. Now suppose that the individual did not want to move or exclaim. He could stop it by what are called inhibitory nerves or centers, and by these control the reflex act so that it need not take place.

Many of the most complicated acts of our daily life are ordered and performed by pure reflex action, and this applies to many of the most intricate mental processes. The cells which operate these latter, the mental processes, like those of the similar lower acts must perform their duty if once started unless inhibited by these same control centers.

From the earliest dawn of intelligence—yes, of cell differentiation—certain cells were given duties to perform, and these cells having had a stimulus brought to a part of their own body evolve a feeling of pain, the sense of contact, a motion, a thought, a memory, an emotion as pure routine action, and this occurs no matter how stimulated, for instance in the hypnotic state, even the will of another person may operate to evolve cell activity in the body of the first.

Furthermore, the persistence of cell life in the gray matter of the brain and spinal cord, makes it very essential that these cells are rightly taught and preserved in their functions, it being evident that these cells would continue to do a perverted act if such had become normal to them by frequent repetition; an argument which proves that after a while an overt act may so pervert the function of a cell that it is not possible for it to perform those normal to it. Hence these same cells when reflexly called into activity may automatically cause the individual to perform acts wholly foreign to his wish and nature, and it may even transpire that he will commit overt deeds entirely contrary to the habit and desire of the dominant centers of the brain. This point makes impressive the reasonable deduction that we who teach must be very careful to cause the first impressions to be correct, so much lies in the force of habit even in the life work of a single cell or group of cells.

Perhaps the following case of aphasia will serve as an illustration of how much in the power of these cells we all are:

The patient had the form in which there is ability to say only one or but a few words. She could not write, or did not on the occasion when I saw her, and to all questions put to her answered the one word, "Yes." I immediately guessed what the trouble was, and in answer to my question if she had headache, she replied, "Yes," but shook her head. Between her shaking her head when she meant "No," but said "Yes," and when she said "Yes" and meant it, I was able to deduce quite a nice clinical history. I urged her, when she came again, to bring some of her friends and relatives that I might find out more about her. She talked whole sentences to me, but there was nothing to them but variously inflected and queerly enunciated Yes's. I am quite sure that anybody who was intimately acquainted with her could have come to a very comfortable understanding of her needs and desires. Her brain action was good, but it found no opportunity to express itself because all the speech cells, whose allotted work is to make us talk were shut off and could not operate, except the one which formed the word "Yes," or issued the flow of energy which resulted in that word. But the demand was sent in to the speech centers for a reply to a question. It came through regular channels, and the speech center worked the only available wire which said "Yes." The queer thing that I could not make plain was that she seemed only at times to appreciate that she was not talking as she ought, for she certainly understood practically all that I said.

Such persons get better by taking medicine, or because the other side of the brain takes up the work, doing it very slowly for these new cells have to be instructed to take up the work of the old ones when the lesion is incurable, but eventually patients do get entirely well. In the foregoing case we had to deal with the cutting off of certain conducting fibers or the actual cessation of activity on the part of those important cells in the speech center, and it is interesting when we realize how multiple and varied is the vocabulary of any educated and mentally intact individual, and that in this case, although the higher centers sent down demands for all sorts of words, and the center sought to obey, yet the only word which could be produced was, we might say, the act of a single cell which had a through wire to the front; although this cell was stimulated by impressions intended to evolve entirely different results, it could only produce the one word which might be said to be its life work, making forcible how automatic our brain really is. The more we study brain tissues and functions the more we discover that the psychologist has reason in his belief that many of the highest acts, many perhaps of our noblest feelings and deepest yearnings are but simple reflexes when shorn of all sentiment regarding the ego, the soul-life or spirit. Some radical thinkers believe that it is all automatic or reflex, even the most complicated thoughts that they themselves evolve being but the work of cells stimulated by other cells, and they by yet others ad infinitum. They are welcome to their belief, and in this short lecture I could not, even if I knew how, discuss this great point adequately, yet around it hangs the great secret of life and of what it is. The biologist has failed to answer this, has failed to tell us what the exact difference between the dead cell and the live one is, and so we too may pause at this threshold of the unknown and looking backward find plenty to occupy our minds in making deduction from that which is known.

We have all learned how varied is the acuteness of susceptibility, force, power and endurance of the brain as we meet it in children. There are the bright and the dull scholars, the strong and sturdy, the delicate and the puny, mentally, and all perhaps are absolutely inherently so. We are proud of our bright, acute scholars, but how often have we learned that the race is not always to the swift and have had occasion to feel better pleased with the attainments of the slow plodding one. Each has his own kind of nerve cells, and therefore has to do his mental work with what has been given him. How often have we seen the bright, sensitive, active mind rush along, work too hard and eventually succumb because, forsooth, the gait it took was too rapid, perhaps urged too strongly by an anxious and proud teacher, who would have been of inestimable value had she, on the contrary, held a tight rein, forcing a slower pace.

Perhaps these little brains which overtire are rendered more sensitive and vulnerable by headaches resulting from eyestrain, or by the fevers incident to the onset of some diseased condition. Perhaps there is poor general health, anemia, bad nutrition—the result of contracted ideas on the part of parents or shortness of purse, or from the disturbance in young children of regular meals and loss of appetite resulting from and incident to, the fatigue of one long daily session in school, worry over sickness in the household, or a fright; teasing and tormenting by thoughtless playmates, servants, or immediate members of the family. These children are imaginative, and the little deceptions practised upon them by their playmates, sometimes unwittingly, sometimes with malice and aforethought, make some simple little fright very real and terrible to them. The careless threat "If you don't do as I tell you, I'll put you in the bonfire and burn you up," meant nothing to the child who made it, who was older and bigger, but it meant a dreadful fright to the sensitive little brain, meant a sleepless

night, or one producing little rest, a headache in the morning, and an overwrought, tense, nervous condition throughout the entire school hours. A repetition of this day after day, the child, seeking in school to divert her mind from the terrors of play or the memory of the dreams of night, plunges with every sense alert into the school work. She forges ahead, the teacher appreciates the advancement, and sometimes makes stock of it to urge the other children along, all of which but helps to force the flagging brain to even greater exertions. By and by the little brain breaks down suddenly, the child is absent from school, it may be months, or it may be years, and yet although the whole fabric of life was wrong, the final act which threw the sensitive tissues out of balance was the school work.

Not only in this way, but it also transpires as a result of the occurrence of some fever that sudden dilation of the bloodvessels takes place, and there starts up such a disturbance of the delicate cell structures that the inhibitory centers lose their grip, and away goes this little brain on such flights of imagination, bad dreams, sleeplessness, and fears amounting to direst and most dreadful torment, making the nights hideous and the days a dreary torment; simply an overwrought sensitiveness which may end in lunacy, idiocy, or the milder forms of socalled nervous prostration. But never, no matter how complete the recovery may appear to be, is such a child the same as she would have been had this dreadful thing not have happened.

Such a crash is so fearful a catastrophe that the scars and bruises are absolutely ineffaceable. That brain can never have the delicate poise, the balance, the sure equilibrium which it formerly possessed, and might have acquired as a permanent possession, had a strong hand stood at the helm and guided the little craft through the rough waters of foolish ambition into the calm, even swell of reasonable endeavor.

The great truth that proper exercise may not only produce, but is essential to the fullest development of any muscle, organ or function, helping to make a weak organ strong, is never so pertinent as when applied to this subject. But overtraining is ever so much worse in its results than too little, for it may, as already suggested, preclude the possibility of any proper method ever accomplishing the desired results. These catastrophes that I have but faintly pictured are evidently due to the fact that the brain cells are exceedingly delicate, and the slowness of, or the lack of, complete recovery illustrates the point already made, that cell action, once perverted, habitually perverted, may render it impossible for normal acts to be evolved by such.

There comes to the attention of every physician, in spite of all our boasted care of pupils, more, rather than less, of these cases, and the neurologist is much more of a necessity in the community than formerly.

With the beginning of the new century people are borne on with the rush of old habits to strenuous efforts to excel and eclipse all previous undertakings. In every walk and path of life there is this same tremendous struggle, this rush, and push, and hurry. First, there is the business man, the broker, who toiled incessantly, not with brawn and muscle, but with brain cells, and who on some morning after some tremendous deal, even when successful, more often when not, wakes to find that he is no longer himself. The hero of a hundred conflicts on the floor of the exchange is simply an old man, as shaken in judgment as his hand is unsteady, and many a failure that has rocked the financial world comes because such a one did not soon enough step down from the seat of power. Then there is the society woman who, with multiform and multitudinous activities, becomes involved in all sorts and lines of work until she also suddenly collapses from the great strain sustained too long.

This craze for rushing along has caught hold of not only the well seasoned, but has put fire into the tingling veins of the young and ardent, with the result that it is not only the mature, but the young and able who succumb. Paralysis and paresis, formerly the diseases of the old man, now occur at 40. With all this desire to hurry, to hasten, and to excel may it not be influencing us who teach? Doesn't each of us want to have our scholars show off as well as any of our neighbors? Do we not want them to appear perhaps somewhat better? Back of this desire to do well is also the knowledge that your principal wants his school second to none. Then there is the superintendent who takes pride in his schools, the Board of Education in its superintendent, the town in its board, the whole State in its system of education, and where shall we stop? Is not the whole nation proud, tremendously proud, of our great strides toward a supreme position? This is a tremendous force we are considering, and one might say, suppose a few do drop out by the way? The phrase, "the survival of the fittest," is adapted to a slovenly conception of the problem and covers a multitude of sins. But when it is your child that suffers, or your neighbor's child, whose brain is turned in the hurly-burly, then even small details take on a sudden significance.

We cannot stay the march of progress, we do not want to, but that progress need not be followed by wrecks all along the shore. If we could establish a code of signals to show the danger point perhaps many children might be saved nights of torment and suffering, the result of nerve-tire, due in many instances solely and primarily to too active brain work.

In many cases there is no doubt that the teacher was at fault, but in justice to her be it said, that it lay not in any lack of good intention, but in the carrying out of the letter rather than the spirit of the law. It should be remembered that brain-tire comes from too hard work, too much stimulation, unchecked ambition, fear of the consequences of lessons or deportment not being up to the standard, due to the overwrought condition of the nerves, which is expressed in the tense earnestness and painful conscientiousness with which these little people essay to do their tasks. Their very sensitiveness makes them apt scholars and they tear along with avidity. As acquisition is so easy, there is nothing apparently more logical than that the teacher, if she is not observant, and often times when she is, should conclude that such a brain cannot tire, for, of course, it is not nearly as hard for her as for Johnnie, who is such a dunce. I know of no other maxim to lay down than that of eternal vigilance.

Perhaps it will not be amiss to mention that in the 2 or 3 days previous to the child coming down with some acute disease the whole body is in a condition when it can be forced too much, and at just this time great harm is done to the brain. It is when resistance is lowered, that the same tasks which are ordinarily easy seem very hard to the muddy brain, demoralized by fever, and in the attempt to do what is demanded by ordinary school discipline the child breaks down in tears, probably on the very morning when the teacher herself is very nervous, and undeserved severity, as unintentional as it was unnecessary, breaks into the sensitive mind, and the child never again feels the same toward her teacher. Life is real and earnest for the little one. This is no fancy picture, for I have seen it happen with the very much older children whom one sees at the university, the only difference being that there is no breaking down, but a very much disturbed hour or two. The child, however, goes home irritable and cross, and probably goes to a sleepless bed or to a restless and unrestful slumber, to report barely able for duty the next morning, and to the sick bed the following day.

This is an aggravated and exceptional case, but suppose there is a little less of this all the time for a series of months, during which the loss of sleep, the worried countenance, ever and anon flushed by sudden excitement or paling under some sudden demand, the sloping shoulders, the stooping gait, the tired expression, which brightens with such a sigh of relief as school is over; all these escape the teacher, for she has many to see, and the mother also may miss it. The latter, only seeing the child after running and jumping on the way home, finds her child, it may be, only a little more than usually irritable, and so it goes on and on until the facts just recorded are only recalled after the child is home and abed.

Much can be accomplished by caring for the headache and eyestrain which so conduce to the presence of too much blood in the brain, and thus too much or perverted function. By eyestrain is understood the effort that the child makes unconsciously to overcome an existing defect in the refraction of the eye. Very often the stupid child who always stumbles when he reads, and loses his place, who insists on writing with his nose close to the paper, or reads with his book near his face, is not responsible for his peculiarities and his lack of interest in

his studies. You and I would be just the same if we had the same things to contend with that he has, for near vision is accomplished only after tremendous muscular action in the eye. The effort proves fatiguing, and under the spur of the expected criticism of the teacher or the illy-concealed ridicule of the children, he works his every power. Suddenly a rush of tears in his eyes, or more frequently the sudden relaxation of the ciliary muscle within the eye, or both, gives him blurred vision, for if this ciliary muscle does not act, he can see nothing. The printed page becomes for a moment a complete blank. He looks away, or winks and blinks, and then when he again can see the page he has lost his place, and school-room etiquet will not allow him to keep it with his finger. Or, he is suddenly called upon to read where another scholar has left off, and not being able to follow rapidly, or perhaps having had his vision blurred, he is found wanting.

Then the question of headache is a very considerable one. A child with a case such as I have just described will upon prolonged work in the school-room get headache. Usually headache means too much blood in the inside of the head. In these days, when the headache is pronounced, cases are usually taken care of, and generally the child of an intelligent family has no necessity for intervention on the part of the teacher. Furthermore, the teacher on discovering the headaches is usually very quick to notify, so that children with these more aggravated cases are not really the ones that suffer most. It is the one in whom eyestrain is not severe enough to produce actual headache, except at infrequent intervals, but whose little brain becomes congested and more or less befogged by too much blood, whose mental condition is perhaps disturbed and interfered with. These are the greater sufferers. The teacher cannot get at all these cases, and hence is not responsible, and I merely mention the fact rather as a feature of interest than with the expectation that they all can be reached or treated.

Deafness may also account for dulness. So, as suggested before, it would be a good plan for all dull, stupid, headachy children to be immediately referred for medical inspection, and I know of no field in which the results of the present efforts of having the children more or less under the oversight of medical advisers shows up to better advantage than in the separation of the really defective and stupid children into special schools where they can receive instruction suitable to their mental caliber, and who are thus removed as an impediment to the good work of the better endowed scholars.

It should be understood that frequently brain-tire comes to the stupid as well as to the more brilliant, expressing itself not merely in the nervous excitement which comes to the latter, but by producing, as a result of the constant nagging and dread of correction, a most serious aversion to studies, teachers, and schools in general, and preventing the brain developing along the higher lines of activity which may have much real attraction for the child.

I often find that the child is a new creature from the moment he gets his glasses. He becomes devoted to his books, a new impetus is given to all his mental work. This is especially true of the nearsighted and poorsighted types of children in whom the actual defective vision has interfered with all the departments of school work, blackboard, reading at short range, and writing.

We have constantly considered the two extremes of children and the difficulties connected with treating them. The average pupil is always handled easily, and except as regards deportment, with comfort, and if we have by lessened work in the one case and better adjustment of methods in the other got them both into better condition many a child will develop a mentality capable of greater deeds in the world than the indifferent condition into which many a poor brain is allowed by default to drift.

Another matter which occurs to one in considering the subject is the question of promotion. Too rapid promotion means an extra amount of work, and the active intelligent child being proud of his success, wishing to do as well in the new room as possible, is stimulated to great endeavors, and consequently much harm may be done. On the other hand this desire on the part of the teacher may possibly be responsible for the seemingly slow progress of the duller scholars, and the latter are sometimes worried, disturbed, and not a little upset by the feeling that they are not doing as well as they should. Now the condition of the brain which is produced by just this feeling interferes every time with its best work. If the child is slow and can not do rapid work, why can not he be allowed to plod along without its being considered, as I remember distinctly in my own boyhood was done in a number of cases, as something dreadful and despicable, that anyone should be so much slower in acquiring than the brighter scholars. I can remember distinctly scholars who were looked upon as being very slow and stupid who are now much more useful members of the community than some whose progress seemed to be more in accordance with the teacher's wishes and desires. There is still another thought for consideration. May not the whole curriculum be graded too high and the desire to reach the high school young cause much more hurry along the whole line of school work than is for the best interests of the child? If this is the case let this desire be held well in leash.

The brain of the child in its independent relations has been considered sufficiently, perhaps, and I will now offer some suggestions from a purely medical point of view as to what might be expected from the teacher in her conception of the duties to the child as regards school-room hygiene. The question of medical inspection is an important one, it should be of great help not only to the scholars themselves as regards the health of their bodies, but to the teacher in her work of caring for the children. If there is daily inspection of the schools it becomes a simple matter for the teacher when she first comes into the school-room and observes the children to see at once those who are not feeling well. It might be well to encourage some simple means whereby the children will notify the teacher on arriving that they do not feel quite up to the mark. Of course this is liable to encourage malingering, but if a pupil knows that he has got to be thoroughly overhauled by a medical inspector he will be less liable to presume upon the teacher's credulity, especially after the first interview with the doctor, and the teacher will also be able to weed out the genuine from the false by her own natural intuitions.

Of course, if a teacher sees that a child has a bad cold, and judges from the flushed face and suffused eyes and the general motions of lassitude and indifference, or actual distress evidenced, that she has a sick pupil, she knows what to do. Such children in these days do not often get to school. If such a one does come, she or he is readily enough noticed by the teacher and referred to the medical inspector. If a child is broken out with a rash the problem is simple. If a child has a headache and trouble with the eyes, if he is constantly and almost invariably breathing through his mouth instead of through his nose, or, if when tested, the ears are found to be somewhat deficient, even though these are not chronic troubles, having once become convinced of their existence, the teacher should refer them either directly to the parents, or indirectly through the medical inspector.

Spinal curvature is very easily detected by the teacher as she watches the child march back and forth during the physical exercises, and sees that one shoulder is very much lower than the other, or that the child stoops, is flat-chested or lame. She may save the child a crooked back for the rest of his life, or the shortening of a leg from hip-joint disease. Good active children are so seldom still for any length of time when they are home that their parents hardly have an opportunity to discover what is easily apparent to the teacher who sees the child daily when his mind is occupied and his body and its position are not being considered.

Primarily, the question of medical inspection in schools had in mind the detection of simply the diseases of a contagious type, but when once begun the field of medical inspection broadened out, and it would seem not at all unreasonable that the advice of these officers should be sought not merely in regard to the children who are acutely sick, but on the other points which we have mentioned. It would certainly seem that an intelligent practitioner of medicine could advise with the school authorities as to the best way of remedying the defects in the lighting, heating, and ventilating of certain school-rooms known by experience not to be fully up to the standard. Even advice concerning the curriculum would not be altogether

beyond the pale of reasonable assumption, for I have no doubt that every physician with an experience covering a number of years, has discovered children who have been pressed too hard or taught in an inefficient manner, and who, through understanding the predisposition and predilection of these needy ones, would frequently be in a position to give some points that might be at least suggestive to the teacher and principal in their work.

Perhaps you might desire to look into some of the cases of brain-tire that may be in your charge at present. Let me suggest that it be done very systematically. Suppose you have several scholars whom you suspect are working very close to the limit of their endurance, and suppose several other teachers in the same building should also wish to report two or more cases to the principal. He would be immensely helped, as would each of you in your estimate of the cases, if you were provided with printed cards, on which you could readily fill in such points as the following: Age of pupil; size for age, estimated roughly; weight in proportion to height, as indicating whether nutrition and general physique were up to the mark; color, as indicating good or bad health and good or bad blood; length of time which child has been in school, as indicating how fast he has advanced, bright or dull; how much time is spent in study in school and how much at home; record recent or serious illnesses. Is child generally tense or nervous? How much sleep does she get? How much work is expected of her outside the school? etc. Such a record compared with another taken at a stated interval would be of the greatest possible value as contrasted with similar ones taken from a normal or average scholar. Then any changes of class, or of study, or of general curriculum would, when these cases were correlated, have something definite upon which to base action. If these were filed away in the principal's office they would be of much value in the individual case in later years, and also for building up a scientific estimate of school work as related to the probable ability of average pupils to acquire. It would readily prove that some schools could do better work than others, because of a different social and moral environment producing scholars of differing ability and capacity.

Perhaps this may seem a trifle Utopian, but it was suggested by a friend of mine, a practising and very scientific physician, as worthy of a thoughtful consideration, and I present it, as I trust it is apparent that I am doing with these entire remarks, not with the intention of instructing you who know your subject much better than I may ever hope to, but simply as suggestive food for thought. We all view such matters with the mental astigmatism produced by our environment and life-work and with a perspective, the result of our distance from and the position of any given object before us. I see a danger, perhaps distorted and out of proportion from your standpoint, but a danger nevertheless, and so send out the warning, much needed in these progressive times, to "slow down."

Isolation Hospital for Essex Co., N. J.—A site for an isolation hospital for contagious diseases has been chosen by a committee of the Essex County Board of Freeholders. It is to be for the use of all the cities and towns in Essex county. Many attempts have been made to establish a hospital of this sort in different places throughout the county, but every time there has been a vehement protest.

Hazleton Bars School Children not Vaccinated.—Owing to the prevalence of smallpox on all sides of Hazleton, the Board of Health is taking every precaution to prevent the spread of the disease to that city. All school children who have not been successfully vaccinated within the last 5 years will not be permitted to attend until they produce certificates from physicians showing that they are immune from the contagion.

Influence of Schools on the Spread of Contagious Diseases.—A report recently issued by the Board of Health shows conclusively the increase in the number of contagious diseases during that part of the year when the public schools are in session. The year is divided into 4 periods of 13 weeks each, one period covering almost the exact time during which the public schools are not in session. It is noted that during the 3 periods when the schools are in session the number of diphtheria cases was 4,274, 3,192, and 4,218, respectively, while during the period of vacation there were but 2 379 cases. The scarlet fever cases were 3,749, 4,123, and 3,171, respectively, as against 2,331 during the periods.

THE WORLD'S LATEST LITERATURE

Journal of the American Medical Association.

December 5, 1903. [Vol. XLI, No. 23.]

1. The Progress of American Medicine and Its Relation to Public Affairs. W. W. GRANT.
2. Demonstrated Pathologic Changes from Alcohol. T. D. CROTHERS.
3. The Legitimate Therapeutic Uses of Alcohol. O. T. OSBORNE.
4. Nasal Polypus: Origin and Treatment CHAS. H. BAKER.
5. The Window Resection Operation for the Correction of Deflections of the Nasal Septum. OTTO T. FREER.
6. General Surgical Anesthesia. ERNEST J. MELLISH.
7. Vaginal Exploratory Puncture and Celiotomy: Their Advisability in Doubtful Diagnosis in Diseases of the Female Genital Organs: Report of Cases. C. O. THIENHAUS.
8. Carcinoma and Tuberculosis Treated by the Röntgen Rays. G E. PFAHLER.

2, 3.—See *American Medicine*, Vol. V, No. 20, p. 781.

4, 5.—See *American Medicine*, Vol. V, No. 20, p. 779.

6.—See *American Medicine*, Vol. VI, No. 1, p. 10.

7.—See *American Medicine*, Vol. VI, No. 1, p. 12.

8.—Carcinoma and Tuberculosis Treated by the Röntgen Rays.—G. E. Pfahler reports 9 cases. He is of opinion the rays are of value in certain cases of both superficial and deep-seated carcinoma and tuberculosis. Daily treatments carefully given produce the best results. We should never try to produce a dermatitis beyond a simple erythema. There are idiosyncrasies in certain people which render them most susceptible to the Röntgen rays and in these, deeper burns may occur in spite of the most careful treatment. Epithelioma involving the mucous membrane is much less likely to yield than when involving the skin. Interference with sight is not likely even though the rays are used over the eye. Tuberculosis of the skin or glands will yield in certain cases. The cosmetic results are better than in any other treatment. Epithelioma of the mucous membrane should be removed as early as possible by the knife and this followed by the Röntgen ray treatment. Operable cases should be operated on and in each instance be followed by a course of Röntgen ray treatment, which should be given again at the first sign of recurrence. Inoperable cases should be given a trial with the rays as the most hopeless sometimes yield. It is desirable to produce a distinct reaction in lupus. On 1 of the cases of lupus reported a marked deafness pronounced incurable 8 years previously was so much relieved that the patient could hear ordinary conversation. [H.M.]

Boston Medical and Surgical Journal.

December 3, 1903. [Vol. CXLIX, No. 23.]

1. Hypernephroma. PAUL THORNDIKE and JOHN H. CUNNINGHAM, JR.
2. Papillary Adenocystoma of the Thyroid and Accessory Thyroid Glands. HARRY C. LOW.
3. Intestinal Parasites in Appendicitis. J. C. HUBBARD.

1.—Hypernephroma.—Paul Thorndike and John Cunningham discuss a certain class of renal tumors which, it seems, cannot be collected into any one morphologic group, nor can they be classified simply as sarcomas, carcinomas, adenomas. They deem it particularly suitable that they are denominated hypernephromas. At the present time the proofs of the existence of this class of growths and the propriety of this name are as follows: Situation of the growth just beneath the kidney capsule—the most common seat of aberrant suprarenal tissue; similarity of malignant tumors of the adrenal gland and these malignant growths of aberrant suprarenal origin; absence of any transition structure between the growth and the renal tissues surrounding it; tendency of the tumor to extend along and to involve venous rather than lymphatic channels; resemblance of the tumor cells to those of the suprarenal cortex; presence of fat drops and glycogen in the protoplasm of the cells; property of the nucleolus of staining differently from the nucleus, a fact rarely, if ever, observed in cells of renal adenomas; presence of giant cells like those in the small hyperplastic growths of the suprarenal gland; existence of an abundant capillary network as seen in the suprarenal cortex; presence of lecithin in amounts closely approximating those characteristic of suprarenal tissue. The clinical facts concerning these tumors are as follows: The tumor occurs most frequently in the adult male. It is usually large and has a nodular

surface. It is entirely within the kidney substance or it is partially subcapsular. The function of the kidney which contains it is interfered with either by destruction of renal substance or by its compression from the tumor mass, or by both these factors acting together. The tumor grows rapidly, is usually malignant, but may probably be benign in some instances. It usually involves the renal vein and sometimes the vena cava, and metastases are formed along the blood current, especially in the lungs, liver, and bones, but do not involve the lymphatic channels. Three cases are reported, together with interesting illustrations of the pathologic findings in each case. [A.B.C.]

2.—Papillary Adenocystoma of the Thyroid and Accessory Thyroid Glands.—H. C. Low reports 6 cases, the interesting point of which is their true papillary character. Adenocystomatous growths, which originate in thyroid tissue, offer 3 different sources—namely, the thyroid gland itself, lobules of thyroid tissue directly connected with the gland, and accessory thyroids entirely separate from the gland. These bodies of thyroid tissue occur either extending down from the isthmus or as remains of extension from the inferior horn or the superior horn, or just posterior to the lateral lobes; occasionally they may occur at the root of the tongue within the larynx, or even from the main gland. Gruber found in 500 cases the superior ones were present in one out of 12 individuals; the inferior in one out of ten, and the posterior in one out of five. They are histologically like the thyroid gland and are not to be confused with parathyroids. Gruber states that only once in 20 instances where accessory thyroids were found are there more than one. Low's cases are reported somewhat in detail, together with a number of illustrations which show the morbid histology of the tumors removed. He says thyroid tissue may be the seat of neoplasms, which differ widely in histologic structure. Hinterstoisser recognized 17 kinds of malignant goiter in 50 cases. We must distinguish those cystic goiters, resulting from softening or hemorrhage in a simple adenoma, followed by secondary papillary ingrowths from the cyst wall, which only occupy a small part of the cyst cavity, from the true papillary adenocystoma of the thyroid. In searching the literature only 9 previously reported cases could be found, the 6 reported by the author making 15 in all. These tumors are of slow growth. In none of the cases was there cachexia; there were a variety of metastases and a tendency to rapid recurrence. [A.B.C.]

3.—Intestinal Parasite in Appendicitis.—J. C. Hubbard reports 2 cases and draws the following conclusions: An intestinal parasite causes appendicitis through its presence as a foreign body; and by its struggles may bring about a perforation and peritonitis where otherwise none would have occurred. Trichocephalus dispar has been proved to cause an inflammation of the appendix by injuring the mucous membrane while sucking the blood of the host. Ascaris lumbricoides has been found with a material similar to that in trichocephalus in its intestinal epithelium and therefore is supposed to attach itself to the mucosa of the host and thus start the processes which result in appendicitis. Oxyuris vermicularis. No proof has been found that this worm causes an appendicitis except in its role of foreign body. [A.B.C.]

Medical Record.

December 5, 1903. [Vol. 64, No. 23.]

1. Lesions of the Eye which Occur in the Course of Diseases of the Heart, the Bloodvessels and the Kidneys. Charles Stedman Bull.
2. Eye Lesions in Heart and Kidney Disease. Francis Kinnicutt.
3. A Report of Three Years of Operative Work per vaginam at St. Joseph's Hospital, Yonkers, N. Y. Henry Moffat.
4. Inflammation of the Bladder. Henry G. Spooner
5. Observations on the Use of the Sahli Test-meal. Edward A. Aronson.
6. A Typical Case of Sporadic Cretinism. Frank F. Newell.

1.—Lesions of the Eye in Diseases of the Heart, Bloodvessels and Kidneys.—C. S. Bull notes that any abnormality in blood-pressure may cause phenomena visible with the ophthalmoscope. In pronounced anemia the papilla is almost white, the vessels narrow and pink. With lowered intravascular tension, slight pressure on the ball causes pulsation in the retinal arteries. Retinal hemorrhages with high tension signify widespread arterial degeneration. Venous hyperemia is found when return of blood toward the heart is obstructed. In aortic insufficiency, unless accompanied by stenosis of the aorta, and in the last stages of mitral disease, pulsation of the retinal arteries is seen. In cardiac dilation the veins are tortuous. Hemorrhages without inflammation mean increased pressure, disease of the retinal vessels, or of the blood. Thrombosis and embolism may be due to rheumatic or ulcerative endocarditis, the latter also causing abscesses. In arteriosclerosis, the walls are thickened, have a white border, become cord-like, or are alternately constricted and dilated; glaucoma may develop also. Endarteritis of the internal carotid is considered a cause of cataract and optic atrophy. Aneurysms may cause papillitis or total ocular paralysis on one side. In cerebral apoplexy the location can be diagnosed from the paralytic deviation of the eyes. If there are no pupillary symptoms the lesion is an embolism. Paralysis in renal disease is usually a terminal symptom. The commonest lesions are retinitis, with or without patches of exudation, or optic neuritis, or hemorrhages. The patches are probably due indirectly to high tension, the hemorrhages to this with weakening of the vessel walls. Changes are more marked in the retina than in other ocular structures, because here the arteries are terminal and compensation deficient. [H.M.]

2.—Eye Lesions in Heart and Kidney Disease.—F. Kinnicutt has seen amaurosis develop in the acute nephritis of scarlatina without other evidence of uremia. Retinitis and neuroretinitis have been observed in some of the acute forms of nephritis, but they are essentially lesions of the chronic forms, and especially of the interstitial type. The period at which retinal changes develop is not easily determined. Lesions similar to those of nephritis occur in arterioscleritis without evidence of organic disease of the kidney. The latter disease is not inconsistent with long life and fair health. The 2-year limit in albuminuric retinitis is based largely on hospital practice. In retinitis associated with chronic nephritis, but with an absence of signs of general arterial disease, and also in retinitis associated with general arterial disease, but without a positive clinical history of chronic nephritis, the prognosis as to life is much less unfavorable. [H.M.]

3.—Three Years of Operative Work by Way of the Vagina.—Henry Moffat, as the result of 3 years' operative work, through the vagina, at St. Joseph's Hospital, Yonkers, N. Y., has reached the following conclusions: 1. The anterior vaginal route is most useful to reach and operate upon the round ligaments in cases of retroversion of the uterus or procidentia; also for the removal of small fibroids, either subperitoneal or pediculated, or for conservative work upon the ovaries or tubes, or for removal of these organs. 2. The posterior incision is most useful for drainage in cases of pyosalpinx, salpingitis, pelvic abscess, some cases of tubal pregnancy with hematocele and puerperal sepsis, either with or without involvement of the tubes; for oophorosalpingectomy, when the ovary is held backward and downward by old adhesions, and even in some cases of acute general septic peritonitis. He is more and more impressed with the important truth that no pus-tube should be attacked by any other route than by the vagina. The table given shows 21 operations by anterior vaginal section with no deaths; 54 posterior sections with 2 deaths, a mortality of 3.75%; hysterectomies, 19 cases with 6 deaths, a mortality of 31.6%. In all but one of the operations the angiotribe was used. [W.K.]

4.—Inflammation of the Bladder.—H. G. Spooner says cystitis can never be idiopathic—it is always secondary to some disease of the genitourinary tract or to specific inflammations like tuberculosis. It is caused (1) by the spread or advance of a pathologic process from neighboring organs; (2) by pathologic conditions arising in the bladder; (3) by modifications of the urine; (4) infectious diseases; (5) parasites; (6) poisons; (7) the uric acid diathesis. The causes that weaken the bladder's normal resistance may be divided into (1) predisposing causes: (*a*) inherited, and (*b*) contracted; and (2) chance causes. It is an interesting fact that foreign bodies and newgrowths of the bladder exert very little influence as long as they are not accompanied by a hindrance of urination. But so soon as urine is passed with difficulty, or cannot be passed at

all, these conditions are of the greatest importance in starting up an inflammation of the bladder. So long as decomposition of the urine in the bladder is not accompanied by congestion or circulatory disturbances of the wall of the bladder, no inflammation of the bladder occurs. The entrance of microorganisms can only exert a lasting influence when other lesions of the bladder have previously existed. Interesting cystoscopic illustrations accompany the article, together with an explanation of the morbid conditions depicted. [A.B.C.]

5.—The Sahli Test-meal.—E. A. Aronson as a result of personal investigations finds that when made according to Sahli's directions the soup is not homogeneous, the fat going to the surface and the thicker portions sinking notwithstanding the gastric peristalsis. The application of the test-meal to general practice is impracticable on account of the time required. There has been a lack of agreement in every case between the clinical diagnosis and the diagnosis according to the Sahli method. It serves well for the detection of lactic acid as the soup does not contain any, and its application enables one to differentiate between hyperacidity and hypersecretion which with the ordinary methods we are unable to do, and in the large number of different stomach conditions on a nervous basis which the internist sees one can always find a disturbance of function when using the Sahli test-meal. [H.M.]

6.—Sporadic Cretinism.—F. F. Newell reports a case, the boy being 13 years old, 36 inches high, and weighing 37 pounds. The interesting features were that his case had never received proper diagnosis and treatment, that he was born in the United States of American parents, that he responded so promptly to treatment in view of his advanced age. He was given thyroid extract 1 gr. twice daily, increased gradually to 2 gr. 3 times daily. After 6 weeks the facial expression changed entirely, the thickness almost entirely disappeared from lips, tongue, neck, feet, and hands. The large abdomen was much reduced. The eczema disappeared. He became more active, took more interest in things, and tried to walk. He grew an inch. [H.M.]

New York Medical Journal.

November 28, 1903. [Vol. LXXVIII, No. 22.]

1. The Use of Weak Cocain Solutions in Operations for the Removal of Cervical Tumors. FREDERIC GRIFFITH.
2. The Early Operative Treatment of Tuberculous Osteitis of the Knee. BERNARD BARTOW.
3. The Treatment and Management of Postoperative Tuberculous Patients, and a Plea for the Establishment of Seaside Sanatoriums and Convalescent Homes. S. A. KNOPF.
4. The Treatment of Acute and Subacute Anterior Gonorrhea by Retrograde Injections of Stronger Solutions of Silver. HERMANN G. KLOTZ.
5. Ocular Headache and Other Ocular Reflexes: A Statistical Study. M. W. ZIMMERMAN.

1.—The use of weak cocain solutions in operations for the removal of cervical tumors is advocated by Frederic Griffith. The cases reported are those of sebaceous cysts, tuberculous glands, papillomatous growths, and enlarged glands. In 1 case a fibrolipoma weighing 14 ounces was removed. He uses from ¼% to ½% solutions of the drug in a warm, weak soda solution. [C.A.O.]

2.—See *American Medicine*, Vol. V, No. 21, p. 817.

3.—Treatment of Postoperative Tuberculous Patients.—S. A. Knopf advocates the best possible hygienic environments in these cases and urges the commencing of aerotherapy the first hour after the operation. He says the practice of placing the individual immediately after the operation in a well-equipped tent, is most commendable, and particularly for patients operated on for tuberculous lesions. So soon as the condition of the wound permits, the afebrile patient should be allowed to leave the bed and rest during the greater part of the day on a reclining chair. If deep breathing or graduated respiratory exercises can be inaugurated without causing local pain, a general discomfort, or disturbing the wound or the dressing, they should be resorted to at the earliest possible moment. Well graded respiratory exercises, regularly and carefully carried out, will not only often prevent a development of pulmonary tuberculosis, but also tend to improve a general tuberculous diathesis, and may even prevent a recurrence of a tuberculous lesion in other regions of the body beside lung and throat. Solar therapy can best be carried out by exposing the patient's body as much as possible to the direct rays of the sun, keeping, of course, the head in the shade. Hydrotherapy must be individualized for every tuberculous case. For the majority a gentle sponging with tepid or cold water may be permissible, and will produce the desired antipyretic or tonic effect. Massage is recommended in cases of malnutrition, poor circulation, and deficient respiratory movements. The keynote of success in the dietetic treatment consists in obtaining a perfect and ample nutrition. One of the most important factors in the psychic treatment is to keep the patient occupied, and with something which has his cure for an ultimate purpose. If the lungs are sound, or very little involved, the sea-coast climates are recommended. For patients recovering from operation for tuberculous arthritis, osteotitis, and even peritonitis, a prolonged sojourn at the sea-coast, with judicious use of cold and warm salt water application, seems to act marvelously. [C.A.O.]

5.—Ocular Headache.—M. W. Zimmerman has made a statistical study of cases of ocular headache and other ocular reflexes. For this purpose he selected 2 series of 1,000 cases each; one from private practice, and the other from hospital dispensary service. Of this number, 1,427 presented headache in some of its forms as a symptom. This group is treated at some length, and the cases presented in tabulated form. From the evidence no attempt can be made to establish a peculiar character in the pain which occurs reflexly from eyestrain when compared with that having a different origin, but some very substantial facts are available concerning the location of the head pains. Mixed types of headache are quite common, and very frequently they involve two distinct regions, more rarely three. When pain is referred to more than one point, these may be involved simultaneously or separately, but the former seems to be more usual. General headache, not sufficiently accentuated at any particular point to attract the patient's attention, is not at all common, but the combination of general discomfort throughout the head, with a distinctly localized distress, is frequently seen, and in cases in which this happens it will usually be found that the localized portion bears the closer relation to the ocular exciting cause. Among the total number of headaches there were 487 cases in which the notes failed to furnish any facts as to the location or other details, leaving 940 cases to be classified. Of this number, we find in 670 a purely frontal pain, while by combining with these the cases in which this is included with pain in other portions of the head, we find 822 cases presenting frontal headache. The next most frequent location is temporal, after which come general, vertical, and occipital. Compound hypermetrophic astigmatism of low or moderate degree, is much the most common error, and it was found in 48.78% of all cases presenting headache. [C.A.O.]

Medical News.

December 5, 1903. [Vol. 83, No. 23.]

1. The Influence of Pasteur on Medical Science. C. A. HERTER.
2. Report upon the Results with Different Kinds of Pure and Impure Milk in Infant Feeding in Tenement Houses and Institutions of New York City: A Clinical and Bacteriologic Study. WM. H. PARK and L. EMMETT HOLT.
3. The Degree to which Substances Agglutinating the Dysentery Bacilli are Present in the Blood of Noninfected Persons. LAWRENCE B. PILSBURY.
4. General Convulsive Tic with Coprolalia. HARRY MORELL.
5. The Treatment of Anterior Dislocation of the Shoulder, with Report of a Case in which Reduction was Prevented by the Detached Greater Tuberosity. GEORGE TULLY VAUGHAN.
6. The Mortality of Diphtheria in Private Practice Under the Antitoxin Treatment. JOHN ZAHORSKY.

2.—See *American Medicine*, Vol. V, No. 23, p. 895.

3.—Substances Agglutinating the Dysentery Bacilli in the Blood of Noninfected Persons.—L. B. Pilsbury finds that the serum of nondysenteric adult patients agglutinates the Shiga and acid type (Flexner) bacilli frequently in a 1 to 20 dilution, and occasionally in a dilution as high as 1 to 100. This power is wanting in the blood of nondysenteric young infants (under 1 year), rarely being present even in a 1 to 10 dilution. There are certain differences in agglutinating capability between the Shiga and acid type, the former clumping more readily than the latter. A decided and prompt reaction under 2 hours with *Bacillus dysenteriæ* in dilutions of 1 to 20 or higher, in young subjects (under 1 year) and in 1 to 50 or higher

in older persons who have not recently suffered from chronic or subacute intestinal disease, is probably pathognomonic of acute epidemic dysentery. [H.M.]

4.—General Convulsive Tic with Coprolalia.—Harry Morell reports the case. The patient is a young man of 18; his family history has no bearing upon the present condition. He is strong and robust, never having had any serious illness. When 12 years of age, it was noticed that the muscles of his face would twitch, the seizures came on suddenly and involuntarily; the spasms gradually became more violent, and extended to the muscles of the neck, the shoulders and down both arms. Two years later his muscular convulsions were accompanied by a cry or bark at the top of the voice; this could not be controlled by the patient. For 6 years he has been in this condition. During any unusual condition, such as excitement, the barking is worse; the patient has submitted to various forms of treatment, been in a number of hospitals, but without avail. The writer placed him in isolation for 18 months, during which he seemed to improve, but when he started to mix with other people occasionally the symptoms gradually returned; now no improvement is noted. [A.B.C.]

5.—Treatment of Anterior Dislocation of the Shoulder.—George T. Vaughan states it is variously estimated that from 40% to 65% of all dislocations are of the shoulder-joint and of these, according to Flower, 75% are of the subcoronoid variety. The various methods of reduction are: Direct reposition; extension and counterextension; Kocher's method; and arthrotomy. He has secured especially favorable results by extension and counterextension, being especially led to this method by Stimson, who reported 10 cases successfully treated and in no instance was it necessary to continue the extension longer than 6 minutes. Stimson advised the use of a canvas cot with a hole cut in it large enough to permit the arm of the injured side to pass. The patient reclines on the cot with a weight of 10 pounds attached to the wrist of the injured side. Vaughan secures practically the same results by passing a folded sheet beneath the axilla of the injured side, the 2 ends crossing above and below the shoulder of the opposite side; traction is made upon these by an assistant while the surgeon makes gentle, firm, and continuous extension on the affected arm. When the surgeon becomes tired, which will be in 2 or 3 minutes, an assistant replaces him without relaxing tension on the affected arm, soon the spasmodic contraction of the muscles ceases and the head of the bone slips into place. At first traction is made in the line of dislocation, but as it increases the forearm is carried away from the side to an angle of 45°. He and his assistants have used this method in 15 recent dislocations with but 2 failures. The method possesses the following points of merit: 1. It is free from pain. 2. It does not require anesthesia. 3. It is perfectly safe in recent cases. 4. It can be used by the general practitioner. 5. It does not lacerate or injure the tissues. 6. It succeeds in the large majority of cases. He reports a case in which a man of 60 sustained a dislocation at the shoulder-joint and all the above methods having failed the joint was opened and it was found that a fracture of the greater tuberosity of the humerus had prevented the successful reduction. Complete recovery followed. [A.B.C.]

CLINICAL MEDICINE

DAVID RIESMAN A. O. J. KELLY

REVIEW OF LITERATURE

Alimentary Glycosuria in the Children of Diabetic Persons.—A. Lorand,[1] in order to determine if the diabetic basis or tendency is present in the children of persons suffering from that disease, has given to several children of diabetic patients amylaceous test-dinners, with the view of producing alimentary glycosuria *ex amylo*. The investigations were conducted on 10 persons, who were in a healthy condition, though two of them had symptoms of neurasthenia. The test-meal consisted of barley soup, beef or a thin cutlet, a plate of potatoes and one of rice, a piece of cake, a few figs, a half liter of Bavarian beer, and 2 rolls of white bread. In 8 of the 10 cases, alimentary glycosuria followed the administration of this meal. It thus seems that in the majority of instances, the children of diabetic parents have inherited a certain defective power of dealing with sugar in their economy, the power to assimilate carbohydrates being diminished. The point emphasized by Lorand is that prophylactic measures against diabetes should be carried out in these persons. They should lead frugal lives, avoiding any great quantity of sweet or amylaceous foods, meat, etc. The psychic education of such children should be supervised, and outdoor sports for those with a solid nervous system recommended. The use of alkaline mineral waters is probably a preventive in such cases. [A.G.E.]

Pseudoinfectious Rheumatism; Death from Septicemia.—J. F. Romero,[1] under the caption of "Tetragenos," reports the case of a man of 38, Mexican born, who presented at first all the symptoms of an attack of general inflammatory rheumatism, fever running about 39.2° C. Soon appeared albumin in the urine, and traces of bile. A general tint of jaundice arose. Examination of the blood revealed the presence of malarial parasites, an uneven range of temperature finally mounted to a continual fever of 40.2° C., after a few days of which death ensued. Before this, pustules and blebs appeared on the body. From matter drawn from some on the limbs was recovered bacilli of Koch, and also the tetragenes. Necropsy was not obtainable. The writer giving a history of the case arrives at the conclusion that there had been a malarial infection to which a general septic process was joined. He does not explain the icterus other than by its relation to some general pathologic change involved. [T.H.E.]

Prophylactic Use of Diphtheria Antitoxin in School Children.—A. Caillé[2] advocates the employment of an immunizing injection of diphtheria antitoxin for young school children once or twice during the school year, for instance, in November and February, with the hope of preventing primary infection from diphtheria, and also with the hope of lessening the mortality of the severe forms of scarlatina and measles, a large percentage of the latter cases being complicated by diphtheria from the beginning or in the course of the disease. During the past 2 years he has immunized a number of school children twice during the school year. No figures are given, for one cannot tell what might or might not have happened. It can be stated, however, that not one of the children contracted primary or secondary diphtheria, and in no case was there the least unpleasant or unfavorable reaction after the protecting injection. [A.G.E.]

A Malignant Epidemic of Scarlet Fever.—Guenther[3] reports an epidemic of scarlet fever of almost 150 cases, which was characterized by its attacking many adults, of whom a large percentage died within 24 hours with symptoms of sepsis. Complications were frequent, and often terminated in death. All the cases showing early cerebral involvement died. [E.L.]

Immunization of Animals to Bacillus Typhosus.—W. V. Shaw,[4] in his experiments, has tried to obtain an antityphoid serum. He finds that the best method of obtaining a typhoid toxin for experimental purposes is by digestion of the bacilli. This product can excite a reaction in susceptible animals, during which they develop immunity to the injection of living typhoid bacilli; the serum from such an animal can protect another animal against typhoid infection. The injection, intravenously, of living typhoid bacilli may result in the serum losing its normal bactericidal properties. [B.K.]

The Relation of Leukemia and Tuberculosis.—W. J. Susmann[5] has collected from the literature 25 cases of leukemia associated with tuberculosis. These are tabulated with reference to age, type of leukemia, relation between the symptoms of the 2 diseases, etc. From a study of these cases it appears that tuberculosis is rarely found in combination with leukemia, and that when the combination does occur it is 2½ times more common in the lymphatic than in the splenomedullary form of the latter disease. Six males are affected to one female. The

[1] The Practitioner, October, 1903.

[1] Crónica Médica Mexicana, October 1, 1903.
[2] Archives of Pediatrics, October, 1903.
[3] Münchener medicinische Wochenschrift, June 16, 1903.
[4] Lancet, October 3, 1903, p. 948.
[5] The Practitioner, October, 1903.

tuberculosis may be found latent, as a terminal infection, or as a latent condition that has been lighted up by the leukemia. The last is the most frequent of the three. When the 2 diseases are combined there is a tendency for the total number of leukocytes to be diminished, and the spleen and glands to decrease in size. This antagonism is possibly due to the excess of nucleoalbumin and the increased phagocytic power of the blood, both of which conditions are present in the leukemic patient. [A.G.E.]

Vaccination: Its Effects on the Aborigines of Mexico.—José G. Mendoza[1] gives an extended sketch of his work in vaccinating these people. There is a curious difficulty to "taking" shown by some of them. This and other peculiarities in connection forms the basis of an argument on statistics and methods in use in that country. The writer points out modifications in the pustule of vaccination characteristic among this race. He offers certain facts of difference in their skin and subcutaneous tissue, arrangement of fat deposits, etc., as partially explanatory. Their diet is mostly leguminous. To whatever cause it may be due, an absence to a degree of adipose matter in the superficial fascias must influence any suppurating process there. And this must be recognized in securing immunity from smallpox by vaccination. [T.H.E.]

Necrosis of the Mastoid and Petrous Portion of the Temporal Bone after Scarlet Fever.—G. Heermann[2] has observed 13 cases of scarlet fever, in which this complication arose acutely. He compares the symptoms of acute otitis media, chronic and acute necrosis, with each other, discussing each separately, but describing the latter minutely. He advocates early operative interference in such cases, as only through it can a spread of the necrotic process to the base of the skull be prevented. He has removed sequestra of considerable size, which existed 12 days after the onset of the otitic symptoms and 3 weeks after the beginning of the primary infection. He has seen a similar case after typhoid fever. Bacteriologically, the processes were found to be of streptococcic origin. [E.L.]

Diseases of the Respiratory Tract from the Viewpoint of the Pension Examiner.—W. W. Potter[3] affirms that a Civil War veteran suffering from chronic catarrhal disease of the respiratory tract is as much entitled to rating and pension as though he were shot in battle. Such a man who in childhood received a slight injury to the nose, causing deformity of the septum, and in young manhood, through exposure in the military service, contracted intranasal disease, which later appears as chronic rhinitis, bronchial catarrh, or pseudoasthma, is entitled to serious and considerate treatment at the hands of the government. It thus becomes of the utmost importance for examining surgeons to give becoming weight to these maladies and their rating. [A.G.E.]

Influence of the Administration of Fluids on the Function of Diseased Kidneys.—L. Mohr and C. Dapper[4] find that in acute and chronic nephritis the moderate limitation of fluids in diet produces a better relation between the excretion and absorption of water, and edema may often be thus prevented. The elimination of nitrogenous substances and phosphoric acid is not influenced by moderately cutting down the supply of water. A marked restriction of fluids (to 1,250 ccm. or less) interferes with their excretion. If such restriction is necessary, it should be interrupted by days on which large amounts of water are given, to wash out the retained substances. In contracted kidneys restriction of fluids causes an increase in the percentage of albumin in the urine; in the course of time, however, this percentage gradually falls again. [B.K.]

The Quantity of Sugar in the Blood of the Rabbit; Its Augmentation through Venesection, Laparotomy and Nephrectomy, and Its Behavior in Diuretin Diabetes.—U. Rose[5] has found that the normal amount of sugar in the blood of rabbits rarely passes above 0.150% even with food rich in carbohydrates, and never reaches 0.2% under normal conditions. A slight hyperglycemia occurs after all operations, no matter on what part of the body they are performed; this never passes beyond the high normal limit. After venesection it passes slightly beyond 0.2%. Laparotomy increases it still further, and beyond this point sends it operative interference with the kidneys. If diuretin is fed to rabbits, hyperglycemia precedes glycosuria; it occurs even when both renal arteries are ligated, thus excluding the renal function from the body activity, or after ligating both ureters. This proves, therefore, that the primary sugar-producing action of diuretin is on the liver; the glycosuria is secondary to the glycemia. The associated activity of the diuretin on the kidneys makes transition of sugar from blood to kidney easier, however, and it may, therefore, be said that diuretin stimulates both liver and kidney toward the secretion and excretion of sugar. [E.L.]

Typhoid Cholecystitis with Calculi, but Without Evidence of Typhoid Fever.—The case reported by J. M. Burlew[1] occurred in a man of 59, who gave no history of an attack simulating typhoid fever. Autopsy showed tuberculosis of lungs, larynx, and liver, suppurative cholecystitis, perihepatitis and perisplenitis, and cholelithiasis. Cultures from the heart's blood and gallbladder gave all the characteristics of *B. typhosus*, from the spleen those of *B. coli communis*. There seems no room for doubt that the case was one of infection of the gallbladder by typhoid bacilli without evidence of typhoid fever. Burlew tabulates six similar cases, all that have been previously reported. He also tabulates 14 cases of cholelithiasis and cholecystitis accompanying or following typhoid fever, the typhoid bacillus being isolated in pure culture from the contents of the gallbladder, and 10 cases of cholecystitis alone, in which the bacteriologic findings were the same as in the preceding cases. [A.G.E.]

Chronic Antimonial Poisoning.—J. C. McWalter[2] calls attention to the antimonial poisoning to which printers are subject, which manifests itself chiefly as a neuritis, accompanied by marked affections of bladder and prostate, acute headache, abdominal tenderness, dry, glazed, and irritable gums, tongue, throat, and digestive tract, and intense depression, bordering at times on suicidal tendencies. The general tendency has been to attribute the affections of printers to their night work in ill-ventilated offices, to the habits engendered by their mode of living, and chiefly to their alcoholic proclivities. The antimony is in the type in combination with the lead, but poisoning has become more prevalent with lessened handling of the type, due to linotype machines, etc. This is due to antimonuretted hydrogen disengaged by sulfuric and hydrochloric acids, often used for etching, and also by nascent hydrogen, of common occurrence wherever accumulators for the storage of electric energy are used. Some cases show feeble heart action, antimony being a cardiac poison. The liver is also enlarged. It is difficult to differentiate the disease from lead-poisoning, especially as both may occur in the same patient. There is not the same cachexia nor wasting of the muscles, and the blue line on the gums is absent. [H.M.]

Studies Concerning Nephritis.—F. Erben[3] has investigated the blood in various forms of nephritis. In a subchronic case he found the albumin of the blood plasma to be greatly diminished; there was also diminution in the cholesterin and extractives, both in the erythrocytes and the plasma; the latter also showed a diminution of phosphoric acid and magnesia, and an increase of calcium salts. A case of chronic parenchymatous nephritis showed practically the same results, except that the diminished amount of albumin was replaced by globulin and an increase of fibrin. In a case of contracted kidneys with amyloid degeneration there was a considerable diminution in the albumin of the blood, including the hemoglobin as well as the albumin and globulin of the plasma. The fibrin was increased in quantity. Cholesterin and extractives were diminished in the erythrocytes and increased in the plasma. Phosphoric acid and potassium were diminished, and sodium chlorid increased. The author believes that the diminution of albumin in the blood is due to its excretion through the kidneys, and that albumin hunger of the cells is responsible for the increase in arterial pressure and hypertrophy of the heart.

[1] Crónica Médica Mexicana, October 1, 1903.
[2] Münchener medicinische Wochenschrift, June 2, 1903.
[3] Buffalo Medical Journal, October, 1903.
[4] Zeit. für klin. med., Bd. l, p. 377.
[5] Archiv für Experimentelle Pathologie und Pharmacologie, 1903, Vol. l, No. 1, p. 15.

[1] Medicine, October, 1903.
[2] Medical Press and Circular, Oct. 28, 1903.
[3] Zeit. für klin. Med., Bd. l, p. 441.

The retention of extractives and toxic substances is probably the cause of uremia. [B.K.]

Splenic Leukemia in a Young Child. — J. McCaw[1] reports a case of splenic, or lymphatic leukemia in a child of 20 months. The disease was of a very acute type, terminating fatally in 6 weeks. A noticeable feature was the considerable diminution in the size of the spleen and lymph-nodes before death, the author not being able to offer any explanation for its occurrence. Autopsy was not obtained. [A.G.E.]

Influence of Air and Sun Baths upon the Human Body. —E. Singer[2] reviews the literature on this subject and gives the results of his investigations on the use of air and sun baths. The different pigmentations of the skin which follow sun baths are of diagnostic and prognostic value. The deeper the pigmentation, the more likely will a patient improve or become cured. The prognosis is less favorable when the skin fails to show any pigment. The skin of many patients suffering with cancer or tuberculosis does not respond to the sun baths. However, the contrary is not true, namely, that people with skins which show a poor pigment reaction are suffering from tuberculosis or cancer. Many physicians know that patients with severe disease fail to lose their pale, cachectic appearance when sojourning in Southern climates. The sun bath causes a seminatural and a semiartificial fever of short duration. Singer noticed a temperature of 40° C. without any accompanying subjective symptoms, which did not disappear at the end of the bath. The increase in temperature, however, was only noticed in the axillas, while in the rectum a subnormal temperature existed. The increase was not so marked in the air baths. The pulse became slower under the influence of the sun baths, but slightly more rapid in the air baths. The respiration rate was somewhat more accelerated in both conditions. The blood-pressure increased after a sun bath, but became less after an air bath. Singer recommends a continuation of the 2 baths, the socalled "light-air-bath." He gives a list of diseases in which these baths were found useful. [W.E.R.]

Circumscribed Tuberculous Meningitis.—A. Saenger[3] reports 3 cases presenting the symptoms of some meningeal or cerebral affection, but it was impossible to come to any conclusion regarding their nature. The first patient presented aphasia and right-sided hemiplegia; the third patient a hemiplegia. Lumbar puncture in all cases showed increased pressure, but was negative from the standpoint of tuberculosis. The first patient was operated upon without anything being found. The autopsy in all 3 cases revealed tuberculous meningitis localized in one or both Sylvian fissures. He concludes that in cases presenting fever and focal symptoms, especially where there is tuberculosis in the family history, circumscribed tuberculous meningitis must be taken into consideration. [E.L.]

The Association of Epilepsy and Heart Disease.—T. L. Chadbourne[4] has been investigating at the Ohio Hospital for Epileptics the relation, if any, that exists between these 2 affections. He gives the clinical and, in some instances, the autopsy notes of 11 cases of the combined diseases. In none have those who observed them been able to show to their own satisfaction that there was any direct connection between the vascular lesions and the epilepsy. At no time did the increasing severity of the heart disease seem to occasion a corresponding increase in the frequency of the epileptic attacks. On the contrary, it several times seemed quite clear that as the heart condition grew progressively worse the epileptic seizures grew less common, or were absent altogether. Chadbourne believes that the postulates of Stintzing regarding cardiovascular disease as a cause of epilepsy have not as yet been fulfilled, and hence a causal relationship remains undemonstrated. [A.G.E.]

Yellow Fever and the Stegomyia.—In response to an attack on him by Sanarelli at the Royal Italian Academy of Medicine, E. Perroncito[5] writes of the need for further investigation of *Bacillus icteroides* and its actual relation to yellow fever. He charges Sanarelli with having quit his work too soon because the protective serum he contrived turned out valueless. The work of Lutz in Brazil is effective. The bites of mosquitos are likely to prove the real source of this fever's propagation. But as yet the salivary glands of the stegomyia during investigation have shown no specific cause of the fever. *Bacillus icteroides*, however, may be at the root of it in some indirect way. [T.H.E.]

Blood-pressure and Bodily Exercise.—From scanty and imperfect experimentation in the past, it has been deduced that long continued bodily labor raises the blood-pressure. Karrenstein[1] has carried out careful experiments with soldiers on the march, and has found occasion to reverse this opinion. He maintains that the blood-pressure is surely not raised, but rather shows a tendency to be lowered, or at least to remain at the same level. [B.K.]

Effects of Light and Heat Rays upon the Skin Temperature.—E. Sommer[2] gives the history of thermopalpation and describes in detail the Herz apparatus, which he employed in his investigations. He found when no acute exacerbation of the process existed, the temperature of the skin over a chronically diseased joint was lower than that of the same joint on the sound side. The action of heat and light rays always caused the temperature of the involved joint to rise higher than that of the normal side; however, cases occur in which the temperature under the influence of the rays is subnormal on both sides. The light and heat rays do not cause a cooling reaction with the same regularity as follows cold and warm applications. Short applications of rays cause the immediate rise in temperature to remain longer than if the rays are applied for a longer period of time. The relation between the two sides is reversed after from 2 to 4 hours, *i. e.*, the side exposed to the rays seems colder than the other, a condition brought about by a reaction of the unexposed side. [W.E.R.]

Necrosis of the Gallbladder.—Czerny[3] writes concerning the gangrenous inflammations of the gallbladder, which are relatively rare, due to the excellent blood-supply the organ has. Both of his cases at the outset appeared to be those of intestinal obstruction, the gallbladder symptoms being completely veiled. Both patients were operated upon. In the first case gallstones were so jammed into the cystic duct as to produce necrosis of the mucous membrane of the entire gallbladder. This could easily be separated from the external layers, which were nourished by new bloodvessels from the omentum. No bacteria could be isolated from the gallbladder fluid. The patient died of cardiac weakness. At the necropsy a small stone was found squeezed into the cystic duct; also a subphrenic abscess; both probably had been overlooked at the operation. The second patient presented a partial necrosis of the gallbladder mucous membrane due to the same cause. The symptoms not clearing up entirely, a second operation had later to be performed at which stone was found in the cystic duct. Czerny advises conservative operations on the gallbladder wherever possible, restricting his own intervention in most cases to cholecystotomy with water-tight drainage and suspension of the gallbladddder. The fistula heals in about 3 weeks and 85.7% of all his gallstone patients are permanently freed from all their disturbances. Resections of the gallbladder are more dangerous to the life of the patient, confine him longer to his bed and do not necessarily prevent later discomforts. He describes his own technic fully. [E.L.]

The Lymphatics of the Esophagus.—K. Sakata[4] finds that the lymph vessels of the esophagus arise (1) from the deeper parts of the mucous membrane, and (2) from the muscular layer. Those in the mucous membrane form a dense, longitudinal network; they lead into a few irregular plexuses in the submucosa, from which they pass to the main trunks. In the muscular layer the lymph vessels form a network on the outer surface, composed of much finer vessels than those of the mucous membrane. These 2 sets of vessels never communicate with each other. The main vessels of the mucous membrane set, penetrate the muscular layer, either immediately after their formation, or after running for some distance

[1] The Practitioner, October, 1903.
[2] Berliner klinische Wochenschrift, October 5, 1903.
[3] Münchener medicinische Wochenschrift, June 9, 1903.
[4] American Journal of the Medical Sciences, March, 1903.
[5] Il Policlinico, Rome, October 10, 1903.

[1] Zeit. für klin. Med., Bd. l, p. 322.
[2] Berliner klinische Wochenschrift, October 5, 1903.
[3] Münchener medicinische Wochenschrift, June 2, 1903.
[4] Mitt. a. d. Grenzgeb. d. Med. and Chirurg., Bd. xi, Heft v, p. 634.

through the submucosa; they then reach the neighboring lymph-glands. On the outer surface of the muscular layer may be seen numerous conducting vessels, either from the muscular layer itself, or from the mucous membrane. The lymph-glands are divided into those of the immediate neighborhood, and those further removed. Most of them belong to the former class; only the deep, inferior, cervical glands belong to the second class. These relations of the lymphatics and lymph-glands will explain the way in which carcinoma spreads from the esophagus. [B.K.]

Immediate Auscultation of the Heart.—In an article on abnormal heart-sounds, W. P. Obraszow [1] makes some noteworthy remarks concerning the relative value of direct and indirect auscultation. General opinion gives preference to the use of the stethoscope, holding that only in such manner can heart-sounds be localized. While this may be true, the author is convinced that immediate auscultation with the naked ear has many advantages over the stethoscope. Thus he asserts that sounds and murmurs are somewhat weakened in their passage through the instrument, and very feeble sounds may be completely lost on their way to the ear. Furthermore, the systolic or diastolic character of a murmur may be obscured by the stethoscope, owing to the loss of the preceding or following sound, while the naked ear at once perceives both and corrects the error. For these and other reasons, without wishing to abolish the stethoscope, our author strongly advises the conjoint employment of instrument and unarmed ear. The 2 methods will thus complement and correct each other. [L.J.]

GENERAL SURGERY

MARTIN B. TINKER
A. B. CRAIG C. A. ORR

EDITORIAL COMMENT

The Matas Radical Cure of Aneurysm by Arteriorrhaphy.—The operative treatment of aneurysm dates back to the fourth century, when Antyllus advised ligation of the proximal and distal ends of the artery just ouside the sac and evacuation of the contents clot. Numerous other procedures have been introduced from time to time, but even at the present day, since the results have so much improved by the introduction of antisepsis, the operative treatment of aneurysm has still remained one attended with frequent disasters and failures. The danger of hemorrhage from injury of the diseased vessels by ligature was avoided when Hunter introduced ligation far away from the sac, but embolism, pneumonia and secondary hemorrhages were ever present dangers up to the time of the introduction of antisepsis, and even since that time disasters from gangrene, due to imperfect collateral circulation after tying the main vessel and hemorrhage from cutting through diseased vessels by ligatures have been not infrequently reported. The mortality even under the best conditions has been estimated at from 10% to 20%. Last February Rudolph Matas [2] described a new method for the radical cure of aneurysm which was based on the recognition of the fact that the endothelium of the intima which lines the interior of the sac is the same as that which lines the entire vascular system, and is capable of all the reparative and regenerative reactions which characterize the endothelial surfaces in general when subject to irritation. In brief, the method consists in first arresting the circulation in the sac by the application of an Esmarch bandage or by a traction loop, digital pressure, or pressure with padded forceps on the artery. The aneurysmal sac is then laid open, and after evacuating its contents and scrubbing gently with gauze saturated in sterile saline solution, the openings into the sac are closed by continuous fine sutures. The first row of sutures is reinforced by a second row, and the closure of the sac is completed by turning in skin flaps, the under surface of which is lined with endothelium. In this way the sac is completely obliterated without serious interference with collateral circulation. In sacciform aneurysms Matas found it possible to obliterate the openings without obstructing the lumen of the parent artery, thus protecting the limb absolutely from the risk of gangrene. He suggested that it would also be possible to treat by this method certain favorable cases of fusiform aneurysm in which the sac was healthy and pliable, by suturing and building a new channel. Since the appearance of Matas' paper, Robert T. Morris [1] reports a case in which he successfully treated a traumatic popliteal aneurysm of fusiform type in this way: The new artery resumed the function very well, and paralysis, which had resulted from the pressure of the aneurysm, disappeared shortly after the operation. Morris believes that this method may be extended even to the treatment of aneurysms of the abdominal aorta, and suggests carrying the blood temporarily through a rubber tube with glass ends inserted into the vessel above and below the aneurysm during the time when the new artery is being constructed. Bullock [2] (Lexington, Ky.) also reports a successful operation by this method for a traumatic sacciform popliteal aneurysm the size of a cocoanut. These later reports of successful operations not only give additional evidence of the value of the procedure and show its feasibility in cases in which it had not been previously tried, but suggests as well a wider field of usefulness. There seems little doubt that in the introduction of this method Matas has given to the profession the most valuable measure thus far devised in the treatment of aneurysm. The possibility of a radical cure without closing the lumen of the main arteries, entirely robs the operation of the dangers still left after the introduction of antiseptic methods. If further experience proves, as Morris suggests, that the method is applicable in aneurysms of the abdominal aorta, it will indeed prove an inestimable boon in these almost hopeless cases, for the few partial or complete cures which have been reported with the Moore-Corradi method are extremely few, and other measures, up to the present time, have proved practical failures. We believe that the operation may well be considered one of the most important of recent contributions to surgery.

[1] Russki Vratch, August 23, 1903.
[2] Annals of Surgery, Vol. xxvii, p. 161.

REVIEW OF LITERATURE

Intracranial Neurectomy.—H. D. Collins [3] reports that a man of 54 had suffered for 8 years from tic douloureux. The condition was gradually growing worse, and during the past 2 weeks before operation, pain was constant and very severe. Operation was performed in June, 1902. The middle fossa was found to be very deep and in order to expose the exit of the second and third divisions of the fifth nerve, the brain had to be crowded more toward the median line than is usual. The second and third divisions were identified and severed; hemorrhage became so troublesome that the gasserian ganglion could not be secured, but the roots mentioned were simply avulsed and a piece of gutta percha tissue was laid over the foramens ovale and rotundum. The bone flap was replaced and a small gutta-percha drain left in. Recovery from ether was uneventful. At the first dressing on the second day there was noted complete paralysis of the right upper lid, also all of the muscles of the eye supplied by the third, fourth, and sixth nerves, and the pupil was markedly contracted, the veins appeared normal. There was partial paralysis of the left arm, being most marked in the fingers. The wound healed perfectly, but the paralysis persisted and the mental condition was dull and lethargic. Five weeks elapsed before he was able to lift the affected eyelid, and 10 weeks elapsed before recovery seemed complete in this particular. Four months after the operation recovery appeared complete in every particular save for a contracted pupil on the right side, and there was anesthesia over the

[1] Annals of Surgery, 1903, Vol. xxxviii, p. 493.
[2] *American Medicine*, 1903, Vol. vi, p. 364.
[3] Annals of Surgery, May, 1903.

course of the second and third divisions of the trifacial nerves. The author is of opinion that pressure by the retroactor lifting the brain unduly, in order to expose the very deep middle fossa, was undoubtedly the cause of the paralysis, which he thinks could hardly have been avoided. [A.B.C.]

Rupture of Urethra.—G. L. Lucangeli[1] reports in full a clinical lecture by Professor Catterina held upon such a case after cure. Reviewing the history, the gravity of the lesion is admitted and the methods employed to further recovery described. Passing on to detail the work of others on the subject, notably of Kauffman, who reports 239 cases, and the manner of treatment by Feria, Kalischer, and Jaia, the most useful part is found at the close, in a bibliography. It is important to guard against the complication of recovery by a development of stricture. [T.H.E.]

Renal Decapsulation for Chronic Bright's Disease.—F. H. Coe[2] relates his experience and gives details of 2 cases with operation. One patient was in the last stages of the disease and died 4 days later. The other, a boy of 15, has shown some improvement of the urine and his general condition is very satisfactory. Coe himself underwent double renal decapsulation by Edebohls, and for 6 weeks carefully observed his own and six other cases. His case was one of chronic interstitial nephritis, kidneys two-thirds normal size, albumin sometimes present, oftener absent; hyaline casts constant. After describing the improvement in the condition of the urine subsequent to operation, Coe says that perhaps the most pleasing result is the almost immediate change in the patient's general health. The headache disappears, the mind becomes clearer, and the heavy, tense intracranial sensation, so hard to bear, is relieved. [A.G.E.]

Fat Embolism after Trauma of Bones.—The entrance of fat into the blood, says K. N. Smirnoff,[3] is a very common sequel of fractures and other traumatic bone-lesions, including operations on bones and joints. In the vast majority of instances, the complication gives no striking clinical symptoms, with the single exception of lipuria. In a certain percentage of cases, however, considerable disturbances make their appearance after the entrance of fat into the blood. Two clinical forms of the resulting affection may be distinguished—the respiratory and the cerebral fat embolism. The latter form is characterized by an interval of euphoria, followed by symptoms of cerebral disturbance (vomiting, convulsions, paralyses), high fever, and profound coma up to the exitus. The diagnosis rests chiefly on the etiologic factors and the presence of fat in the urine (lipuria). In view of the numerous reported cases of sudden death after forcible corrections of bony or other deformities, this operative method enjoins the greatest caution. [L.J.]

Perineal Prostatectomy.—J. M. Wainwright[4] reports that a man of 63, in previous good health, began to suffer 5 years ago from prostatic trouble. He could empty the bladder until 4 years ago when he entered the hospital with an attack of acute retention, since then he has led a catheter life. Common to such conditions, infection followed and the patient became emaciated and presented all the symptoms of a general infection. In September, 1902, the modified Alexander operation was performed, a suprapubic incision was made but the bladder was not opened. A sound was passed into the bladder to identify the deep urethra and an inverted Y-shaped incision made in the perineum. On dissecting out the prostate a ragged hole was torn in the rectum, the right lobe in a bar of tissue representing the middle lobe was shelled out, the left lobe was likewise removed. A pursestring suture of chromic catgut closed the rent in the rectal wall, and it gave no further trouble. A soft catheter was fixed in position in the perineal wound and the suprapubic incision was closed without drainage. The perineal tube was removed on the ninth day and sounds were passed every 3 days. On the tenth day urine flowed spontaneously through the natural route, on the forty-ninth day after operation, in passing the sound, a stone was felt in the bladder. The perineal sinus had not yet healed and under anesthesia it was dilated, and the stone was removed without crushing. It was egg-shaped and weighed 175 grains. Four months after the first operation the patient had absolute control of the bladder and is well, having gained greatly in weight. [A.B.C.]

Ablation of the Stomach, Complete or Partial.—Leotta[1] refers to a work by Boeckle, who gives statistics upon 45 cases, eight of which may be considered as definitely cured and others giving favorable expectations during the time they remained in view. In 5 years 11 of the 45 patients succumbed to a return of the morbid process, usually cancerous, or to a systemic invasion of the same. The question of *modus vivendi* consequent to the operation of gastrectomy is interesting, but the possibility of it certain. [T.H.E.]

Useful and Weightbearing Stumps of the Leg.—Amberger[2] reports 15 cases in which amputation has been performed by means of Bier's osteoplastic method, and 3 by means of Bunge's modification. Bier's method is based on the fact that the pain of such stumps is due to excessive medullary callus. He therefore covers the marrow-cavity with a bone-flap. Bunge has modified this by simply scraping the marrow-cavity for a short distance with a sharp spoon, doing the same to the periosteum to prevent its forming callus. All the patients who lived long enough to test the usefulness of the stump could attest the merits of the operation. Amberger considers the 2 methods equally serviceable. He shows a number of Röntgen pictures to illustrate his paper. [E.L.]

The Role of Laparotomy in Tuberculous Peritonitis.—S. Saltykow[3] gives the results of experiments undertaken to determine the effect of laparotomy in cases of tuberculous peritonitis. Thirty rabbits were inoculated with cultures of tubercle bacilli, and at varying periods afterward fourteen of them were subjected to laparotomy, the remainder being used as controls. All the rabbits were killed at varying periods after the laparotomies and a histologic study made of the tissues. Some of the animals in each series had undergone cure from a clinical standpoint. The tissues showed that exactly the same changes had taken place in the controls as in those subjected to laparotomy. Notwithstanding this, Saltykow says that in the presence of clinical amelioration almost immediately following some cases of laparotomy in man, he does not feel authorized to deny the efficacy of that measure in human tuberculous peritonitis. It may in some way aid the patient. He does insist that no acute tissue alterations took place after laparotomy in his experiments, the anatomic cure progressing absolutely the same as in the animals not operated upon. [A.G.E.]

Primary Carcinoma of the Appendix.—A. W. Elting[4] reports 3 cases. Of 40 cases previously reported by various operators he thinks there are not more than 20 which appear to be fairly definitely proved primary carcinoma of the appendix. In many no microscopic examination was made to prove the condition and in others various factors entered to place a strong doubt upon the correctness of the reporter's assumption. Careful microscopic examination of his 3 cases proved conclusively that they were cancer. From a very careful study of the subject he draws the following conclusions: Primary carcinoma of the appendix is not of such rare occurrence as has been heretofore supposed. Every appendix removed at operation, if it presents any evidence whatever of disease, should be examined most carefully, and sections should be made from several portions of the organ for microscopic study. The relationship of primary carcinoma of the appendix to chronic appendicitis, especially of the obliterative type, seems fairly definitely established; primary carcinoma of the appendix shows a tendency to develop at a comparatively early period of life; it does not show a marked tendency to extension or to metastasis; the symptoms of this condition are usually the symptoms of appendicitis of the chronic type. The diagnosis of carcinoma of the appendix is in the great majority of cases impossible. The treatment is of course operative. [A.B.C.]

Echinococcus of the Brain.—P. Jacob's[5] patient pre-

[1] Il Policlinico, Rome, September 26, 1903.
[2] Northwest Medicine, September, 1903.
[3] Chirurgia, July, 1903.
[4] Annals of Surgery, May, 1903.

[1] Il Policlinico, Rome, September 26, 1903.
[2] Münchener medicinische Wochenschrift, June 2, 1903.
[3] Arch. de Med. Exper. et d'Anat. Path., July, 1903.
[4] Annals of Surgery, April, 1903.
[5] Fortschritte der Medicin, 1903, xxi, 1.

sented symptoms pointing to a brain lesion. The symptoms of hemiparesis would exist one day, be absent the next, return again on the fourth, and their intensity was rarely ever the same. A tumor had to be suspected, but a solid tumor would never be associated with such variability. The possibility of an echinococcus was considered, and a Quincke puncture performed. In the fluid drawn off, numerous characteristic hooklets, succinic acid, and a large quantity of sodium chlorid were found. The patient recovered. [E.L.]

Exclusion of the Intestine.—The indications and contraindications for this operation are discussed in a very able manner by Vautrin,[1] who reports several cases in support of his deductions. The indications for intestinal exclusion are placed in 2 classes: (1) Cases of cancer or extensive, well-defined tuberculosis; (2) benign or inflammatory lesions, as strictures, ulcerations, fistulas, etc., that are susceptible to cure when put in repose. Exclusion in the first class is, of course, only palliative. Two methods are considered: unilateral, when the upper end of the diseased area is fastened to the skin, and bilateral, when both ends of the excluded portion are freed from the intestine. These ends may be left open on the skin or one or both may be closed and returned to the abdomen. Vautrin avoids making an artificial anus whenever possible, as exclusion is less repugnant and prolongs life equally as well. For fecal fistulas the unilateral method is preferred, but for tumors and inflammatory lesions bilateral exclusion is believed to be better. One case reported by Vautrin shows that exclusion can be well utilized in cases where resection is being performed and it is found impossible to bring the two ends together for suture. [A.G.E.]

Surgical Treatment of Facial Paralysis.—Harvey Cushing[2] reports a case. The patient is a man of 30, who received the bullet wound from a 38-caliber revolver, which severed the facial nerve close to its exit through the skull. Complete facial paralysis followed on that side of the face. Six weeks after the injury and after the wound had entirely healed, operation was undertaken to relieve the condition of paralysis. The spinal accessory nerve was exposed and completely severed at a point convenient for anastomosis; the distal end of the severed facial was found and an anastomosis made with the proximal portion of the severed spinal accessory. The wound healed satisfactorily. After-treatment consisted of electric stimulation to the muscles of the affected side of the face and muscular exercise before a mirror. The patient slowly regained control of the affected muscles, and at the end of a year the face was symmetric when at rest, the affected eye could be closed, and considerable motion was possible under the control of the will. However, the various facial movements could be made only in conjunction with associated movement of the shoulder of the same side. A review of the literature on this important subject is given. [A.B.C.]

Laceration of the Liver and of a large Bile Duct.—C. Francke's[3] patient was injured between 2 cars; violent pain in right side, shock, vomiting, and glycosuria were noted right after. After 3 days peritonitis, and after 7 days jaundice and acholia appeared. The abdomen became filled with fluid and a month after the injury 12 liters of a clear yellowish fluid were evacuated; 2 weeks later 9 liters more. A diagnosis of laceration of the liver and one of the large bile ducts was made; at first evidently all the bile flowed into the abdominal cavity, but this gradually remedied itself. The absence of hemorrhage was due most likely to blood clots filling the line of laceration. A long time elapsed before recovery was complete. [E.L.]

Present Status of Pancreatic Surgery.—J. von Mikulicz[4] says that pancreatic surgery has advanced so slowly for 3 reasons: 1. The complicated topographic relations of the pancreas. 2. Difficulty in diagnosis. 3. The comparatively great dangers connected with operations on that organ. He recommends drainage after all operations in which the pancreas has been laid bare to any extent. In wounds of that organ, the indications are to stop hemorrhage and prevent the escape of pancreatic secretion into the peritoneal cavity or subperitoneal tissue. Diagnosis of pancreatic wounds is very difficult. A number of cases of pancreatic cyst probably arise from mild, subcutaneous wounds of the organ. The author believes that Fitz's classification of acute pancreatitis into hemorrhagic, purulent, and necrotic, is to be regarded rather as a series of different terminations of the same etiologic conditions. Bacterial infection doubtless plays some part in acute pancreatitis, but hemorrhage probably has the greatest significance. But hemmorrhage into the pancreas has such serious consequences as compared with other organs, that some special factor must be at work; and this factor is the chemic action of the pancreatic ferment. It has been shown in recent years that chronic pancreatitis frequently runs the course of pancreatic carcinoma. A close relation between chronic pancreatitis and diseases of the bile passages has also been established. When the diagnosis is uncertain, exploratory operation is necessary. [B.K.]

Chronic Intralobular Pancreatitis.—L.W. Allen[1] reports the case. A woman of 30 had been ill for a year, she had previously led a dissipated life, and had suffered from a number of other affections. Nine months ago she suffered from an attack of jaundice lasting 1 week; 5 months ago she had an attack of severe griping paroxysmal pain in the epigastrium, lasting several days. From this time on she suffered from similar attacks about every 2 weeks. For the past month the stools had been clay-colored at times. She has lost 50 pounds in weight during the past year. On examination the liver was enlarged, its edge could be felt 1 inch below the costal border, and was hard and slightly tender. Extending from the tenth rib toward the umbilicus beneath the tender area, a resisting mass could be felt. Three weeks before death she passed large quantities of urine, in which sugar was discovered; this disappeared after 4 days. There was constant pain in the epigastrium, distress after eating, high fever with pain, night-sweats, and steady loss in weight. An exploratory laparotomy was performed, and 2 cysts of the pancreas were found and opened; one the size of an orange was present between the lower curvature of the stomach and the left lobe of the liver. Within the cyst were 2 stones; the other cyst was the size of a walnut. They were aspirated, drained, and packed. The patient died on the fifth day without peritonitis. Autopsy showed there was no left kidney, the right kidney was half as large again as normal; the cystic, hepatic, and common ducts of the liver were patent, and there were no biliary calculi. The pancreas was greatly atrophied and calcareous, particles were found in its duct. At the orifice of the duct of Wirsung was a stone the size of a small marble, which almost obstructed the lumen; a third cyst was found. The condition of the pancreas doubtless accounted for the jaundice. Microscopic examination showed the condition to be one of intralobular pancreatitis. [A.B.C.]

Effects Consequent upon Removal of the Spleen.—S. F. Deriouginsky[2] reports blood changes following splenectomy done for hypertrophy with complicating gastrointestinal disturbance. The hemoglobin fell from 95° to 90° in 40 days; later to 70°, but after a year, remounted and reached, even the remarkable point of 98°. On the other hand, the number of red blood cells decreased permanently from 4,700,000 to 4,500,000 after fluctuating, while the leukocytes, instead of the previous 11,000, advanced by the year's end to 16,000. The author suggests the value of splenectomy in hematopoiesis. [T.H.E.]

Actinomycosis of the Liver.—M. Auvray[3] states that actinomycosis of the liver is rare but is worthy of attention because in some instances surgical intervention is justified. His article is based on an analysis of 31 cases from the literature. Some authors have reported 40, but Auvray claims this to be erroneous. Involvement may be either primary or secondary. Abscess is the only anatomic form in which actinomycosis of the liver has been observed. The content of the abscess is a thick, yellowish-white or brownish pus that may be very fetid. It contains small yellow spheric granules which, under the microscope, show the characteristic appearance of the actinomyces. Secondary infection of the pus is common. Clinically, three types are recognized according to the diseased area most predominant: hepatic, gastric or intes-

[1] Revue de Chirurgie, July 10, 1903.
[2] Annals of Surgery, May, 1903.
[3] Deutsche medicinische Wochenschrift, 1903, xxix, 352.
[4] Mitth. a. d. Grenz. d. Med. and Chirurg., Bd. xii., p. 1.

[1] Annals of Surgery, May, 1903.
[2] Il Policlinico, Rome, September 26, 1903.
[3] Revue de Chirurgie, July 10, 1903.

tinal, and pyemic. All recorded cases of hepatic actinomycosis have ended fatally, generally in from 6 to 9 months, though many die earlier and one was prolonged to 26 months. Six cases have been operated upon. The details of these Auvray gives in tabulated form. None of the patients died immediately after the operation and some were distinctly, but temporarily, benefited thereby. If the disease were recognized early, before abscess formation, resection of the liver as for any other tumor would be indicated. [A.G.E.]

Cancerous Transformation of Simple Ulcer of the Stomach.—Ettinger,[1] in a lengthy article, considers this question from many points of view. He believes that such transformation occurs, and as proof cites 3 cases. All the patients were males, and aged respectively 61, 42, and 78. The lesion in each case had the anatomic characteristics of a chronic ulcer, and one had perforated the gastric wall. In two of them it was impossible to tell, without the microscope, whether the lesion was a simple ulcer, or one that had undergone cancerous change. The diagnosis of the cancerous ulcer is considered at length. [A.G.E.]

Os Trigonum Detected by the Röntgen Rays.—H. P. Moseley[2] reports that a man of 27 received an accident to the foot, it being jammed by a heavy weight. There was pain, swelling, and loss of function. Manipulation over the tarsal bone caused the pain, and there was deep ecchymosis. No crepitus or abnormal mobility could be made out. Röntgen ray picture showed what appeared to be a fracture of the astragalus, a portion of its posterior aspect being chipped off. The patient completely recovered, and another radiograph showed the exact condition seen in the first. It was thought the abnormal shadow might be a fragment of the lower end of the fibula, but an anterior, posterior radiograph showed the fibula normal. There was now suspicion that there might be an abnormal bone in the foot. Accordingly a radiograph was taken of the other foot, and exactly the same condition was found. Os trigonum, according to Quain, is an ossicle due to the separation of the external tubercle of the posterior surface of the astragalus and ossification from a distinct center. The flexor longus hallucis tendon passes in a groove on the posterior surface of the astragalus, and it is the outer part bounding this groove which becomes separated and ossified from a distinct center. [A.B.C.]

TREATMENT

SOLOMON SOLIS COHEN
H. C. WOOD, JR. L. F. APPLEMAN

REVIEW OF LITERATURE

The Balneotherapy of Chronic Articular Rheumatism.—Winkler[3] believes that the use of extreme heat, either in the form of hot baths or hot mud baths, although it may not produce any immediate symptoms, if persisted in leads to weakening and degeneration of the heart-muscle, so that patients who have undergone a course of treatment may return home and develop 5 or 6 months afterward dangerous cardiac symptoms. This danger may be largely avoided by the use of cold affusions or douche several times during the bath, or at least, at the end of it. If this hyperthermal treatment were beneficial he would be willing to employ it, despite the element of danger, but he believes that such high degrees of temperature are more capable of harm than of good in chronic rheumatism, and advises very strongly against their employment. On the other hand, he has had excellent results with the use of prolonged baths of moderately warm temperature. The term warm, when applied to baths, is relative, since the effect of the temperature varies with the medium employed; that is, those forms of bath, such as the mud bath or hot water bath, in which the amount of moisture is large, cannot be borne at so high temperature as dry air. He recommends in the treatment of chronic articular rheumatism, mud baths from 20 minutes to 50 minutes at a temperature of 99° F. to 102° F.; for sand baths, 115° F. to 120° F.; for steam baths, 95° F. to 114° F., and 20 minutes' to 30 minutes' duration. The dry-air bath he employs by exposing the patient at first to a temperature of about 120° F. for half an hour, and later to a temperature of 150° F. for about 5 minutes. After each bath it is advisable to employ either a cold douche or cold affusion of some kind. The bath should not be given oftener than every other day. By these means he has obtained excellent results in cases which have resisted all other forms of treatment. The local application of heat may be of value as an adjuvant in this treatment, but he does not believe it capable of producing permanent relief. He employs the local hot bath on alternate days with the general hot bath. He believes that the excessively high temperatures, such as 300° F., which have been employed, are irrational and of little use. [H.C.W.]

Insomnia of Melancholia.—F. X. Dercum points out that among the special symptoms requiring attention in melancholia, insomnia is highly important. Sometimes, but not frequently, simple expedients, such as induce sleep in neurasthenia, will suffice; thus, a glass of hot milk at bedtime, or a warm sponge bath given just before the sleeping hour. Elaborate baths are only exceptionally tolerated. Neither the dripsheet nor the wet pack can, as a rule, be employed. It is true that in some cases, especially in prolonged hypomelancholia, the wet pack affords a very valuable method of inducing sleep; in ordinary cases of melancholia, however, both the drip-sheet and the necessary manipulations of the wet pack distress and annoy the patient. Notwithstanding this, hypnotics should not be resorted to unless the insomnia is exceedingly grave and persistent. The patient is often able to get along with comparatively little sleep, or a sleep that is badly broken. Often he is anxious for the administration of medicine, and under ordinary circumstances it is wisest to begin with a placebo, such as a capsule of starch. In mild cases this may satisfy the patient, but as a rule it fails to bring about sleep. Not infrequently, in spite of all our efforts, we are forced at times to make use of drugs, and then the mildest of the hypnotics should be used, and only in the smallest dose consonant with securing some improvement in the sleep. Moreover, they should never be continued for any length of time. A trial may first be made of hyoscin or of scopolamin .6 mg. to .3 mg. ($\frac{1}{100}$ gr. to $\frac{1}{200}$ gr.) with paraldehyd 4 gm. to 8 gm. (1 dr. to 2 dr.). Frequently we are compelled to fall back upon trional and sulfonal, and it should be borne in mind that a combination of these drugs usually acts better than either alone. Trional .65 gm. or .97 gm. (10 gr. or 15 gr.) with sulfonal .32 gm. or .65 gm. (5 gr. or 10 gr.) will usually give a very satisfactory night's sleep. In patients who are agitated, and in whom sleep is induced with difficulty, a dose of paraldehyd may be given immediately after the trional and sulfonal so as to start the sleep, which is afterward prolonged by the trional and sulfonal. If it be necessary to administer hypnotics for a long time, it is well to vary the administration of trional and sulfonal with chloralamid. Sometimes scopolamin or hyoscin combined with chloralamid forms a very efficient substitute. Hedonal has not, in Dercum's experience, proved a sufficiently powerful hypnotic. The bromids and chloral should be avoided. Morphin is but rarely necessary to produce sleep, other drugs sufficing.—["Rest, Suggestion, and Mental Therapeutics," Blakiston, 1903.]

Treatment of Constipation through Hypnotic Suggestion.—The use of suggestion for the relief of constipation is an old practice. Delius,[1] who unnecessarily embraces hypnotism with it, points out that defecation depends not only upon the local irritation in the rectum, but upon a central automatic influence. The proof of this fact is found in the occurrence of the impulse at regular intervals, bearing no relation to the amount of fecal material in the lower bowel. A large number of cases of constipation arise from the suppression of this central impulse leading gradually to insusceptibility to stimulation. The use of cathartics and enemas, by accustoming the intestine to marked irritation is likely to prove harmful. Delius treats these cases by hypnotic suggestion to defecate at a given time. After a time, through repeated suggested impulses, the automatism is again restored and the patient cured. He has treated in this manner 84 patients, with complete cure in 80% and relief in 15%. [H.C.W.]

Potassium Iodid in Tabetic Atrophy of the Optic Nerve.

[1] La Semaine Médicale, July 1, 1903.
[2] Annals of Surgery, May, 1903.
[3] Bal. Centralzeitung, 1903, 143.

[1] Balneolog. Centralzeitung, 1903, October 5, p. 179.

—Wecker, of Paris, and Dor and Grandolément, of Lyons, condemn absolutely the administration of potassium iodid in tabetic atrophy of the optic nerves. Of 12 cases of tabes in which there was atrophy of the optic nerve, Dor noted that in 6, large doses of the iodid had been taken; of these 6 patients, 4 had become entirely blind. The suppression of the iodid in the 2 others had arrested the progress of the disease. The remaining patients, who had not received the iodid, suffered no loss of vision. Upon inquiry of prominent oculists as to whether specific treatment should be instituted in such cases, Nantermon[1] received 27 replies. The majority were unanimous in saying that the iodid is useless; the others considered it distinctly harmful. As to mercury, opinion is divided; some claim it is useful, others assert that it is without appreciable effect. If it is employed, it should be administered in the form of inunctions or subcutaneous injections. [L.F.A.]

Ergot of Rye in the Treatment of Chorea.—Eustace Smith[2] speaks approvingly of ergot of rye in the treatment of chorea. He states that too great fear of giving an overdose has been entertained. He does not hesitate to give dram doses of the liquid extract to children of 7 or 8 years every 3 or 4 hours for weeks if necessary, and doses of 1.25 cc. (¼ dr.) for months. He notices that the pulse-rate diminishes some 15 to 20 beats after ergot treatment is instituted, but in no instance has he noticed dilation of the pupils, headache, nausea, abdominal pain, or other unpleasant symptoms. He increases the dose to 6 cc. (1½ dr.) if smaller doses are ineffective. Attention is called to the fact that 1 to 3 minims of liquor strychniæ added to each dose of ergot appears to act favorably in hastening the action of the ergot. Smith apparently considers ergot, properly administered, a more reliable remedy than Fowler's solution. To get the proper effect in chorea he insists that the child be kept in bed, and that the bowels shall be acting freely. While recovery from chorea is usually prompt under this treatment, the drug should be continued for some time. Two cases are reported in some detail in which recovery promptly took place under ergot treatment. [A.B.C.]

Disinfection of Dwellings by Formaldehyd.—The popularity of formaldehyd as a room disinfectant has led to the devising of a number of apparatus, both simple and complex for the production of this gas. Michael[3] points out that in choosing an apparatus for a room disinfectant, certain principles must be borne in mind. In the first place formaldehyd is really polymerized, losing its activity, unless there is present a considerable proportion of water vapor in the air; for this reason the apparatus must be one which vaporizes water at the same time it produces formaldehyd. In the second place the apparatus must be one whose original cost is not too great and in which the cost of operation is not excessive. He recommends one of two apparatus, either that of Schering, which manufactures the formaldehyd from the polymer paraform, or the socalled Breslau apparatus, which vaporizes a solution of formaldehyd. The latter has the advantage that it can be operated outside of the room, the gas being introduced through the keyhole, in this manner avoiding any danger of infection of the operator. After the room has been closed for sufficient time to allow destruction of the germs, the irritating gas may be removed from the air by the introduction of ammonia. The cost of disinfecting a room with the Schering apparatus is about $14.00 per cubic meter, with the Breslau apparatus about $10.00 per cubic meter. [H.C.W.]

The Physiologic Action of Adrenalin Chlorid.—Ott and Harris[4] made a series of experiments with Takamine's adrenalin. They found that when locally applied to the frog's heart adrenalin produced changes similar to those produced by digitalis. Contrary to Gottlieb, they believe the cardiac stimulant influence of adrenalin to be rather on the muscle than the intrinsic nervous mechanism. The alkaloid produces an arrest of the peristaltic movements of the intestines, as has been shown by several observers to be true of suprarenal extract. Concerning the interesting problem of its fate in the organism they believe it is largely oxidized in the system, although probably a small amount escapes through the kidneys. They showed that the urine of an animal that had received a large dose of adrenalin had a stimulant effect on the circulation, although after a dose of 100 minims (6 cc.) the urine affected the blood-pressure less than if 1 drop had been added directly. [H.C.W.]

[1] Journal des Praticiens, Vol. xvii, No. 36, 1903, p. 572.
[2] British Medical Journal, July 18, 1903.
[3] Balneolog. Centralzeitung, March 23, p. 53.
[4] Therap. Gaz., 1903, xxvii, p. 378.

Formaldehyd in Whoopingcough.—Since 1899, G. De Simoni[1] has used formaldehyd locally in the treatment of pertussis and reports its action as very favorable. In one epidemic alone 155 cases were managed successfully; the solution for local spraying being made from 1% to 2% of the commercial 40% solution, according to the state of the little sufferer who received a thorough pharyngeal application once daily. Vomiting followed the applications in a few instances. This was due, perhaps, to unskilful management. No toxic effects were noted. [T.H.E.]

Advertisement Poisoning.—A powder composed of belladonna, stramonium, hyoscyamus, and potassium nitrate, intended for inhalation was wrapped by the apothecary in a paper advertising a food preparation. The patient thinking the advertisement referred to the powder, took a teaspoonful of it. The typical symptoms of belladonna poisoning developed; the patient recovered. Pause[2] embraces the chance to speak a word against the frequent custom of wrapping medicines in advertisements. Had the advertisement in this case through some accident been of a medicine of which the dose was a tablespoonful, the patient would have died.

Suggestions for Febrile Cases.—When for any reason the cold bath cannot be employed, Wynterhas[3] finds the use of cool air, in the manner known as "cradling," and introduced many years ago by Fenwick, of London, of service. The patient lying nude in bed, the covers are raised from the body with the cradle that is employed in such diseases as acute rheumatism, to remove their weight; both ends being left open, a current of air at the room temperature (60° to 70°) passing constantly over the naked body acts as a sufficient antipyretic. A simple method of applying ice to the head, which he thinks superior to either cold compresses or the ordinary ice-cap, is to fill partly a hot-water bag with chipped ice and water, and place it under the nape of the neck. This has the advantage not only that it will remain in place, but that the cold reaches the spot where it will do the most good, the centers at the base of the brain. [H.C.W.]

Condensed and Rarefied Air in Asthma.—Inspiration of condensed air, and inspiration of condensed and rarefied air combined, have been employed; in the latter case the treatment is begun with condensed air, the change to rarefied air being made toward the conclusion of the séance. During the intervals between attacks Cross advises that inspirations of condensed air be continued perseveringly, and when an attack occurs, that the compression be increased as high as $\frac{1}{30}$ or even $\frac{1}{20}$ of an atmosphere. In this manner he says the attack is relieved and its duration abridged. J. Solis-Cohen also advocates high degrees of pressure. Ducrocq, on the other hand, advises that only a low degree of compression be used—4 cm. of mercury for an adult and 2 cm. for a child. This pressure, he says, is enough to overcome the spasm of the small bronchioles and thus to insure renewal of the air inclosed in the alveoli. It is also important that the time during which the lungs are in contact with the condensed air should not exceed the average duration of a normal inspiration.—[P. Tissier, Pneumotherapy, System of Physiologic Therapeutics, Vol. x.]

A New Hypnotic.—Impens[4] has made a series of experiments with trichlorisopropylalcohol, which has been given the name isopral. It is sparingly soluble in water to the extent of 3.3%. Isopral has a camphor-like odor, and its solution placed on the tongue produces a burning sensation followed by local anesthesia. It is absorbed by the skin, subcutaneous tissues, and digestive tract with rapidity; after its administration by the mouth its effects can be noted in 3 to 5 minutes. Upon the lower animals, including fish, frogs, rabbits, and dogs, it exercises a marked somnifacient action. The effective dose is small

[1] Il Policlintco, Rome, October 10, 1903.
[2] Deutsche medicinische Wochenschrift, 1903, xxix, 354.
[3] Treatment, 1903, vii, 481.
[4] Therap. Monatsh., 1903, xvii, p. 469.

compared to the amount required to kill, the ratio being 1-6.4 in the dog; that of chloral is 1-4, of chloreton 1-1.6. [H.C.W.]

The Adulteration of Aristol.[1]—The popularity of the various preparations of iodin employed as substitutes for iodoform has led to free sophistication of them, especially of aristol. The author states that some of the products sold under the chemic name of dithymol diiodid contain absolutely no iodin, being mixtures of boric acid and acetanilid colored by ferric oxid, while some do not even attempt to imitate the physical properties of the drug. A list of 27 preparations sold for this substance, all containing a marked quantity of adulterants, is given. [H.C.W.]

THE PUBLIC SERVICE

Health Reports.—The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended December 5, 1903:

			Cases	Deaths
	SMALLPOX—UNITED STATES.			
Alabama:	Mobile	Nov. 21-28	6	
California:	Los Angeles	Nov. 14-21		1
Illinois:	Chicago	Nov. 21-28	3	
Louisiana:	New Orleans	Nov. 21-28	2	
			Imported.	
Massachusetts:	Haverhill	Nov. 21-28	1	
	Lowell	Nov. 21-28	1	
Michigan:	Detroit	Nov. 21-28	1	
New Hampshire:	Manchester	Nov. 21-28	2	
New Jersey:	Camden	Nov. 21-28	1	
Ohio:	Cincinnati	Nov. 21-28	2	
	Youngstown	Nov. 21-28	9	
Pennsylvania:	Johnstown	Nov. 21-28	6	1
	Philadelphia	Nov. 21-28	70	11
	Pittsburg	Nov. 21-28	25	7
			Two imported.	
	Reading	Nov. 23-30	3	
Tennessee:	Memphis	Nov. 21-28	8	
	SMALLPOX—FOREIGN.			
Ecuador:	Guayaquil	Nov. 7-14		1
Great Britain:	London	Nov. 7-14	16	
	Newcastle-on-Tyne	Nov. 7-14	18	
	Nottingham	Nov. 7-14	4	
Italy:	Catania	Nov. 6-12		1
	Palermo	Nov. 7-14	1	
Russia:	Moscow	Oct. 31-Nov. 7	1	
Turkey:	Smyrna	Nov. 1-8		16
	YELLOW FEVER—UNITED STATES.			
Texas:	Cannel	Nov. 26	4	
	Laredo	Nov. 23-Dec. 1	6	5
	Minera	Nov. 28	2	1
	San Antonio	Nov. 23-Dec. 1	5	5
	YELLOW FEVER—FOREIGN.			
Mexico:	Ciudad Victoria	Nov. 8-14	9	7
	Linares	Nov. 8-14	74	6
	Merida	Nov. 8-14	3	
	Monclova	Nov. 17-18	2	2
	Nuevo Laredo	Nov. 8-14		2
	Reata	Nov. 26	1	
	Vera Cruz	Nov. 15-28	14	9
	CHOLERA—FOREIGN.			
Turkey:	Syria	Nov. 7	Prevailing.	
	PLAGUE—UNITED STATES.			
California:	San Francisco	Nov. 12	1	1
	PLAGUE—FOREIGN.			
Egypt:	Alexandria	Oct. 24-31	3	2
	Sammalut District	Oct. 24-31	2	
India:	Bombay	Oct. 26-Nov. 3		45
	Karachi	Oct. 18-Nov. 1	28	25
Japan:	Yokohama	Oct. 24-31	1	1
Mauritius:		Oct. 19-26	117	55

Changes in the Medical Corps of the U. S. Army for the week ended December 5, 1903:

IVES, Major FRANCIS J., surgeon, is granted leave for twenty-one days, to take effect upon his arrival at San Francisco, Cal.

APPEL, Major AARON H., surgeon, leave on surgeon's certificate granted October 24 is extended two months.

REYNOLDS, Captain FREDERICK P., assistant surgeon, in addition to his present duties will report to Colonel Charles L. Heizmann, assistant surgeon-general, president of the faculty of the Army Medical School, for duty as instructor in hospital corps drill and assistant instructor in duties of medical officers and medical department administration.

[1] Therap. Gaz., 1903, xxvii, p. 375.

The following changes in the stations and duties of officers are ordered: First Lieutenant George M. Ekwurzel, assistant surgeon, now in New York City, is relieved from further duty in the division of the Philippines, and will proceed to Fort Banks for duty, to relieve First Lieutenant Walter Cox, assistant surgeon. Lieutenant Cox will proceed to Fort Reno for duty, to relieve First Lieutenant Charles W. Farr, assistant surgeon. Lieutenant Farr will proceed to Fort Mason for duty.

TURNER, SAMUEL S., contract surgeon, is relieved from duty in the department of Dakota, and will proceed to Fort Columbia for duty, to relieve Contract Surgeon Edward Bailey, who will proceed to San Francisco, Cal., for transportation to the Philippine Islands on transport to sail about January 1.

HOWARD, Captain DEANE C., assistant surgeon, is detailed to represent the medical department of the Army at the third annual meeting of the American Röntgen Ray Society, to be held in Houston Hall, University of Pennsylvania, Philadelphia, Pa., December 9 and 10.

KELLER, First Lieutenant WILLIAM L., assistant surgeon, is granted leave for one month.

STOCKARD, JAMES K., contract surgeon, is granted leave for one month on account of sickness, to take effect upon the expiration of the leave granted him August 21.

KELLER, First Lieutenant WILLIAM L., assistant surgeon, now in New York City, is relieved from further duty in the division of the Philippines, and will proceed to Fort Riley for duty.

Orders of November 7 are so amended as to direct Contract Dental Surgeon Rex H. Rhoades to report to the commanding general, department of California, for transportation to Manila, P. I., on the first available steamer of commercial line leaving San Francisco, Cal., after December 1, there being no space now available on government transport.

ROCKHILL, First Lieutenant EDWARD P., assistant surgeon, is granted leave for one month from December 18.

Changes in the Medical Corps of the U. S. Navy for the week ended December 5, 1903:

ALFRED, A. R., surgeon, commissioned surgeon, with rank of lieutenant, from January 4, 1903—November 30.

NOYES, E. R., pharmacist, warranted pharmacist from October 20, 1903—November 30.

GRUNWELL, A. G., surgeon, detached from the Naval Hospital, Washington, D. C., and ordered to the Minneapolis—December 1.

CARPENTER, D. N., surgeon, ordered to the Naval Hospital, Navy Yard, Washington, D. C.—December 1.

NOYES, E. R., pharmacist, ordered to the Naval Museum of Hygiene and Medical School, Washington, D. C.—December 1.

Changes in the Public Health and Marine-Hospital Service for the week ended December 3, 1903:

SAWTELLE, H. W., surgeon, to inspect unserviceable property at Stapleton, N. Y.—November 30, 1903.

GUITERAS, G. M., surgeon, upon completion of duties at Laredo, Tex., to rejoin station at Cairo, Ill.—December 1, 1903

GARDNER, C. H., passed assistant surgeon, relieved from duty at the Immigration Depot, New York, N. Y., and directed to proceed to Key West, Fla., and assume command of the service at that port—December 1, 1903.

OAKLEY, J. H., passed assistant surgeon, to proceed to Seattle, Wash., and assume temporary charge of service at that port, relieving Acting Assistant Surgeon C. B. Ford—November 30, 1903.

VON EZDORF, R. H., passed assistant surgeon, detailed as inspector of certain points on Mexican National and Mexican Gulf Railroads—December 2, 1903.

LUMSDEN, L. L., passed assistant surgeon, Bureau letter granting him leave of absence for ten days amended so that said leave shall be for six days from November 15—November 28, 1903.

FRICKS, L. D., passed assistant surgeon, granted extension of leave of absence for one month from December 1—November 27, 1903.

KERR, J. W., assistant surgeon, to proceed to Washington, D. C., and report to chairman of examining board to determine his fitness for promotion to the grade of passed assistant surgeon—December 2, 1903.

RICHARDSON, T. F., assistant surgeon, relieved from temporary duty in Texas, and directed to rejoin station at New Orleans, La.—November 30, 1903.

GOLDBERGER, JOSEPH, assistant surgeon, relieved from temporary duty in Laredo, Texas, and directed to report at the Bureau, Washington, D. C.—November 30, 1903.

AMESSE, J. W., assistant surgeon, to proceed to Seattle, Wash., and assume command of the service at that port, relieving Passed Assistant Surgeon J. H. Oakley—December 3, 1903.

GLOVER, M. W., assistant surgeon, relieved from duty at Baltimore, Md., and directed to proceed to Victoria, B. C., for immigration duty—November 27, 1903.

BURKHALTER, J. T., assistant surgeon, granted leave of absence for one month from December 3—November 28, 1903.

EBERSOLE, R. E., assistant surgeon, relieved from duty in Texas, and directed to rejoin his station at Gulf Quarantine—November 30, 1903.

FOSTER, A. D., assistant surgeon, relieved from duty at Charleston, S. C., and directed to proceed to Baltimore, Md., for immigration duty—November 27, 1903.

BROWN, F. L., pharmacist, directed to rejoin station at Pittsburg, Pa.—November 30, 1903.

WALERIUS, M., pharmacist, relieved from temporary duty at Laredo, Texas, and directed to rejoin station at St. Louis, Mo.—November 30, 1903.

Casualty.

MURRAY, R. D., surgeon, died at Laredo, Texas, November 22, 1903.

American Medicine

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PUBLISHED WEEKLY AT 1321 WALNUT STREET PHILADELPHIA BY THE AMERICAN-MEDICINE PUBLISHING COMPANY

VOL. VI, No. 25. DECEMBER 19, 1903. $5.00 YEARLY.

Tuberculosis and the Home.—The second in the series of addresses under the auspices of the Phipps Institute of Philadelphia, given on December 3, was in every way gratifying. The attendance showed a marked increase over that of the first, an evidence of growing interest, both lay and professional, in the crusade against tuberculosis. Dr. Osler's address was replete with practical suggestions. He is still of the opinion that tuberculosis is largely an inhalation disease, even in children. The many cases of bronchial and pulmonary lesions and the small number of primary intestinal involvements are opposed to the recent contention of von Behring, that ingested milk is the most fruitful source of contagion. To aid in determining the incidence of the disease, Dr. Osler rightly emphasized the need of statistics regarding tuberculosis in children dead of acute diseases, which are sadly deficient as compared with like figures relating to adults. Among the essentials in combating tuberculosis named by the speaker were educational home campaigns, compulsory notification in every city, increased power of Boards of Health, compelling landlords to build good houses, and the clearing out of notoriously unsanitary localities. Under the first of these points was given a very practical lesson learned from the work in Baltimore. This was that visitors from the Board of Health or from charity organizations were nearly always met with suspicion and distrust by people in their homes, whereas representatives of the dispensary where the patients were being treated were kindly received and their advice heeded. Dr. Osler stated, that as 98% of tuberculous patients are treated in their homes, the general practitioner is, after all, the man behind the gun. Upon him must be impressed two things: 1. The early recognition of the disease by better attention to the principles of practice and more care in diagnosis. 2. More masterful management of early cases. Home treatment by modern means must be carried out not only in cities, but in suburbs, in small towns, and in the country.

Prognostics of the Resuscitation of Venesection.—Like some other of the formerly overpopular items of the medicochirurgic armamentarium, of which the too frequent and excessive employment led to subsequent disuse and unmerited discredit, venesection has again begun to receive a certain proportion of recognition, which, we incline to think, will continue to develop with the progressive years of the twentieth century. There probably exist, at the present moment, many stiff joints, many blind eyes, and many functionally incompetent kidneys, whose normal physiologic activity would now be unimpeachable, had phlebotomy been judiciously employed at the critical period of the progress of the original lesion. We note among the signs of the times that some of the wisest practitioners recognize that in certain cases of sthenic pneumonia, of acute parenchymatous nephritis, and of puerperal eclampsia, use of bloodletting is the most effective of all known remedies. The dangers of the loss of a considerable quantity of blood have been vastly overrated as the sequel of every capital operation tends to show. But the origin of the terror which almost completely prohibited venesection for so many years will be easily understood by a glance at its history.

History of Venesection in the Olden Times.—From the time of Galen down to the early portion of the past century, phlebotomy was the most universally employed of all modes of clinical treatment—hardly excepting purgation. The great panacea was used by Hippocrates, the "father of medicine;" and must have been popular long before his time. It was still more highly recommended by Celsus, and in a superlative degree by Galen. As there was no way of appealing from the authority of those men during the long centuries of the Dark Ages, bleeding was an almost universal treatment. It continued so down to the latter part of the first half of the past century; when the *hæmatomania* of the French physicians was vigorously denounced by Schneider. The celebrated Piedmontese physician and anatomist, Botal—a contemporary of Bacon, Galileo, of Kepler, and of Shakespeare—who has given his name to the *foramen ovale* and *ductus arteriosus* of human (fetal) anatomy, preached freedom of bleeding with a degree of enthusiastic zeal to which we hardly find a parallel in the history of therapeusis; except, perhaps, in the classic advocacy of the use of *tar water* by Bishop Berkeley. In either sex, in young and old, and in all types of disease—from the most acute to the most asthenic—he advocated large and repeated bleedings. "The young he bled freely on account of the rapid reproduction of blood in youth; the old, because

he saw in the practice a conduciveness to rejuvenescence. He bled freely in slow and wasting diseases, because richer and better blood was formed; in dysentery, because he recognized in it an affinity to inflammation of the lungs, in which all physicians bled; in all forms of flatulency, because of its power to relieve obstructions; in short, he had a reason for bleeding in every special distemper, and when reproached for indiscriminate routine of his practice, he argued that the 'more water you draw from a well, the better and purer is that which filters in.'" The revolutionary teaching of Paracelsus modified in some quarters for a time the uniformity of this prevailing practice. It influenced during some years the practice of the famous Van Helmont. But the latter returned to the older doctrine, and the result is indicated in the words of his biographer and panegyrist, Lokkowitz: "He was pious, learned, famous, a sworn enemy of Galen and of Aristotle. The sick never languished long under his hands, being always killed or cured within three days." Guy Patin, one of the most prominent of the French physicians of the seventeenth century, records among his personal experiences of venesection that he was bled seven times for the cure of a cold in the head, and that he practised a similar operation thirty-two times on one of his colleagues for the relief of a continued fever. The *Mercure de France* of April, 1728, and December, 1729, gave the particulars of the illness of a woman named Pignault. She was aged 24 years, was the wife of a hussar, and resided at St. Sange, a town of the Nivernois. Under the direction of M. Theveneau, Seigneur of Palmery, M.D., of St. Sange, she was bled 3,904 times in nine months—from September 1, 1726, to June 3, 1727. By July 15 of the same year the bleedings had amounted to 4,555. From September 1, 1726, to December 1, 1727, the bloodlettings amounted to 26,230! After the perusal of such records, the reader will probably come to the conclusion that the reaction against the practice of venesection was, upon the whole, salutary.

The Time Limit in Diphtheria Quarantine.—Apropos of a recent report of a committee appointed by the Philadelphia County Medical Society, attention should be called to the results of an investigation which bear directly upon one of the subjects discussed in the report. The committee in question was appointed to suggest methods for the control of contagious diseases by the municipal authorities. Their report contained the recommendation that quarantine of diphtheria cases should be raised at the expiration of two weeks from the time of clinical recovery without making cultures from the throat of the patient. The committee admitted that this method would occasionally allow the release of a person capable of transmitting the infection, but this was thought to be outweighed by the disadvantages of requiring negative cultures as a criterion of release. The principal disadvantages were said to be the fostering of entire evasion of such quarantine law, and the detention of some people, who, although cultures were still positive, were incapable of conveying infection. The investigation to which we refer was made by Dr. T. W. Salmon in the State Hospital at Willard, N. Y. The value of the series of 100 cases reported, lies in the fact that the period of isolation was made as long as desired without hardship to the patients, and also that they were under observation for a long time after release from quarantine. The results of the study are exceedingly valuable and should be read in the original.[1] Briefly it is shown that if all the persons in the series had been released two weeks after the onset of the disease, 60 would have been still infected with diphtheria bacilli. If three weeks had been the limit, 37 would have been infected, and if four weeks, 27. The finding of one negative culture was found to be inefficient, but when two negative cultures from the nose and throat were obtained subsequent to a time limit of two weeks, only six persons were found afterward to be infected. Salmon suggests as a requirement that is not unfair to any, the finding of two negative cultures taken on alternate days from both nose and throat after two weeks have elapsed from the onset of the disease. The occurrence of diphtheria bacilli in the throats of people apparently well has given rise to much confusion regarding the question of quarantine, but it seems to a candid observer that the release of patients recovering from an attack of clinical diphtheria after the expiration of an arbitrary time limit is unsafe. It is true that the convenience of patients is much, but the prevention of diphtheria is more. It is to the credit of the County Medical Society that the report, of which we have discussed but one recommendation, was referred back to the committee for revision.

Electrocution.—The recent deplorable necessity for the sentence of three citizens of New York State to death by electrocution bears gloomy testimony to the fact that all the progressive intelligence, education, and altruism of the twentieth century have hitherto failed to sterilize the moral atmosphere. The grossest (and obviously macroscopic) germs still remain unscotch'd. In fact, the humanitarianism of the present age has affected the methods of punishment much more than the genesis of crime. The fact that capital punishment had been abolished in Italy did not prevent the assassination of the late very popular King of that country. The want of capital punishment in Spain has not made murders less frequent there than in other nations. However, there can be no question raised as to the social improvement indicated by the cessation of the horrible judicial butcheries of the older centuries, and more lately of the abolition of public executions. The humane reader can hardly contemplate without a shudder the descriptions of the public executions of "civilized" western Europe down to comparatively recent times. And we have just reason to feel gratified on reflecting that the form of capital punishment by electrocution recently adopted in parts of this country is a vast stride in the forward movement of decency and humanity. The surely instantaneous death produced by the passage through the human body of a current of sufficient electromotive force is beyond question. It is, in fact, death by lightning. The decency maintained by exclusion of the public gaze having also been secured, we possess in this method of carrying out the requirements of the legal

[1] Albany Medical Annals, December, 1903.

demand of life for life the nearest approach to an ideal fulfilment of so melancholy a necessity that can be hoped for in the present state of our knowledge. When first employed in New York, there was, as most of our readers will remember, a goodly outpouring of sensational criticism on its efficacy. There were gruesome word pictures of roasting flesh and of burning hair, which we could not accept as photographic—such results being incompatible with instantaneous discharge of the quantity of electricity used. Then the representations regarding the test applied to determine whether life was extinct were not in accordance with physiologic facts. Generally speaking, there is no better test to distinguish real from apparent death than that of making a small cutaneous incision. When the heart has ceased to beat, there is no expulsive power, and coagulation soon takes place and changes permanently the physical qualities of the (no longer) vital fluid. But there are qualifications and exceptions to most of nature's rules. Postmortem coagulation of the blood is not instantaneous; a little will always well up in a skin wound made immediately after death. And the fact has long been known to physiologists that after death by lightning the blood does not coagulate as in ordinary circumstances. So that the partial fluidity of the blood after electrocution is a physical fact which observers may be prepared for. But in dismissing the subject, let us hope and pray that with the continued progress of liberty and equality of rights among men, the sad necessity for the employment of any such lethal operation may occur, but with rapid diminishing frequency.

Capital Punishment in "the Good Old Times."—However deplorable may be the fact of the survival of the practice of capital punishment into the twentieth century, there remains an item of consolation in the contrast of the modes of infliction employed in the civilized nations of the present day with those of the miscalled "good old times." In all savage countries which have organized a monarchy of considerable extent, the office of public executioner is one of the most important. Even in some European States within less than a century ago surviving traces of this dignity were very recognizable. When the state executioner of the Duchy of Wurtemberg had completed a certain number of hangings, decapitations, breakings-on-the-wheel, burnings-at-the-stake, rackings, thumbscrewings, floggings, etc., he always received an honorary degree of "*Doctor of Medicine*" from the national university. Toward the end of the first quarter of the nineteenth century Karl Ludwig Sand was beheaded in Heidelberg by "*Doctor*" *Wiedemann* of that city for the assassination of Kotzebue about a year before. The resources of the more purely fiendish ingenuity sometimes displayed by *homo sapiens* would appear to have been exhausted in the details of the execution of the weak-armed and weak-minded Damiens for a penknife scratch inflicted on the cutaneous surface of the worthless sensualist, Louis XV of France. The right hand and forearm of the culprit were roasted in a slow fire; his flesh was nipped off in pieces with red-hot pincers, boiling pitch, resin, wax, etc., were poured into the wounds so made; and finally, when the last remnants of vitality were obviously evanescing, his arms and legs were lashed to four wild horses, which were then vigorously whipped in different directions. It is a very noteworthy anatomic fact that the attempt so made to have the wretched culprit "torn to pieces" proved an absolute failure; so that the body of the doomed man was actually *carved* on the scaffold by the executioners! A comparatively frequent mode of execution for political and other aggravated forms of crime in France was by "breaking on the wheel." This instrument had but four spokes, placed in form of an X, or St. Andrew's Cross, to which the arms and legs of the doomed man were firmly bound. Opposite the middle of each arm, forearm, leg, and thigh was a hollow—eight in all. Over each of those places the executioner smashed the limb with a stroke of a heavy iron bar. A ninth blow was administered—known as the *coup de grace*. It was over the pit of the stomach, corresponding to the "solar plexus" blow of the pugilist of the present day. If the culprit had been recommended to mercy, this stroke ended his sufferings; if not, it was a mere touch, and the victim sometimes lingered in agony for 48 hours! The *Maiden* ("Jungfrau") of Nuremberg is another of the horrors of the history of criminal law. A gigantic wood and iron doll, of feminine outlines, opened vertically on one side, being hinged on the opposite. The interior so exposed was a cavity of size to receive the human body. There was a stand for the feet. From the movable side of this "maiden" doll projected a half dozen spikes of some six or seven inches in length. The two uppermost were intended for the eyes; there was one meant for the heart; and the others for the principal abdominal viscera. When a person was legally prepared for the sentence of the "Maiden," his feet were placed on the stand, and the door was forcibly closed and bolted. The Jungfrau was placed over a pit covered by a trap-door, through which his body was dropped after sojourn of 24 hours in her embraces.

Human Monsters.—Specimens of the monstrous misdevelopment of the "human form divine" appear even in our enlightened and progressive twentieth century. In fact, the past year or two has proved more than usually fertile in such specimens. It is true, indeed, that the exceptionally favorable conditions of the union of the Radica-Doodica[1] twins, combined with our present knowledge of aseptic methods, permitted their successful separation. But other cases will surely continue to reappear in which no such procedure can be entertained. The rapid growth and diffusion of embryologic knowledge have removed the mysterious awe with which the persons of such compound specimens of humanity were approached—even by the physiologist and surgeon of the older centuries. The interest attached to all such freaks of nature, when the birth of every monster—human or otherwise—was regarded as an "omen"—a prophetic manifestation of the impending wrath of Providence, has had the necessary effect of attaching to the occurrence of monstrous births a great deal of theologic and historic interest. And the hanker-

[1] The death of Radica, who survived the operation, was reported November 7, 1903.

ing after the mysterious and inexplicable which has always formed so preeminent a characteristic of man has successfully popularized the most preposterous explanations of the genesis of prodigies of every type and class. The collections of monsters described and figured in the great works of Ulysses Aldrovandus and Ambroise Paré well show that the riotous intellectual ingenuity of medieval superstition had hardly been "scotch'd" not to say killed by the spasmodic enlightenment of the movements of the Renaissance. The latter, indeed, enters a protest in one instance (Johnson's version, 1634):

> And they are to bee reprehended here againe, who affirme the cause of numerous births to consist in the variety of the cells of the wombe, for they feigned a woman's wombe to have seven cells or partitions, three on the right side for males, and three on the left side for females, and one in the midst for Hermaphrodites or Scats, and this untruth had gon so far that there have beene some that affirmed every of these seven calls to have bin divided into ten partitions into which the seed dispersed doth bring forth a divers and numerous encrease, according to the variety of the cells furnished with the matter of seed; which though it may seeme to have been the opinion of Hippocrates, in his book "De Natura Pueri," notwithstanding it is repugnant to reason, and to those things which are manifestly apparent to the eyes and senses."

The existence of such seven cells would furnish a plausible explanation of the popular belief of those credulous times in the occasional production of a seven-headed specimen of humanity. Readers who are curious enough to refer to the colossal encyclopedia of Natural History of which the materials were collected and compiled by the enthusiast, Ulysses Aldrovandus, will find an illustration of such a specimen in the folio which bears the title "Historia Monstrorum." Also the simultaneous birth of *seventy*—corresponding to the Hippocratic number of uterine compartments—is not unknown in the "history" of puerperal abnormalities. But far a more comprehensive provision must be made for the development of the phenomenal number of 365! We are informed by Camerarius of a Countess Mathilde, of Henneberg, who was begged for alms by a desolate widow who held a twin child on either arm. On being spurned with scorn by the lady, who was herself then (very obviously) pregnant, the disappointed mendicant prayed that her ladyship would at next birth produce *as many children as there were days in the year*. Her petition was duly honored; on the Friday preceding Palm Sunday of the year 1276 the Countess Mathilde was delivered, at the Abbey of Lisdunen, of 365 children "of the bigness of chickens new hatch'd," half male and half female—the odd one being a hermaphrodite! "These were laid in two Basins, and baptiz'd by Guidon, Suffragan to the Bishop of Utrecht, who named the sons *John*, and the daughters *Elizabeth*; . . . as soon as they were baptiz'd they all dy'd, with their Mother."

The Secret of Growing Tall.—It is always a source of unalloyed enjoyment to the man of stern activity if a streak of genuine humor, consciously so or otherwise, illumines his path. Why not become eight inches taller? It will only cost $10.00, or $1.25 per inch. For this moderate sum, according to a book before us, the patient will receive an appliance which will "lengthen the bones, the cartilage, the sinews;" in fact, "it will stretch the entire body from the top of the head to the sole of the feet," from two to eight inches. The inventor adds that his invention was previously utterly unknown, but ask Ben Akiba and he will tell you that a man named Procrustes anticipated him by a few years—with what sad results we all know. But today we are of a different race; let the inventor report: "A young man came to our office. We placed him in the harness, and stretched him nearly two inches." And, unlike the patients of Procrustes, he had the apparatus packed up to take home with him. He had come to like it, and they stretch you to stay stretched. Everybody, however, is not so fortunate as this young man who was stretched in the office. According to one of the unsolicited testimonials, one patient who applied the treatment at home, only grew half an inch in the first week, and yet he rushed into ink to let the inventor know. But the apparatus will do more. It will cure paralysis, and can be successfully applied to all deformities of the body. There need henceforth be no more hunchbacks; no more weathercock noses; no more Lorenzes required! "By this method," the inventor continues, "I can develop any part of the body." Why should he not begin with himself, and develop his encephalon? But that is not all. "It develops muscles and sinews in such a way that perfect health is the result . . . the system will positively produce perfect health . . . the system has done more towards bettering the condition of the human race than the combined results of any other ten discoveries." Fortunately the use of the appliance requires "knowledge and skill" on the part of the patient, and as there may possibly be a few unskilful enough not to come up to the required standard, there is no immediate fear of the entire medical profession going abegging, for if everybody would be so lengthened, "the physical condition of mankind would be revolutionized." We also read the following startling statements: "The . . . portion of cartilage in the human body acts, as it were, as the axes or hinges upon which . . . our very thoughts are governed"; and "no one can possibly admire a short man from a physical point; the same rule applies to women." "When man and woman were first created, they were perfect specimens of humanity!" But the most astounding assertion is made on the back of the book, where it says: "If you want to grow tall, read this book." We have read the book, but have not grown any taller.

A New Antisociety Suggestion.—We commend to the attention of those who in spite of the human suffering around them seem to be constantly on the lookout for new objects for their sympathy to an article in the Contributors' Club of the November number of the *Atlantic Monthly*. The writer discusses very interestingly, the possibility of writers of fiction abusing the sympathies of their readers by punishing too severely the irritability of their characters that is evidently due to the moral disintegration attendant upon indispositions of trifling nature. The writer says: "I have always had much sympathy for the villified hero of a certain novel of my acquaintance. In this romance

the husband has a tooth, the wife a heart—a literal mechanical heart. Everybody knows which suffered more, and yet because the gentleman got a little crusty over a most outrageous molar, how joyously the author trounces him through page after page. I am hot with indignation. There ought to be a society for the prevention of cruelty to creations. Manufacturers of heroes and heroines should not be allowed to flay and burn and torment so wantonly as they do. A humane reading public should take from them the prerogative of so unnatural a parenthood." We commend the suggestion for what it is worth to some of those who apparently must be in process of founding or of encouraging societies for the prevention of cruelties that are mainly situated in their own too poignant imaginations. There are those who insist on attributing to all other living things the feelings they have themselves, and these feelings are so neurotically exaggerated as to make life miserable not only for themselves, but for nearly all those who come in contact with them. We doubt not that the class of people who are prone to join the antisocieties will find fresh material for their oversympathetic natures in this new idea of protecting the heroes and heroines of fiction from wanton abuses, and will have opened for them at the same time a field for the exercise of their exaggerated humanitarianism without the possibility of doing so much harm to the progress of science and the possibilities of relief for suffering humanity as would be the case if they took up with some of the movements in lines already too prominently in existence.

The Resignation of the Committee on Organization of the World's Congress of Medicine, is announced in a pamphlet addressed to the medical profession of the United States. The statement is largely historic, and reviews in detail the unfortunate want of proper arrangements and the still more culpable animus which has resulted in the failure to perfect plans whereby a World's Congress of Medicine could be held in 1904 under the auspices of the Universal Exposition Company, at St. Louis. There can be no question that the committee has acted wisely and with a fitting sense of the dignity of the medical profession. The failure of the Exposition Company, the Administrative Board of the Congress of Arts and Science, and the Director of Congresses, to appreciate the aims and position of the profession, as worthily represented by the committee, and to cooperate with it, is a lamentable demonstration of lack of foresight and of a proper estimation of duty and opportunity. Better no congress than such as the Exposition Company would have.

Infant Mortality.—The Chicago Bulletin of the Health Department for the week ended November 28, says that in 1880 the number living under 5 years of age was 68,951, and the total deaths under 5 were 5,640—a rate of 81.8 per 1,000. In 1900 the total living under 5 was 190,355, the total deaths were 8,283—a rate of 43.5 per 1,000 and a decrease of 46.8% in 1900 from the rate of 1880. The decrease in the decade 1893–1902 from the previous decade, computed on the ratio of under-5-year mortality to total population at all ages, as given in last week's Bulletin, was 39.2%. Computed on the ratio of under-5-year deaths to under-5-year population the decrease is 45.8%, or 16.2% more than that shown by computing on the basis of the ratio of under-5-year mortality to the population mortality at all ages.

BOOK REVIEWS

Clinical Pathology of the Blood.—By JAMES EWING, A.M., M.D. Second edition, revised and enlarged. Lea Brothers & Co., New York and Philadelphia, 1903.

This edition of Ewing's work shows extensive revision and numerous additions. The bibliographic lists of the first edition have been retained and about 400 new references added. Additions have been made to the subject matter on technics, the serum test for blood and cryoscopy. The special pathology of the blood is very fully considered, especially pernicious anemia and leukemia. That part of general pathology dealing with blood-counting and similar technic is perhaps rather brief for the purpose of students, but it is exceedingly well written. Ehrlich's theory of immunity is given space and an appendix contains among other points a brief consideration of the socalled leukemia. The present edition can be unhesitatingly recommended as a thoroughly reliable and practical exposition of our present knowledge of the blood. The plates showing normal and pathologic bloods are not up to the standard of the text.

International Clinics.—Edited by A. O. J. KELLY, A.M., M.D. Volume iii. Thirteenth series, 1903. Philadelphia: J. B. Lippincott Company.

The latest volume of this wellknown publication is fully up to the standard of the present year. Four departments are given recognition: Diseases of the Gallbladder and Gallducts, Treatment, Medicine, and Surgery. Under the first heading are articles by Musser, Rudolph, Stockton, Weber, Lejars, and Deaver. The Medical Treatment of Gastric Cancer is discussed by A. Robin, and the Serum Treatment of Typhoid Fever by A. Chantemesse. Charles F. Craig contributes an admirable article on the Malarial Infections. Local and general anesthesia and the treatment of varicose veins are leading subjects under the head of Surgery.

The Practice of Medicine.—By JAMES TYSON, M.D. Third edition, revised and rewritten. Philadelphia: P. Blakiston's Son & Co., 1903.

But little comment is needed upon the third edition of this standard work except to say that it has been brought fully abreast of the times. Those parts dealing with infectious diseases have been most changed. As in previous editions, diseases of the nervous system have been given much space. This section has been revised by Dr. W. G. Spiller, whose name is synonymous with careful and scholarly work. The pages on dysentery have undergone revision and partial rewriting by Dr. Simon Flexner. The brief historic notes appended to the description of many of the diseases are a valuable feature of the book.

Textbook of Diseases of the Eye: For Students and Practitioners of Medicine.—By HOWARD F. HANSELL, A.M., M.D., and WILLIAM M. SWEET, M.D. With Chapters by Christian R. Holmes, M.D.; Casey A. Wood, M.D., D.C.L., and Wendell Reber, M.D. P. Blakiston's Son & Co., Philadelphia, 1903.

This volume will prove a welcome addition to the modern textbooks on ocular affections. The extensive experience of the authors as teachers has peculiarly fitted them to prepare a work of particular value to the student of ophthalmology. They have very properly subordinated the purely scientific and theoretic subdivisions, and dwelt at length on the common affections and traumatisms. Having in mind chiefly the practical needs of the student, less space than is usually occupied in similar works is given to refraction and the rarer and irremediable diseases. The illustrations are numerous and are admirably executed. Especially worthy of mention are those showing the different stages of operations on the eyelids. We do not recall seeing elsewhere such a clear and concise exposition of the details of these operations. The whole text has been presented tersely, practically and comprehensively, and is thoroughly up-to-date. The valuable additions to the work are three special chapters by contributors of national prominence; viz: Diseases of the Lacrimal Apparatus, Orbit and Accessory Sinuses, by Dr.

C. R. Holmes, of Cincinnati; Ocular Symptoms in General Disease, by Dr. Casey A. Wood, of Chicago; and The Pupil in Health and Disease, by Dr. Wendell Reber. of Philadelphia.

Starvation Treatment of Certain Malignant Growths by Excision of the External Carotids.—By ROBERT H. M. DAWBARN. F. A. Davis & Co., publishers, Philadelphia.

This is a volume of somewhat less than 200 pages, and comprises the Samuel D. Gross prize essay, written by the author. It presents a series of cases in which the external carotid was excised for the purpose of inhibiting malignant growths about the head and face, together with the results of this treatment. More of these cases have been added since the prize was awarded, and these, together with an essay on the general consideration of this subject, comprise the volume in question. It is especially interesting and instructive, and will be so considered by the profession.

A Manual of Practical Anatomy.—By D. J. CUNNINGHAM. Third edition. Published by J. B. Lippincott Company, Philadelphia, Edinburgh, and London.

This work is presented in 2 volumes, the first being devoted to the arm, leg, and abdomen; the second to the thorax, head, and neck. Each volume comprises about 500 pages, and presents the subject of anatomy in a clear, terse manner, which, together with the numerous illustrations in color, makes the work a valuable manual and one convenient for ready reference by the student, and suitable for the dissecting-room. The reviewer esteems the illustration worthy of especial comment since, in many cases, these rival those in larger and more complete textbooks. In this edition the text has been revised. A number of changes have been made in the section devoted to the thorax and abdominal viscera.

Clinical Examination of the Urine and Urinary Diagnosis.—By J. BERGEN OGDEN, M.D. Second edition, thoroughly revised. Philadelphia: W. B. Saunders & Co., 1903.

The second edition of this work presents some important changes in the first part, principally in regard to the determinations of urea, uric acid, and total nitrogen. Oxybutyric acid and cryoscopy are considered, the latter very briefly. This book is a valuable reference work for physicians and laboratory workers, and is also adapted to the needs of students because of the simplicity and directness of the statements therein contained. The second edition is an improvement over the first and deserves a very favorable reception by the profession.

BOOKS RECEIVED.

[Prompt acknowledgment of books received will be made in this column, and from time to time critical reviews will be made of those of interest to our readers.]

Manual of Bacteriology.—By HERBERT U. WILLIAMS, M.D., Professor of Pathology and Bacteriology, Medical Department, University of Buffalo. Third edition, revised and enlarged, with 99 illustrations. P. Blakiston's Son & Co., Philadelphia. Price, $1.75 net.

Orthopedic Surgery: A Treatise on Orthopedic Surgery.—By ROYAL WHITMAN, M.D., Instructor in Orthopedic Surgery in the College of Physicians and Surgeons (Columbia University), New York; Associate Surgeon to the Hospital for Ruptured and Crippled; Orthopedic Surgeon to the Hospital of St. John's Guild; Chief of the Orthopedic Department of the Vanderbilt Clinic, etc. New second edition, thoroughly revised and much enlarged. In one octavo volume of 820 pages, with 507 engravings, mostly original. Cloth, $5.50 net. Lea Brothers & Co., Philadelphia and New York.

Elements of Surgical Diagnosis.—By A. PEARCE GOULD, M.S., Lond., F.R.C.S., Eng., Surgeon to the Middlesex Hospital; Member of the Council of the Royal College of Surgeons of England, and of the Examining Board for England; Member of the Senate of the University of London. Third edition, revised and enlarged. Chicago: W. T. Keener & Co., 1903. Price, $2.00 net.

Proceedings of the American Association for the Advancement of Science. Fifty-second meeting, held at Washington, D. C., December, 1902-January, 1903.—Published by the permanent Secretary, 1903.

Transactions of the American Surgical Association: Vol. xxi, 1903.—Edited by RICHARD H. HARTE, M.D., Recorder of the Association. Printed for the Association, for sale by W. J. Dornan, Philadelphia, 1903.

Biochemic Researches: Collected Reprints of Publications from the Laboratory of Physiological Chemistry of Columbia University together with contributions from similar laboratories in other institutions.—By WILLIAM J. GIES and Collaborators. Vol. i edited and issued by WILLIAM J. GIES, Columbia University, July 31, 1903.

AMERICAN NEWS AND NOTES.

GENERAL.

Has Radium been Found in this Country?—It is announced that Professor Alexander H. Phillips, assistant professor of mineralogy of Princeton University, has discovered radium, the wonderful new substance now valued at over $2,000,000 a pound, in carnolite, an ore found in Utah and possibly in other of the Rocky Mountain States. The Princeton professor has found on experimenting that from 25 pounds of carnolite a sample of radioactive barium chlorid can be obtained which will give about 1,500 activity, as compared with 7,000 activity in the element obtained from European ores. A company has been formed to place the new product on the market.

Manufacturing Radium.—In a report on "Radium Industry," Richard Gunther, United States Consul General at Frankfort, says: "Notwithstanding the difficulty in its production (many tons of ore being required to produce 1 gram) a radium industry has already developed in Germany and France, and although 1 gram is sold for a little less than $2,000, the manufacturers are said to have orders for several hundred grams. The demands for medical purposes exceed the supply. Radium possesses all the important qualities of the Röntgen rays in addition to the invaluable property of being ready for use at any time, and furnishing its rays without the employment of apparatus. It has been demonstrated that a small glass tube, not larger than a goose quill, containing a little more than a thousandth part of a gram, is as effective as an expensive and complicated electric apparatus for the treatment of cancer—surpassing the best effects of the Röntgen rays. The ease with which radium can be administered locally, as for instance in the nose or throat, is an invaluable advantage. The fact that radium exerts a very peculiar influence upon light-emitting bodies has given rise to the hope that it may eventually play an important role in the industry of light. A minute quantity of radium is sufficient to produce a strong light from a layer of zinc pyrites, and this light produces no heat, so that loss of energy is avoided."

EASTERN STATES.

Books on Health Laws.—The State Board of Health of Massachusetts has just published and has ready for distribution a compilation of the laws of the State relating to the public health. It contains all the laws relating to public health which are embraced in the complete edition of the Revised Laws of 1902, together with all other health laws which were enacted by the Legislatures of 1902 and 1903. It also contains a brief digest of all the decisions of the Supreme Court of the Commonwealth relating to these laws which have been made, up to the present time.

NEW YORK.

Scarlet Fever Reported at Spencer.—News from Ithaca, under date of December 10, says: An outbreak of scarlet fever has occurred at Spencer, 10 miles from Ithaca, which has assumed somewhat serious proportions. There were 5 cases yesterday and three new ones were reported this morning. All of the schools have been closed to prevent the spreading of the disease, and will not be opened until all danger of an epidemic is over.

Lectures on Alcohol and Opium Inebriety.—Dr. T. D. Crothers, of Hartford, Conn., professor of mental and nervous diseases at the New York School of Clinical Medicine, will deliver a course of 4 lectures on "Inebriety from Alcohol, Opium, and other Narcotics," January 5 and 6, 1904, at 4 p.m. and 8 p.m., in the hall of this school, 328 West Forty-second street, between Eighth and Ninth avenues, New York City. The public is cordially invited.

To Prevent Smallpox.—The appearance of smallpox in Philadelphia and other Pennsylvania cities, has caused the New York Board of Health to take vigorous steps to prevent an outbreak of the disease there. Sixty-four additional inspectors have been appointed to search for people who have not been vaccinated. All of the schools, department stores and other places where people congregate will be visited by the inspectors, and, if possible, not a man, woman or child in Greater New York will be allowed to resist the vaccination preventive. A few cases of the disease have been found there, but the authorities do not believe New York will be visited by anything like an epidemic.

Decreased Deathrate in New York.—According to the report of Ernest J. Lederle, president of the Health Department, the deathrate fell to 18.75 per thousand as compared with 20 in 1901 and 20.57 in 1900. The deaths numbered 68,085 as compared with 70,722 in 1901 and 70,872 in 1900. The deathrate in the section corresponding to the former city of New York was 19.49 per thousand, which figure was not approached in any

year since 1814, when the low deathrate of 19.66 was recorded. The deathrate of 17.88 in Brooklyn is the lowest in that section since 1866, and in all probability the lowest ever recorded in the history of the city of Brooklyn. There was a marked decrease in the deaths from diarrheal diseases occurring in children under 2 years, the figures showing a saving of 858 lives.

New Hospital for Bronx.—The plans for the new Fordham Hospital, to be built by the Board of Trustees of Bellevue and Allied Hospitals for the accommodation of that section of The Bronx lying between One Hundred and Seventy-second street and the city boundary, have been completed by the architect. The new hospital buildings will cost about $550,000, and will occupy 4 acres, to be purchased from St. John's College. The hospital building proper is designed as a central pavilion 121 feet by 43 feet, 5 stories high, with 2 wings, each 92 feet by 35 feet and 4 stories high. The central building is treated with some architectural embellishment, while the wings will be made subservient and almost entirely plain. The ornamentation consists of 4 stone columns, 2 feet in diameter and 28 feet high, extending from the first to the fourth floors.

PHILADELPHIA, PENNSYLVANIA, ETC.

Contagious diseases reported to the Allegheny Bureau of Health for the week ended December 5, 1903: Smallpox, 31 cases; diphtheria, 40 cases; scarlet fever, 14 cases; typhoid fever, 6 cases.

Wilmington Board of Health Will Placard Houses.—City Council recently passed the ordinance providing that houses in which there is contagious or infectious diseases shall be placarded. The Board of Health advocated the ordinance.

Smallpox at Danielsville, Pa.—Information under date of December 10 says: There are 32 cases of smallpox in Danielsville, Northampton county, and so far as can be learned not one of the patients had ever been vaccinated. So far not a single person vaccinated has been attacked.

Would Abate Smoke Nuisance.—A committee of women, representing 15 organizations, is endeavoring to secure reasonable legislation to suppress the soft coal smoke nuisance. Contributions to carry on the campaign are solicited. The chairman is Mrs. Lucretia L. Blankenburg, 214 W. Logan square.

Bequests to Charity.—PENNSYLVANIA: By the will of the late Charlotte M. Monk, the sum of $1,000 is directed to be paid to a hospital or other suitable institution, in Pennsylvania, to be selected by the executors. BROOKLYN: A donor, who refuses to permit publication of his name, has given to the Jewish Hospital, Brooklyn, the sum of $25,000.

Deluded Spangler.—News from Altoona, Pa., under date of December 10, says: An epidemic of smallpox exists at Spangler, a mining town on a mountain, where the people are opposed to vaccination, and 33 cases are reported. Physicians went to the public schools recently to vaccinate the pupils, and the teachers locked the doors, refusing to admit them.

To Lecture on Tuberculosis.—A feature of the campaign against tuberculosis now being waged in this city will be the visit of Dr. G. Sinn Woodhead, a specialist of Great Britain, on the evening of December 29. Dr. Woodhead will deliver an address in Witherspoon Hall on "Paths of Infection in Tuberculosis." He is a member of the Royal Commission on Tuberculosis, and the most active spirit in that body. The lecture will be under the auspices of the Phipps Institute.

Medical Inspectors for Philadelphia.—The Common Council of Philadelphia has acted favorably upon a recommendation from Dr. Martin, Chief of the Bureau of Health, in advocating the appointment of 50 medical inspectors. Each inspector will be given certain duties to perform, among which will be the inspection of schools, vaccinations, fumigations, and a general supervision of the public health in his district. A salary of $1,200 a year is to be paid to each inspector, and he is held directly accountable to the chief of the Bureau of Health for his action.

Smallpox Epidemic in Small Town.—From Washington, Pa., under date of December 10, comes the news that the village of Time, just over the line in Greene county, is in the throes of a terrible epidemic of smallpox, which has developed with wonderful rapidity. There are about a half hundred cases of the disease, and scarcely a family in the district is free from the scourge. The disease made its appearance about 3 weeks ago, and was diagnosed as chickenpox. The contagion spread rapidly, as no quarantine was placed on any of the patients. The physicians decided, however, that it was smallpox, and a quarantine on the town was at once established.

Smallpox Victims Dying from Neglect in Delaware.—Woodland, a village 6 miles from Laurel, is suffering from a smallpox epidemic, and so strictly is the town quarantined that of the 10 deaths which have occurred, eight are said to have been due to absolute neglect and starvation. The president of the Laurel Board of Health appealed to the State Board to send aid to the stricken town, and was informed that no funds were available. Only 1 family in the town has regular medical attention, the other victims being too poor to guarantee pay. Meetings were held in the Laurel churches, and money collected for relief purposes. There are 35 cases in a population of 100. The suburbs of surrounding towns are patrolled to prevent refugees from Woodland entering.

Condition at Butler.—From latest accounts it appears that the typhoid epidemic, though of far-reaching proportions and more serious even than has been supposed, is fairly under control. Those engaged in combating the epidemic appear to be holding their own against the foe. Clara Barton, head of the Red Cross Society, is at Butler, rendering assistance. A canvass of the town just completed by the ward workers of the Relief Committee shows that in the city proper over 1,100 fever patients are being treated. In the district adjoining the city, about 100 are being treated, a total of more than 1,200 cases in Butler at present. New cases during the past week have averaged about 10 a day. Some 50 patients are suffering from reinfection of the disease. Indications seem to be that it will be 2 months at least before the epidemic will be stamped out.

SOUTHERN STATES.

Indicted for Selling Peruna.—We are informed that the grand jury found true bills against several parties for selling peruna. This article, peruna, is extensively advertised as a medicine and is sold all over the country, but it seems to be intoxicating, and the grand jury is making no compromise with intoxicants.—[*Coffee County* (Ga.) *Gazette.*]

New Pasteur Institute at New Orleans.—Before the end of December New Orleans will furnish the people of that vicinity with the Pasteur treatment for rabies without cost, something not done by any other city in the world. The definite announcement of the opening of this new department of the Charity Hospital was made recently at the regular meeting of the board of administrators of that institution.

To Discuss Yellow Fever Quarantine.—State Health Officer George R. Taber left Austin recently for Washington, D. C., to confer with Surgeon-General Wyman of the United States Marine-Hospital Service in regard to quarantine matters, with a view to cooperating in the efforts to prevent yellow fever entering Texas from Mexico next season. Dr. Wyman, Dr. Taber, and the Health Officers of other Southern States will visit Mexico next month to make a personal investigation of the yellow fever situation in that country.

Good Work in Connection with Carnegie Institute, Washington.—At Washington, on December 9, the meeting of the trustees of the Carnegie Institute was attended by 14 members, including Professor Alexander Agassiz, of Cambridge; Secretary of War Root, ex-Secretary of the Treasury Lyman J. Gage, Henry L. Higginson, Boston; ex-Attorney-General Wayne MacVeagh, Dr. S. Weir Mitchell, and Carroll D. Wright, commissioner of labor. The report on the year's operations showed 66 grants made by the executive committee for scientific research, involving an aggregate of $150,000. Twenty-five research assistants were appointed. It was announced that arrangements have been made for the early publication of 11 scientific papers, most of them elaborate and costly volumes. The trustees authorized an aggregate expenditure of $373,000 in grants for scientific researches and $40,000 for publications during the ensuing year. The beneficiaries are given the option of making public the nature of these grants. Action on requests for 1,022 grants, involving an allowance of $3,000,000 a year, was indefinitely postponed. The following officers of the Board of Trustees were elected: Chairman, Dr. John S. Billings, New York; vice-chairman, Elihu Root, secretary of war; secretary, Charles D. Walcott, director of geologic survey. Vacancies on the board were filled by the election of John Cadwalader, of New York, to succeed Abram S. Hewitt, deceased; Cleveland E. Dodge, New York, to succeed William E. Dodge, deceased, and Judge William Wirt Howe, New Orleans, to succeed Justice Edward White, resigned. Secretary of State John Hay was chosen a member of the executive committee in the class of 1905, to succeed Mr. Hewitt; and Dr. S. Weir Mitchell and Carroll D. Wright were reelected for 3 years as members of the executive committee. One very important point has been settled, and that is, that hereafter a year book will be printed by the board of trustees, giving in full the names of the recipients of Carnegie fellowships and the colleges at which they are studying.

WESTERN STATES.

Chicago's City Chemist Suspended.—It is reported that Commissioner Reynolds, of the Health Department, has suspended Dr. D. B. Bisbee, city chemist, under a number of charges of using public office for private benefit.

"Colorado Medicine" is the title of a journal, the first number of which appears under date of November, 1903. It will be published monthly and is the official organ of the Colorado State Medical Society. The publishing committee consists of Edward Jackson, editor, S. E. Solly and Robert Levy.

Mortality Rate in Chicago.—Chicago's Bulletin of the Health Department, for the week ended December 5, says: Although the November, 1903, mortality was below the average of the previous 10 years—13.71 and 13.80 per 1,000 respectively—the month has not fulfilled the hope that it would continue the decreased rate of the previous 5 months, and so offset the high rate of the earlier months of the year. The probabilities now are that the total deaths for the year will be in the neighborhood of 28,400 and that the deathrate, computed on the Department's conservative estimate of 1,885,000 population, will be about 15 in the thousand. This will be higher than that of any year since 1899, when the rate was 15.56 per thousand.

First Aid to Injured.—The trainmen of the Chicago and eastern Illinois road are to be given a course of instruction regarding the best method of giving first aid to the injured in case of railway wrecks. The project was started at the annual banquet which the officials of the company tendered the surgeons of the entire system at the Great Northern Hotel. The plan is to establish schools in the various division headquarters, and to require the trainmen to attend the lectures and demonstrations. Examinations will be held from time to time, and before many months 1 car in each Eastern Illinois train, both freight and passenger, will have an emergency box, well stocked with the necessary articles to use in accidents.

Epilepsy from Bruise of Finger.—According to report, suit has been brought against the Monumental Manufacturing Company by a former employe, in which she claims $5,000 for personal injury alleged to have been sustained by the breaking of a stamping machine. "Traumatic epilepsy" is the affection from which the plaintiff is said to be suffering as the result of the injury. The plaintiff's thimble finger was caught in the machine while she was operating it, and the tip of it was cut off. The claim is made that a nerve running from the end of the finger to the brain was lacerated, producing the traumatic epilepsy referred to. She is thrown into a sort of epileptic trance whenever the injured member is sharply struck. Another peculiar affection of the plaintiff, which is stated to be due to the accident, is that after these attacks of epilepsy she is overcome with sleepiness.

Forceps Left in Abdomen after Operation.—News from Hammond, Ind., under date of December 12, says: Dr. I. B. Washburn, of Rensselaer, Ind., is dead at a private hospital at Valparaiso, Ind., as the result of a curious blunder made during an operation performed 2 years ago. He had complained of his side since the operation, but did not know the cause of the trouble, and recently decided to have a second operation. A surgeon operated on Dr. Washburn, and was amazed to discover in the patient's side near the liver a steel forceps, about 5½ inches in length. The forceps had become rusty. Dr. Washburn died a few hours after the operation. His son, who also is a doctor, says the forceps caused death. Dr. Washburn was a member of the Indiana Legislature in 1872, and surgeon in the Civil war. He was the organizer and first president of the Kankakee Valley Medical Association.

FOREIGN NEWS AND NOTES

GENERAL.

Relatively Greater Deathrate among Males.—While there are many more women than men in Prussia, the deaths in that kingdom last year included only 323,052 females, as against 354,241 males. The general deathrate of 1902 was the lowest on record.

To Cheapen Radium.—News from Paris, under date of December 8, says, Dr. and Mme. Curie, who have just been informed that they will receive half of the Nobel prize for physics, will mark the occasion by the announcement of recent further discoveries in connection with the production of radium. It is reported that the 2 experts have found a process of extracting which will materially cheapen the precious metal and bring it within reach of the general medical world. It is now worth about $2,000,000 a pound.

Fleet Surgeon of the Royal Navy.—Dr. Gilbert Kirker, fleet surgeon of the Royal Navy of Great Britain, who died recently, had a brilliant medical career, and had he not died a comparatively young man, the highest possibilities of his profession would certainly have been attained by him. He graduated at the University of Ireland in 1876, and soon after went out to the Russia-Turkish War as surgeon. In the naval medical examination he took first place, and in the war operations of 1882 he was awarded the Egyptian medal and the Khedive's bronze star. After being assistant professor of the new medical school at Haslar and the staff surgeon, he finally received the appointment of fleet surgeon, which gave him a commanding influence over young men joining the service. One of the last things he devised was an ambulance sleigh, which is likely to be of immense value on our modern warships.

Increased Population of Germany Due to Diminished Deathrate.—The growth of the population of Germany in 1902, regarding which statistics have just been tabulated, was the greatest ever known, amounting to 902,312, or 15.61 per 1,000, compared with 15.09 in 1901, and 14.63, the average for the last 10 years. The number of births during the decade increased only slightly, remaining just above 2,000,000 yearly. The gain, therefore, is due exclusively to the diminished deathrate, which was 20.56 in 1902, compared with 22.68 for the previous decade.

Nobel Prizes Awarded.—The Norwegian Parliament has awarded the annual Nobel Prize in physics to Henri Becquerel of Norway, and M. and Mme. Curie of Paris. The prize is divided equally between them. The chemistry prize was given to the Swedish professor Arrhenius; the medical prize to Dr. Finsen, of Denmark. Each of these prizes amounts to about $40,000. Apropos of this announcement the news comes that Dr. Finsen is dangerously ill at his home in Copenhagen. Of the other recipients of this year's Nobel prizes M. and Mme. Curie are now perhaps the best known. The discoverers of the radium have, it is understood, not profited financially from the work as greatly as might have been expected, and their admirers throughout the world will be delighted to hear of this windfall for them. Dr. Finsen is the inventor of the Finsen ray system for the cure of lupus, and Professor Becquerel is the discoverer of the Becquerel rays.

OBITUARIES.

Edward Fridenberg, of apoplexy, at his home in New York, December 9, aged 48. A graduate from the College of Physicians and Surgeons, in 1878; a member of the State and county medical societies; president of the Harlem Medical Society, and member of the Alumni Association of Mt. Sinai Hospital. He was also one of the founders of *American Medicine.*

Ryal A. Strickland, in Enfield, Conn., December 12, 1903, aged 89. A graduate of the Albany Medical College, in 1839. He was a Representative in the Massachusetts Legislature in 1854, and the Connecticut State Senate in 1881, 1882, and 1883. He was widely and favorably known in the community in which he lived.

Lucy Elizabeth Cradoch, recently in Liverpool, England. She graduated from Queen's College, London, in 1833, and was immediately appointed house physician to the new hospital for women, but was soon transferred to Liverpool as medical officer of the female staff of the post offices in that region.

James A. Lane, at his home in Leavenworth, Kan., from tuberculosis, November 27, aged 50. A graduate of Jefferson Medical College, in 1881, and one of the early instructors of the Kansas City Medical College, and one time president of the Kansas State Medical Society.

Charles A. Dunham, at his home in Jacksonville, Fla., November 22, aged 49. A graduate of the medical department of Bowdoin College, Maine, in 1880. He was surgeon of the First Infantry, U. S. V., in the Spanish-American war.

F. Brun, professor agrégé at Paris, at his home in Paris, November 10, aged 49. He was one of the 8 coeditors of the *Press Médicale;* he was an orthopedic surgeon and had devoted much attention to his specialty.

Henry William Kendall, at his home in Quincy, Ill., November 25, aged 72. A member of the American Medical Association and Major Surgeon of the Fifteenth Illinois Volunteer Infantry during the Civil war.

William H. Jackson, at his home in Springville, New York, from pneumonia. November 28, aged 62; a graduate of the University of South Carolina in 1873; member of the American Medical Association.

William J. Dupre, at his home in Westmoreland, Alabama, November 26, aged 48; a graduate of the Vanderbilt University, Nashville, Tenn., in 1876; a member of the American Medical Association.

Anthony F. Conroy, at the City Hospital, St. Paul, November 28, aged 38. A gráduate of Jenner Medical College, Chicago, in 1897. He was chief of the Red Cross Corps in the South African War.

James R. McIlvain, at his home in Oklahoma City, November 26, aged 50; a graduate of the Kansas City Medical College in 1882; member of the American Medical Association.

Joseph M. Harcourt, at his home in Brooklyn, November 30, aged 80; a graduate of the New York Medical University in 1874. Noted as a linguist, mathematician and orator.

William Millet Huntington, at his home in Rochester, Vt., November 19, aged 84. He was acting assistant surgeon in the U. S. army during the Civil war.

Charles L. Tindall, at his home in Philadelphia, December 14, aged 37. A graduate from Hahnemann Medical College, in 1887.

I. B. Washburn, of Rensselaer, Ind., at a hospital in Valparaiso, Ind., after a surgical operation, December 12, 1903.

Charles S. Boyce, at his home in Salamanca, November 19; a graduate of Jefferson Medical College in 1877.

CLINICAL NOTES AND CORRESPONDENCE

[Communications are invited for this Department. The Editor is not responsible for the views advanced by any contributor.]

THE NEED OF A WARD IN THE GENERAL HOSPITALS FOR THE TREATMENT OF CASES OF MILD AND CURABLE INSANITY.

BY

JOHN H. W. RHEIN, M.D.,

of Philadelphia.

Neurologist to the St. Agnes Hospital; Assistant Physician to the Philadelphia Orthopedic Hospital and Infirmary for Nervous Diseases; Physician to the Home for Incurables; Bacteriologist to the Pennsylvania Training School for Feeble-minded.

I see constantly in the out-clinics, and more rarely in my private practice, cases of mild and curable insanity which can not properly be treated at home, but which must, under the now existing conditions, be sent to an asylum. At present there is no place outside of such an institution for these cases. To those who can afford rest-houses, trained nurses, and alienists the problem is a simple one, but there are many with whom these luxuries are impossible, and who have no alternative but to go to the asylum. These patients, I claim, can be properly treated in a special ward of a general hospital under the care of an alienist, who should be a member of the staff of that hospital.

Chief among the advantages to be gained from such a plan is the opportunity of escaping from the disgrace or stigma which attaches itself to any one who has been so unfortunate as to have been confined in an asylum. The evils of this stigma are so apparent that I need say but little on these lines. I have frequently seen patients suffering from a second attack of melancholia in which the treatment had presented greater difficulties because the patient had, during his first attack, been treated in an insane asylum. The memory of the previous unhappy experiences of such treatment is so intensely distressing that I have felt that in some cases it has helped to induce subsequent attacks. I recall the case of a young woman who came under my care for a recurrent attack of melancholia. She had been treated in an insane asylum during her first attack. She had never at any time recognized that she was insane, and looked upon her confinement in the asylum as a great injustice. She developed the second attack, and I am fully convinced that the memories of her life in the asylum—always vivid, always present—assisted in precipitating it and led, together with the fear of again being sent to an asylum, to her later successful attempt at self-destruction.

Viewing the subject from a social standpoint, I believe that it will not be disputed that it is of vital importance to the patient and to his family to avoid having in his history the fact that he has been confined in an asylum. The question of marrying into a family, a member of which has been an inmate of an insane asylum, often arises, and this fact may act as a bar to the marriage. These conditions can be avoided if, in cases of transient and curable insanity, the patient be treated outside of an asylum, in a ward or private room of a properly conducted general hospital. A ward of this sort has many things to commend it: 1. The patient may be treated for insanity without becoming disgraced or losing his self-respect. 2. It will insure privacy. 3. It will be possible to obtain care and nursing by skilled nurses. Many of the patients to whom I refer are mild melancholics who suffer from indigestion, insomnia, anemia, and general lack of nutrition. In such cases a rest cure is indicated, and this can be given very well with a few modifications in the ward of a general hospital, such as I have indicated. Then there are also many cases of neurasthenic insanities with all the attendant phenomena of neurasthenia, which require the careful study and watching, best obtained in a general hospital. Such a provision will also make it possible for the alienist to treat properly incipient insanity, a state of affairs which is at present rare. I cannot emphasize too strongly the great need for such a ward for patients whose symptoms are not sufficiently marked to warrant a commitment, but who cannot be properly controlled at their homes. At present many incipient cases lead to incurable insanity through neglect, for the reason that in many instances the family keep the condition a secret, and do not consult the proper authorities for fear the patient may be sent to an asylum.

Last, but not least, of the advantages to be derived from the establishment of such a ward, is the gain in clinical material for teaching purposes. The objection may be raised to a ward of this character, that other patients in the hospital will be disturbed, but, I believe, if care is taken to exclude unsuitable cases that this objection will not be a serious one. It would be necessary to put a limit to the duration of the stay of such patients in the ward. Those patients who are not greatly improved or cured at the end of 2 or 3 months should be sent to a hospital for mental diseases. It will be necessary also to give special instruction to the nurses in the management of the insane. I believe that the operation of such a plan would gradually educate the laity to have less and less horror of insanity with the result that physicians' advice will be sought in the early stages of the disease.

I know of no ward of this kind in the United States, England, or France. In the "Royal Charite" of Berlin, however, (which I believe is a general hospital), there is a ward set aside for the treatment of the curable insane; this has been in existence for over 100 years. It is called the "New Charite." This is the only one of which I have been able to find any mention. An effort was made in London by Dr. John Macpherson, and later by Sir John Sibbald, and Dr. T. S. Clouston about a year ago, to bring about the creation of a ward in the general hospitals for the treatment of incipient insanity. Dr. John Macpherson raised the question of the establishment of such a ward in the Royal Infirmary. In July of 1902 Clouston precipitated a discussion of this subject at the annual meeting of the Medico-Psychological Society, which met at Liverpool. He contended that there was a crying need for such a ward, and that it was most desirable to supply it at once. He claimed that few structural changes were necessary in the present general hospital wards, and that the cost and maintenance of a bed in such a ward would be less than that of a surgical bed. He believed that this provision would diminish the amount of mental diseases in the country, and pointed out that the reason such wards failed in the olden times was because improper cases were admitted. The practicability of this plan has been demonstrated by Springthorpe, who has for years successfully treated insanity in the wards of the Melbourne Hospital in Victoria, which is a general hospital, and by Daniel D. Brower, who has done the same thing in Chicago.

It is not a solution to this problem to substitute another name for insane asylums, such as mental hospitals, or hospitals for diseases of the mind, though I heartily approve of any plan which will detract from the unpleasantness of the present title of insane asylums.

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QUARANTINE METHODS.

BY

L. O. HOWARD, M. D.,

of Washington, D. C.

To the Editor of American Medicine:—Your editorial on the quarantine published in *American Medicine* for November 21, is very sound. The management of the yellow fever outbreak in Texas was a disgrace to the country down to the time when the representatives of the Public Health and Marine-Hospital Service put in their appearance at Laredo. It is very

interesting to contrast an experience which one of my assistants, engaged upon investigations of the cotton boll weevil, had during the scare, with the methods reported by Dr. Guiteras at the last meeting of the National Public Health Association, as prevailing at Havana. My assistant's experience was a common one in Texas during October last. He arrived at a station where he had to change cars, and was met by 10 men with shotguns, who would not allow him to walk 15 feet across the station platform to take another train. He was obliged to continue on the same train, and after an expensive and roundabout journey, finally reached his destination, with much valuable time wasted. At Havana, on the other hand, a vessel landed with a case of yellow fever on board (as reported by Dr. Guiteras), was not placed in an expensive quarantine, but the yellow fever case was immediately taken from the vessel *into* the city of Havana and placed in the Las Animas Hospital for protective treatment.

REPORT OF THE COMMITTEE OF THE MEDICAL ASSOCIATION OF NEW YORK CITY ON THE DEATH OF OCTAVIUS A. WHITE, A.M., M.D., LL.D.[1]

In the death of Dr. Octavius A. White the profession of medicine in this country has met so signal a loss that we should not fail to do our share in paying a fitting tribute to his memory. Your committee, therefore, offers the following minute:

Dr. Octavius A. White, a native of South Carolina, but for the past 35 years a practitioner of medicine in New York City, died on May 25, 1903, at his residence, 1011 Madison avenue, in the seventy eighth year of his age. Born in Charleston, South Carolina, February 8, 1826, of distinguished parentage, a graduate of the South Carolina Medical College in 1848, he practised his profession for a number of years prior to the war in his native city, and attained a noteworthy eminence. Indeed, from his large experience with yellow fever in several epidemics, he acquired such skill in its diagnosis and treatment that he became a recognized authority on these subjects.

At the outbreak of the war he joined the Confederate army as surgeon, dividing his time between active service in the field and staff duty. On one occasion, when chief enrolling surgeon in the Confederate service, with headquarters at Wilmington, N. C., yellow fever broke out among the Union soldiers at Goldsboro. But such were his special qualifications in the treatment of this disease that he was sent under a flag of truce to assist the Union medical officers in repressing the epidemic. The courage, self-sacrifice, and devotion shown on this and similar occasions has, it is believed, never had its just measure of praise. Later again, in 1876, when Savannah, Ga., was stricken with a terrible epidemic of yellow fever, and his services as an expert were required, he volunteered, and as a delegate from the New York Academy of Medicine, repaired to Savannah, and again successfully applied his special knowledge and skill. In this connection, the Savannah *Morning News*, of May 28, 1903, in gracefully noticing his death, said: "Dr. White came to Savannah, and was most active in his devotion to the well and sick. Finally he himself became a sufferer from the dread disease. . . . The services of the noble hearted and lamented Dr. White are still gratefully remembered by those who watched and waited in 1876."

After the mission at Goldsboro had ended, Dr. White was placed in medical charge of the Union prisoners at the Florence Stockade, South Carolina, where his skill and kindness won him many friends. It is related of him that while on his way to Charleston with his family, after the surrender of Lee, with a passport from General Sherman, he was threatened with violence by some stragglers from the Union army. Fortunately, one of them recognizing the humane physician who had befriended him while a prisoner at Florence, came to his rescue and helped him to repulse his assailants. Dr. White and family ultimately reached their destination safely, and without further molestation.

A tribute to him from an unknown writer in the Oakland (California) *Tribune*, of May 28, 1903, is also a further witness to his noble characteristics. It says, "There has just died in New York one of the greatest of the heroes produced by the Civil war, yet his name is absolutely unknown to 99 out of every 100 of his countrymen. This hero was Dr. Octavius A. White, famous as a yellow fever expert.

"When yellow fever attacked the Federal prisoners confined at Florence, South Carolina, his attention to them was tireless. All during the terrible years of civil strife he was indefatigable in healing the sick and wounded of both armies, and risked his life and health in the pursuit of his high calling, with greater frequency and daring than any soldier in the field. It is a commentary on the unequal division of the awards of merit, in popular estimation, that the heroism of such a man should be passed over and forgotten by the mass of men, while the deeds of hundreds of lesser men who sought to slay, or win glory on the battlefield are commemorated in marble and bronze. We raise monuments to those who kill, and leave unmarked the tombs of those who cure."

At the end of the war Dr. White removed to New York, making it his permanent home. Taking up general practice, his merit was quickly recognized, so that he soon commanded a good practice, winning the reputation also of being a resourceful and safe practitioner.

A versatile and accomplished writer, he not only contributed valuable papers to the literature of the day, but advanced many original ideas upon medical topics.

The Reports on the Yellow Fever Epidemic of Wilmington, South Carolina, and also of Savannah, Ga., in 1876, were from his pen.

With a genius also for invention, he introduced to the profession several surgical instruments, which have been used both at home and abroad.

Chief among them is the hysterotome that bears his name. An illustration of it may be seen in the late T. G. Thomas' "Diseases of Women." He also devised an instrument for the radical cure of hernia and varicocele. He also invented a laryngoscope, where a prism was substituted for the ordinary reflecting mirror. In addition to his other accomplishments, Dr. White was an artist of merit.

Though he had never taken special instruction in either drawing or coloring, he inherited positive artistic talent from his father, the late John Blake White, the historic artist of the South in the early part of the last century.

He practised art merely as a pastime, though some of his productions, both in oil and water colors, have been warmly commended by our best masters. In fact, he could adapt his faculties successfully to almost any pursuit; but withal, his modesty was such, that only his intimates knew the many sides of his character.

To all he was a most attractive and genial companion, generous by nature and lavish in his hospitality. But, more than all, he was a gentleman, pure and without reproach. Dr. White was a member of the Academy of Medicine, the Medical Association of Greater New York, the County Medical Society, the Historical Society, etc.

Dr. White was twice married. His first wife was Claudia R. Bellinger, daughter of the late John Bellinger, one of the most distinguished physicians of his day in Charleston, S. C. After the death of his wife, he married Elizabeth Winthrop Chanler, of New York. There are surviving him, Dr. John Blake White, a son by his first wife, and 2 daughters, Mrs. Ledyard Stevens and Mrs. Berkley Mostyn, daughters by his second wife.

With a public life full of noble achievements for suffering humanity, and a home life illumined by the most charming of domestic traits, his memory will be cherished for years that are to come, by all who knew him.

Your Committee, in presenting this minute, unanimously offer the following resolutions:

Resolved, That in the death of Dr. Octavius A. White, this country and community have lost a valued citizen, and our profession of medicine an honored member.

Resolved, That we extend to the bereaved family of Dr. White our profoundest sympathy for them, in this their period of bereavement.

"Vivat Post Funera Virtus."

THOMAS E. SATTERTHWAITE,
JOHN G. PERRY,
REYNOLD WEBB WILCOX.

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[1] Read by the Chairman of the Committee, Dr. Thomas E. Satterthwaite, at the meeting of the Medical Association of Greater City of New York, November 9, 1903.

Danger in the Bath Tub.—"When people leave off bathing there will be little or nothing for the doctors to do. Pneumonia, colds, and a hundred other ills result from the foolish habit of washing the body. To bathe is to be dirty, for you thereby make a sewer of the skin. Blood, attracted by the skin, gives up products that should be left to seek a natural outlet, and soils the skin." The foregoing declarations, made by Professor John Dill Robertson at the annual meeting of the Chicago Eclectic and Surgical Society, at the Auditorum, has aroused the interest of members. Professor Robertson asserted that the theory that the closing of pores of the skin would result in death, is false. He said that all physiologies which made such an assertion were wrong. The habit of taking "dry" baths was also denounced. The rubbing of a rough towel over the skin, according to Dr. Robertson, removed the natural scales of the skin, or the "false skin." This, he said, conduced to the growth of bacteria on the skin. The doctor concluded with a touching incident of a poor Eskimo brought from Greenland to Boston, who had never been ill in his life. He was given a bath, contracted pneumonia, and died in 2 days.

ORIGINAL ARTICLES

THE FINSEN LIGHT AND RÖNTGEN RAYS IN THE TREATMENT OF DISEASES OF THE SKIN.[1]

BY

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of Philadelphia.

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It is a remarkable fact that within less than a decade 3 forms of radiant energy have been brought into use in the treatment of disease. The employment of radium is still in an experimental stage, but concentrated actinic rays of light, as employed by Finsen, and the Röntgen rays have been accorded an established position as therapeutic agents.

The purport of this paper is to record the results of treatment of a considerable number of skin diseases with the actinic rays of light and with the Röntgen rays. Of 111 patients treated, 58 received treatment in the phototherapeutic laboratory of the Philadelphia Polyclinic.

The light apparatus in use at the Polyclinic is the socalled London Hospital Lamp, which was brought from London about 8 months ago by Miss Kirkbride, under whose personal supervision the treatments have been given. The lamp is a modification of the Lortet and Genoud apparatus, which is much used in France.

This lamp differs in many respects from the original large lamp used by Finsen. Finsen's lamp consisted of 2 cylinders fitting telescopically into each other, thus permitting approximation or separation of the lenses. Each cylinder was provided with 2 planoconvex lenses. Between the 2 sets of lenses was a layer of 10 liters of distilled water. At the end of the apparatus were 2 flat glasses between which was a solution of the ammoniosulfate of copper. The intensity of the arc light varied from 35 amperes to 50 amperes. I understand that the copper solution has been replaced by running cold water, and that a current of 80 amperes is now used. The exposure was at first 2 hours, but owing to improvements has been since reduced to 1 hour.

The simplified lamp in use at the Philadelphia Polyclinic consists of an arc light with adjustable carbons, in front of which is a hollow metal shield or jacket. Set in the center of the jacket and attached to the inner and outer surfaces are 2 quartz lenses. When the lamp is in use, cold water is kept circulating between the lenses and in the metal shield surrounding the lens.

The lamp may be operated with an alternating or direct current. At the Polyclinic a 110-volt alternating current is used with a strength of 15 amperes to 16 amperes.

The area of the skin to be treated is pressed firmly against the outer lens, which may be changed, according to the contour of the part to be treated. It is essential to press out the blood and render the skin anemic, otherwise the blood acts as a red screen and filters out the actinic rays. In the original Finsen lamp the rays of light are focused upon the skin, local exsanguination being effected by a separate compressing lens. In the lamp just described the light is not brought to a focus, but the contact of the patient with the lens enables the rays to reach the skin before they diverge. The running water and the passage of the light through the rock-crystal lenses filter out the heat rays so that the light is perfectly cold.

Results of Treatment at the Philadelphia Polyclinic with the London Hospital Lamp.—The lamp has been in use since March 12, 1903, during which time 897 treatments have been given to 15 patients. Three of these patients had but few treatments and will be referred to later. The remaining 12 patients came regularly and received in all 880 treatments. The sittings varied in duration from 30 minutes to 1¾ hours, most of them lasting 1 hour; in the beginning the treatments lasted 30 minutes, but it later became necessary to extend the period in order to secure the proper degree of reaction. The average duration of the sittings was perhaps three-quarters of an hour. An effort was made to secure as deep penetration as possible, and with this end in view long treatments were given. Of the 12 patients, 7 had lupus vulgaris and 5 had lupus erythematosus:

CASE I.—A woman, aged 29, with a lupus vulgaris of the face and neck of 28 years' duration, had 141 treatments in the course of 7½ months. Duration of treatments was from 30 to 100 minutes. Each affected area of the skin received about 10 to 12 treatments. This patient exhibits a considerable degree of improvement, but is still far from being well.

The affected areas are paler in color and a number of nodules have disappeared, but nodules and lupus infiltrations that have been repeatedly treated still remain.

CASE II.—Woman, aged 70, with an extensive but superficial lupus vulgaris of 35 years' duration. The nodules are disseminated over the entire face, imbedded in rather thin cicatricial tissue. This patient has had 214 treatments in 7 months. Duration from 30 to 75 minutes. There has been some improvement in this patient, but it is not very great.



Fig. 1.—London hospital lamp for actinotherapy. Patient in position.

CASE III.—Woman aged 30, with an extensive and rapid lupus vulgaris of but 5 years' duration. The mucous membrane of the nares is affected, and the alas of the nose and the upper lip are ulcerated and covered with adherent crusts. The nodules are large, raised considerably above the surface of the skin, and in some places form by coalescence, elevated patches. This patient received 46 treatments upon the right side of the face; upon the left side the Röntgen rays were used. Although there was some improvement upon the right side, the results with the Röntgen rays were so much better that the light treatment was abandoned and the Röntgen rays used exclusively. Under this treatment the patient has made progressive improvement. The nose and lip are completely healed, and most of the nodules have disappeared. The patient is still under treatment, but there is every reason to believe that a complete cure will result. Photographs of this patient are shown in Figs. 2, 3, and 4.

CASE IV.—Woman, aged 36, with large patches of lupus vulgaris on both sides of the face and neck of 32 years' duration. Patient is of Italian parentage, and has a swarthy complexion, which, perhaps, accounts for the dark red color of the lupus tissue. The affected areas are dry, scaly, and the lupus tissue deeply seated, with no tendency to ulceration. This

[1] Read at the Philadelphia County Medical Society, Wednesday November 11, 1903.

patient has also an extensive lupus completely involving the entire left leg from the foot to the hip. About one-quarter of the cutaneous surface of the body is the seat of lupus. One side of the face was treated with concentrated light and the other side with Röntgen rays. The patient had 195 light treatments varying in duration from 30 minutes to 1½ hours, and 42 Röntgen ray treatments with soft tube, for 8 minutes at 7 inches. The Röntgen ray treatment had to be interrupted for a while owing to the production of an erythema. The patient is rather more improved upon the side treated by "light" than upon the Röntgen ray side, but the improvement is not striking and the difference not great. The leg received 132 Röntgen ray treatments the tube being shifted about to cover the entire area. There is perhaps less thickening than in the beginning and the leg is more comfortable.

CASE V.—Woman, aged 43, with a lupus vulgaris of the face of 20 years' duration. The disease in this patient is not nearly so extensive as in the others; it occupies 2 patches about the size of a silver dollar on each cheek. The nodules are large, elevated and arranged in an annular manner. There is no ulceration. Sixty-six treatments, varying in duration from 30 to 60 minutes were given in the course of 6 months. No perceptible improvement has been noted. The patient was recently exposed to the Röntgen rays, but after 2 treatments, disappeared from observation.

CASE VI.—Woman, aged 39, with lupus of the face of 17 years' duration. A patch smaller than the palm of the hand was situated below the left ear.

It was superficial with slightly elevated borders and apparently beset with small nonelevated nodules. In some respects the disease resembles lupus erythematosus and the diagnosis is not perfectly clear.

Thirteen light treatments varying in duration from 30 to 45 minutes were given without improvement. The Röntgen rays were then resorted to, but the patient stopped treatment after receiving 3 irradiations.

CASE VII.—Man, aged 60, with an extensive lupus erythematosus of 53 years' duration. The disease involves the entire nose and cheeks almost to the ears. This area is the seat of atrophic scarring and numerous small telangiectases simulating lupus nodules. In some areas the enlargement of bloodvessels is distinctly visible to the naked eye. The mucous membrane of the upper lip shows atrophic patches. The disfigurement in this patient is evidently due to vascular dilation in the skin, no active evidence of lupus erythematosus being present. This patient has had in the course of 7 months, 114 light treatments varying in duration from 30 minutes to 1¾ hours.

The vascular areas after a few treatments appeared to pale considerably. There was, however, a tendency to relapse. The improvement in this case, has been very perceptible, although red spots are still present in the skin. The patient is convinced that he is much better than he was and this opinion is shared by his family. The amelioration seems to be almost entirely attributable to a reduction in the size of the cutaneous capillaries.

CASE VIII.—Woman, aged 54, with lupus erythematosus of the face of 1 year's duration. There were large patches of round or irregular contour, scattered over the face and scalp. These were quite red and not infiltrated. There was no enlargement of the sebaceous ducts, and but little scaling. Fifty-six treatments were given, lasting from 30 to 45 minutes each.

The patient later received 6 Röntgen ray treatments. No permanent improvement was produced by either of these treatments.

CASE IX.—Woman, aged 40, with a lupus erythematosus of 15 years' duration. There are 2 half-dollar-sized annular patches, 1 in front of each ear. Thirty-three treatments of half to three-quarters of an hour duration were given without result.

CASE X.—Woman, aged 27, with a lupus erythematosus of 6 years' duration. Patient has several patches beneath both eyes, and on the nose. During a period of 5 months these received 63 light treatments without any striking result. The exposures varied from 30 minutes to an hour.

CASE XI.—Man, aged 30, with lupus erythematosus of 3 years' duration. A small patch about 1 inch by 1½ inches in diameter is seen in the hairy region of the right side of the face. There is considerable thickening and closely adherent scaling. Nine treatments, varying from 30 minutes to an hour were given to this patch without producing any change. The patient is now being exposed to the Röntgen rays.

CASE XII.—Man, aged 31, with a lupus vulgaris of 19 years' standing. The disease involves the right ear which is stiff and covered with cicatricial tissue. A small patch is present on the face about the angle of the jaw. This small area was treated 3 times with the light without effect. The Röntgen rays were then employed and 28 treatments given. A vesicular dermatitis was produced, after which the parts healed up. When last seen the disease appeared to be cured.

In addition to the foregoing cases the following were treated with concentrated light.

CASE XIII.—Man, aged 21, had for a number of years a half-dollar-sized patch of telangiectasis on the chin. This became considerably paler after 5 treatments with light. Duration of exposure 20 to 45 minutes.

CASE XIV.—A woman of 40, with a small superficial epithelioma about 1 cm. in diameter received 2 treatments, one of 30 minutes and the other of 40 minutes, without effect.

CASE XV.—A man of 30, with an alopecia areata had 1 treatment of 30 minutes to the scalp. No particular effect noted.

The results with the foregoing treatment have not been such as to make us very enthusiastic. Of the cases



Fig. 2.—Lupus vulgaris of five years' duration, in a patient aged 30. Extensive crusting.

referred to, none has been cured by the "light" treatment, although improvement has occurred in some. It should be stated that none of the cases was of recent development save possibly one; most were long-standing and inveterate. The treatment was carried out with great care by Miss Kirkbride, who had an opportunity while in London of observing the treatment in the London Hospital. The patients came regularly for many months and gave themselves up fully to the treatment. The use of a lens the size of a silver dollar enabled the operator to cover comparatively large areas in a short time.

The disappointing results which we have obtained should not be interpreted as indicating the failure of the actinic rays of light in the treatment of lupus, but should be regarded rather as evidence of the insufficiency of the simplified lamps which are being put upon the market. Wherever the big lamp employed by Finsen has been used the results are said to be highly gratifying. It was thought that the modified lamp would suffice and have certain advantages over the original one. It is much less expensive, less cumbrous, costs less to operate, and permits of the treatment of a larger area of skin at one time. With the big lamp an area only the size of a cubic centimeter is treated, whereas with the small lamp an area the size of a silver dollar can be covered. In the former, however, the light is concentrated to a focus on the skin, and the effect is more intense.

It was also thought that the use of the Lortet-Genoud type of lamp would lessen the time of exposure, but we have found it necessary in long treated cases to increase the exposure to an hour or more to secure the desired reaction. And this increased exposure has not been



Fig. 3.—Lupus vulgaris, same patient as in Fig. 2. Some of the crusts removed; nose and lips ulcerated.



Fig. 4.—Lupus vulgaris, same patient as Figs. 2 and 3. Treated with Röntgen rays. Patient still under treatment, but almost well. (80 treatments.)

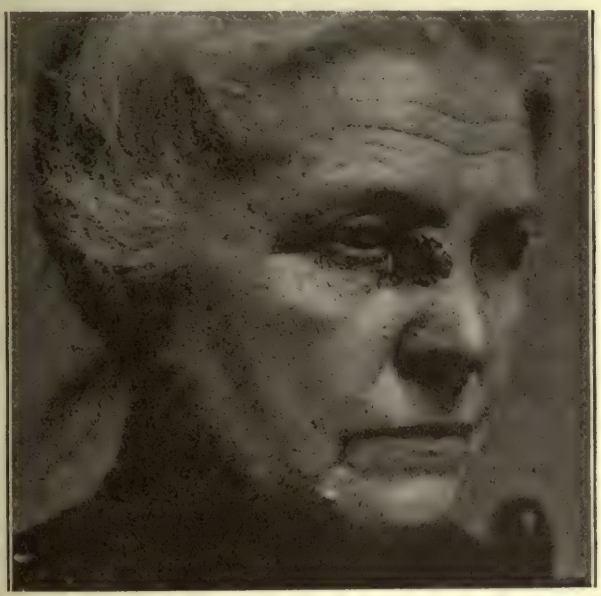


Fig. 5.—Superficial crusted cancer of several years' duration.

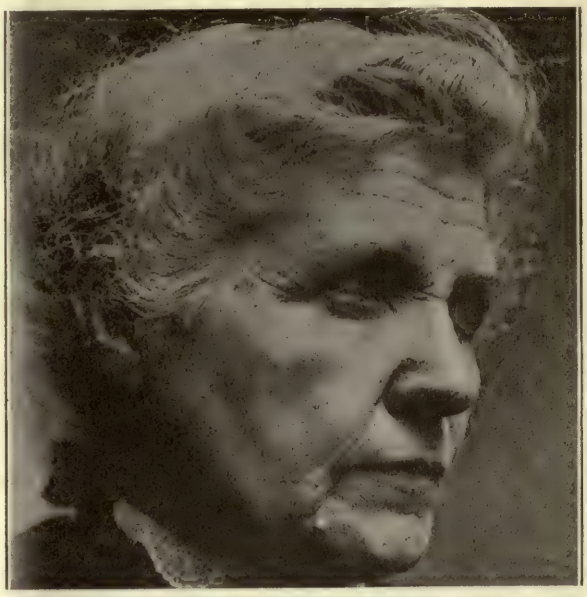


Fig. 6.—Same patient as Fig. 5. Complete disappearance under Röntgen ray treatment.

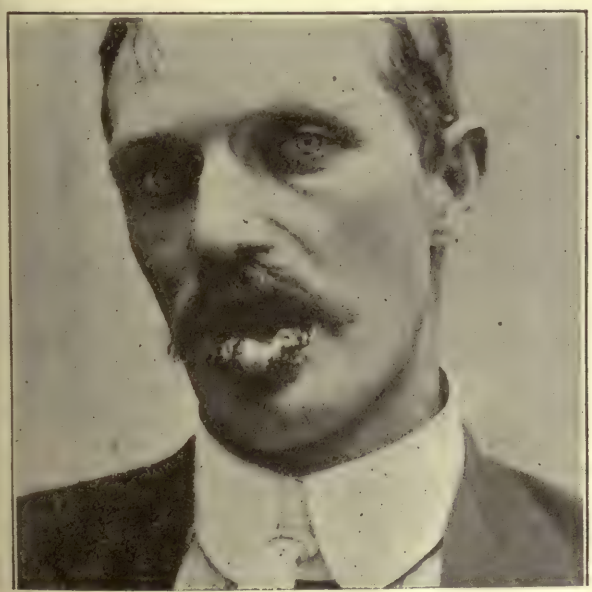


Fig. 11.—Epithelioma of lip. Nine months' duration.



Fig. 12.—Same patient as Fig. 11. Superficial ulceration healed by Röntgen rays. Extension on buccal mucous membrane; involvement of glands; subsequent surgical operation

necessitated by the occurrence of pigmentation. Our experience has been the same as that of Hyde and Montgomery, namely, that little or no pigmentation occurs as a result of treatment in a diseased skin. The healthy skin, however, is readily pigmented. The exposure of my arm to the light for 10 minutes was followed by an erythema which gave way to a *café au lait* pigmentation lasting 5 months.

I understand that they have found it necessary at the London Hospital to increase the exposure with the small lamp. For a time half-hour exposures were given;



Fig. 7.—Superficial cancer in a man of 30. Duration, one year.

more recently, exposures of an hour have been employed. The small lamps are now used as a preliminary treatment, the large lens making it possible to get over the affected area within a comparatively short period. The large Finsen lamp is then used to destroy the deeper nodules, and complete the cure. Progress with the large lamp alone is so slow that an active lupus might spread in some areas while others are undergoing treatment.

Our experience would lead us to believe that the small lamps do not give sufficient penetration to destroy deep-seated lupus nodules. We have been able in most instances to secure a pronounced surface reaction, but it is evident that this is not sufficient. While Paris physicians claim to have had a considerable measure of success with the small lamp, the limitations of this apparatus are recognized at the London Hospital, where it is used only on superficial lesions, a large Finsen lamp being employed for the more deeply-seated nodules. Finsen, himself, insists upon the superiority of the big lamp. The current strength used in the Finsen lamp is very much greater than that utilized in the lamps of the Lortet-Genoud pattern.

The Uses of the Finsen Light.—Actinotherapy has been employed chiefly in the treatment of lupus vulgaris and lupus erythematosus, and it is in these affections that it finds its principal field of usefulness. Verrucose tuberculids, rodent ulcer, and acne vulgaris have been cured by the Finsen light, but more uniformly successful results are obtained with the Röntgen rays. Finsen has subjected 49 cases of alopecia areata to the light treatment with 30 cures. In 18 cases treated by Hyde and Montgomery no results were noted in 13. They conclude that the treatment offers no marked advantage over other methods.

Finsen reports 19 cases of nævus vascularis planus treated with "light." In a few instances the disfigurement entirely disappeared; in others the color diminished in intensity.

While none of our patients with lupus erythematosus was cured, the greatest improvement was noted in the case in which the vascular element was pronounced.

The Action of the Finsen Light and Röntgen Rays Compared.—Röntgen rays and Finsen light differ very markedly in their action upon tissues. Concentrated actinic rays produce in the course of a number of hours a distinct reaction, usually characterized by erythema and vesiculation. The blistered areas heal up in about a week. Areas of skin that have been repeatedly treated gradually become less sensitive to the influence of the light, and require a longer exposure to produce blistering. There is but superficial penetration of this light, and consequently subcutaneous tissues are not affected by it. A distinct bactericidal influence is exerted. Signs of improvement may be observed at an early date—usually upon the subsidence of the reactive inflammation.

On the other hand, with the Röntgen rays, no immediate reaction is observed in the treated

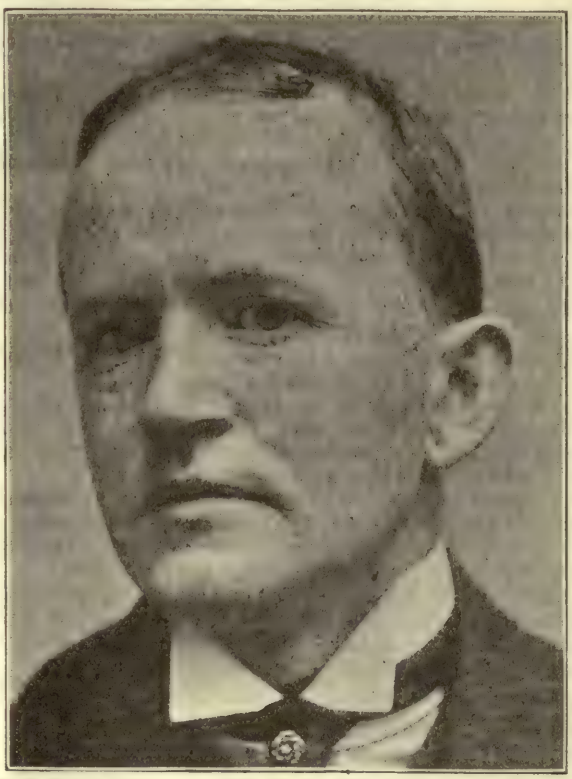


Fig. 8.—Same patient as in Fig. 7. Complete disappearance under Röntgen-ray treatment.

area; the effect of the rays is however, cumulative, the parts treated becoming progressively more susceptible to their influence. The rays penetrate deeply, acting not only on the skin, but also upon subcutaneous and visceral structures. Improvement is comparatively slow in making its appearance; it may continue for a long time after the cessation of the treatment. Curative changes may take place without an inflammatory reaction being produced. No direct bactericidal influence is exerted, but tissues are fortified against the invasion of bacteria.

The Comparative Value of the Finsen Light and the Röntgen Rays in Lupus.—Most writers are in accord that the Finsen procedure is the best method of treating lupus. With the Finsen lamp the results have, according to report, excelled, both as regards percentage of cures and cosmetic effect, any method of treatment previously in vogue.

The Röntgen rays have also been found to accomplish wonderful results in lupus vulgaris. The observers who have reported cures are too numerous to mention. The cosmetic result is but little if at all inferior to that obtained with the Finsen light. Each method has certain advantages over the other. Moreover, certain forms of lupus will do better under one treatment, and certain others, under the other.

The Finsen light never does any harm to the tissues; the inflammatory phenomena subside at the end of a week or 10 days, and the improvement resulting may be accurately estimated. The effect of the Röntgen rays, on the other hand, cannot be known for some time, and consequently the action cannot be so well controlled. This advantage is not as important now as formerly, as the danger of a serious Röntgen ray burn nowadays is not great.

The Finsen light has the disadvantage that every treatment produces a dermatitis; this is a considerable inconvenience to the ambulant patient, who is obliged to wear some dressing on the face. The Finsen light can only be applied to a very small area, whereas, the Röntgen rays may be applied at each treatment to large surfaces. In extensive cases the light treatment requires sittings for a period of many months and involves a considerable expenditure of money.

The application of both treatments is painless, although a considerable degree of soreness follows each "light" treatment. In the event of a Röntgen ray burn the soreness would be doubtless greater than that caused by actinotherapy.

Lupus of the mucous membranes, particularly of the nose and mouth, cannot be satisfactorily treated with the Finsen light, but responds usually in a gratifying manner to the application of the Röntgen rays. Ulcerative lupus also precludes treatment with the Finsen light, but reacts well to the Röntgen treatment.

Hypertrophic lupus, I think, does better with radiotherapy than with phototherapy.

Time will determine the special indications of the 2 methods of treatment and the comparative results obtained. Both therapeutic agencies are of great value and should be used to supplement each other.

In lupus erythematosus the Finsen light seems to have given better results than the Röntgen rays, although both treatments leave much to be desired. Doubtless many reports of cures will require later revision.

Röntgen Ray Treatments.—The present report includes the records of over 100 Röntgen ray patients, of whom about half were treated at the Polyclinic Hospital. The cases were as follow:

	Cases.
Epithelioma	27
Acne	14
Eczema	16
Psoriasis	4
Sarcoma	3
Lupus vulgaris	4
Acne rosacea	2
Lupus erythematosus	2
Leukokeratosis lingualis	1
Rosacea	1
Keloid	2
Sycosis	3
Tinea sycosis	1
Ichthyosis	1
Vitiligo	1
Folliculitis	2
Seborrhœa oleosa	1
Seborrhœa sicca	1
Mycosis fungoides	1
Ulcus cruris	1
Eczema seborrhœicum	1
Verruca	1
Carcinoma of larynx	1
Carcinoma of esophagus	1
Carcinoma of mouth	
Dermatitis herpetiformis	1

Space will not permit of a detailed description of all of these cases. It will doubtless suffice to refer to the results obtained in the various diseases, with brief mention of some of the more interesting and instructive cases.

Epithelioma.—Other writers are presenting this evening their views of the value of the Röntgen rays in deep-seated cancer. I shall confine my remarks to the effect of the rays in cutaneous carcinoma. We have treated 27 patients with cancer of the skin and mucous membrane. It would be misleading to give statistical results, for so much depends upon the character, extent, and situation of the growth. Moreover, a number of the patients did not remain under treatment sufficiently long to warrant a proper estimate of the treatment. It may be of interest to state that 13 of the 27 patients were cured. Most of the cures were in cases of superficial epithelioma about the face. A very satisfactory result was obtained in a moderately deep epithelioma of the neck that had recurred after excision. Two patients with superficial epithelioma of the lip appear to be well, although sufficient time has not elapsed to warrant a definite statement. A nodular epithelioma of the lip after 8 treatments was rather larger than before the rays were used, and the patient gave up the treatment.

With deep-seated skin cancers our results have not been encouraging.

The patient shown in Fig. 9, a man of 75, had a deep-seated cancer upon the left cheek; the pain was severe and unremitting. The severe pain was relieved in a short time and under vigorous treatments the patient appeared to improve. A considerable portion of the growth disappeared and then, owing to a dermatitis, the treatment was interrupted for a number of weeks, the patient returning to his home. When he reappeared for treatment the cancer had spread considerably upon the borders of the original growth. Despite vigorous treatment there has been extension into the deeper tissues and treatment has been abandoned. The patient is, however, relieved of his severe pain.

The patient shown in Fig. 11, a man of 36, had, when first seen, an extensive ulceration involving the greater part of the lower lip. The ulceration and induration were most pronounced upon the left side. Duration 9 months. In order to exclude positively the diagnosis of syphilis a microscopic examination of an excised portion of border was made. The sections were typical of epithelioma. Under Röntgen ray treatment the right side of the lip healed completely and the left side improved. But the improvement was only apparent for the growth extended along the contiguous buccal mucous membrane. Later the submaxillary and maxillary glands became enlarged and hard. The buccal growth and the glands were excised by a surgeon, but at the date of writing there are other carcinomatous glands palpable. I believe it would have been better to have had this man operated upon in the beginning.

Cancer of the buccal mucous membrane is always a dangerous growth, and particularly liable to recurrence. One of my patients, a man of 64, had an epithelioma involving the mucous membrane of the cheek far back. This and the neighboring unaffected glands were excised by a prominent surgeon. Almost before the patient left the hospital the growth had recurred. Röntgen ray treatment applied directly through a lead funnel and also passed through the cheek has not been able to prevent a slow progress of the disease.

A man with an extensive cancer of the penis received 17 vigorous daily Röntgen ray treatments. During this time half an inch extension of the disease along the shaft of the penis occurred, and the patient was turned over to a surgeon for complete amputation.

A woman with Paget's disease of the nipple of 7 years' duration was subjected to the Röntgen rays. After 20 treatments the superficially ulcerated nipple has healed over. It is too early to predicate as to a cure.

A man of 70 had an epithelioma of the left side of the temporal region for a period of 9 months. This was subjected to Röntgen ray treatment both with the static machine and a 15-inch coil. Fifty-one treatments, of an average duration of 12 minutes, have been given. The tube has been placed within an inch or two of the skin, and both medium hard and medium soft tubes have

been used. The current strength employed was as high as 5 amperes. A number of superficial ulcerative areas have healed, but a deep-seated cutaneous nodule has spread from the size of a small bean to that of a silver half dollar, despite the vigorous treatment received. The present appearances are shown in photograph No. 13.

Remarks.—A large proportion of the patients with epithelioma who, in our hands, were cured by the Röntgen rays could doubtless have been successfully treated by other means. Small superficial epitheliomas may be cured by excision, cureting, electrolysis, and various

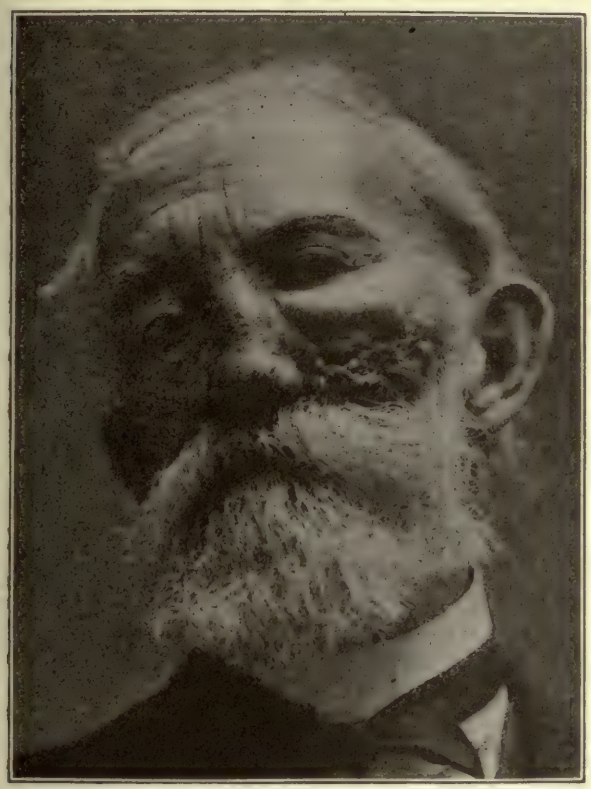


Fig. 9.—Deep-seated cancer of one year's duration. Severe pain.

caustics. In order that the Röntgen rays shall remain the method of choice, it must be shown that the rays are superior in effect to the other methods, for the latter accomplish the result in a much shorter time and with less expense to the patient. The liability to the production of a burn is, moreover, to be considered. A distinct advantage of the Röntgen ray treatment is the beautiful cosmetic result attained; where the avoidance of scarring is an important consideration, the Röntgen rays had better be employed for the resulting cicatrix is smooth and excellent in appearance, and, indeed, in some cases the scarring is almost invisible.

The Röntgen rays have a special field of usefulness in small epitheliomas situated upon the borders of the eyelids, the alæ of the nose and in other similar regions. It is desirable for manifest reasons to avoid any unnecessary destruction of tissue in these cases and no other method of treatment is equal to the Röntgen rays, effecting as they do a disappearance of the growth with the least possible deformity.

The Röntgen rays are also of great value in rodent ulcers about the orbit, in those cases in which, instead of a tumor there is destruction of tissue. These cancers are often completely inaccessible to the knife, for there is nothing to remove; the thin border and base are often in apposition with the bony structures. Some otherwise fatal rodent ulcers of the orbit have been cured with the Röntgen rays.

There is a third class of skin cancers—the deep-seated cutaneous and subcutaneous carcinomas—which as a rule do not do well under Röntgen ray treatment. Such growths are typified in the case shown in photograph No. 9.

When these growths are surgically accessible, I believe the best results are to be obtained by excision followed by Röntgen ray treatment.

Many of the deep skin carcinomas appear to improve in a striking manner for a time, but not infrequently the disease subsequently relapses and spreads. I believe that in several cases under my observation the carcinoma has spread more rapidly by reason of the inflammatory reaction, induced by the Röntgen rays. A similar observation has been made by Hyde and Montgomery. It is therefore seen that in inappropriate cases the Röntgen rays may do harm.

In inoperable cases of cancer the Röntgen rays may be indicated to relieve severe pain. As an analgesic in such instances the Röntgen rays are valuable.

Acne.—In 14 cases of acne we have treated the patients with the Röntgen rays. I am in full accord with the opinion expressed by other dermatologists that no remedy can approach in efficacy the Röntgen rays in the treatment of this dermatosis.

In most cases a distinct improvement is noted after a few treatments; old acne lesions disappear and new ones develop in smaller number. The ultimate result is often brilliant; rebellious and long-standing cases yielding to treatment in a short time. What is most gratifying of all is that the cures are, as a rule, permanent. There may be an outbreak of a few pimples after the treatment has been suspended for a while, but these disappear rapidly under further treatment.

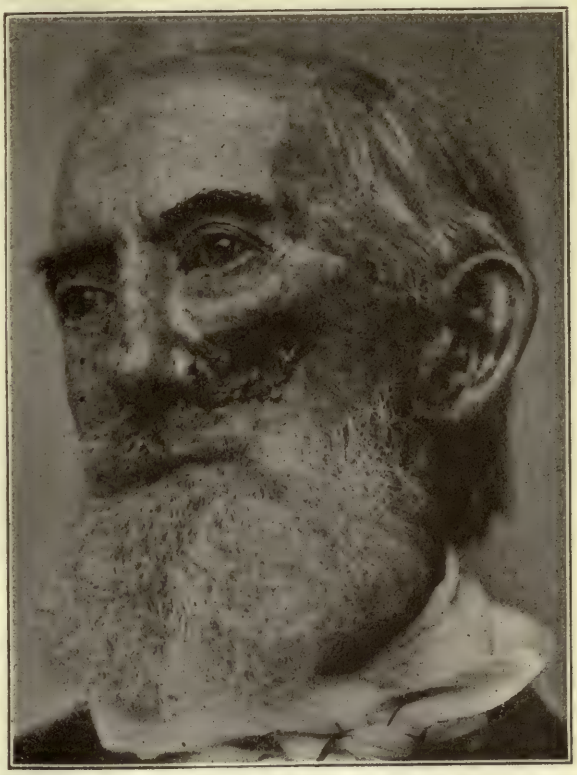


Fig. 10.—Same patient as Fig. 9. Röntgen ray burn. Considerable improvement at first; subsequent relapse and spread; pain relieved.

A young woman, aged 21, with an acne of a year's duration, with constantly recurring lesions, was completely cured after receiving 24 treatments. The treatments were given at first 3 times a week, and later weekly. A mild Röntgen ray erythema was produced on several occasions. Four months have now elapsed since the cessation of treatment and there has been no recurrence of the acne.

In another young woman, aged 18, a severe acne of 2 years'

duration was completely cured after 28 treatments. On account of the thickening of the skin, a mild erythema was maintained for some time. The last treatment was given in July, 1903.

Three months later the patient presented herself for inspection. Her face was in excellent condition, and she stated that she had not had a "pimple" since the treatment was discontinued.

All of the acne patients who have had sufficient treatment have progressively improved save one. This is a young man with a severe deep-seated furuncular acne of the face, neck, chest, and back—a case of the socalled acne cachecticorum. Each week it is necessary to evacuate accumulations of pus upon the neck or back. Despite repeated Röntgen ray irradiation, there has been no perceptible improvement.

With this exception, all the patients have done well. Some are still under treatment, and will doubtless go on to cure.

It may be stated that nearly all patients with acne may be cured by the Röntgen rays. With mild irradiations there is little or no danger of producing a burn.

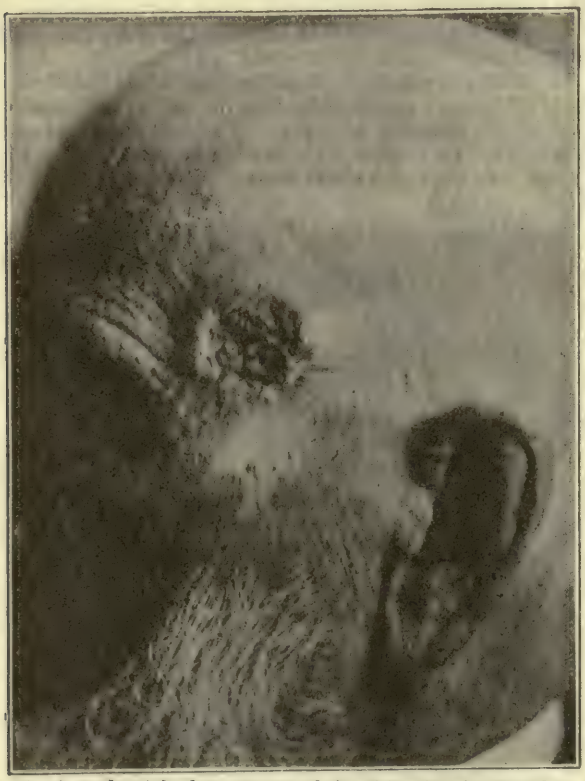


Fig. 13.—A moderately deep cancer of the skin, that increased in size despite long-continued and vigorous Röntgen ray treatments (50 in number).

Eczema.—The Röntgen rays have proved a valuable remedy in the treatment of some forms of eczema. We have used this agent in 16 cases of eczema, most of which were of the vesicular variety, occurring about the hands. Inasmuch as other treatment was employed at the same time, it is not possible to estimate definitely how much curative influence was exerted by the rays. From a comparison, however, with other cases of a similar character not receiving Röntgen ray treatment, the conclusion has strongly impressed itself upon us that the Röntgen ray has been an important factor in the cures effected.

One patient, a man, aged 35, had suffered from an obstinate recurrent vesicular eczema of the hands for a year; at no time during this period was he free of the disease for as long a time as a fortnight; he had been subjected to many forms of local and constitutional treatment. Under the use of simple local remedies and mild applications of the Röntgen ray he began immediately to improve; the eruption completely disappeared and has not returned. About 5 months have now elapsed since the treatment was employed.

Other cases of vesicular eczema of the hands and feet have likewise healed rapidly under the influence of the rays.

A rebellious case of recurrent erythematous eczema of the face in a young woman disappeared after mild irradiations and has not returned, although a period of 5 months has since elapsed.

Circumscribed and thickened eczemas may be much benefited by applications of the rays.

When there is severe itching, the rays will frequently assuage the same and give more permanent relief than any other remedy.

The Röntgen rays in proper dosage seem to stimulate the normal structures of the skin to healthier activity. When used in excessive strength they are, of course, capable of doing harm. We have invariably used a weak current and brief exposures, not exceeding 5 minutes, in the treatment of eczema.

Four patients with *psoriasis* have been treated with the Röntgen rays. The exposed patches have rapidly disappeared under treatment, but it has not been uncommon for new lesions to make their appearance. Sometimes obstinate patches which have persisted in certain regions for a long time may be removed by this treatment. In general it may be stated that the period of freedom from eruption following radiotherapy does not differ much from that resulting from other approved methods of treatment.

One of my patients, a young man with psoriasis of 20 years' duration, received at the hands of an experienced radiographer 20 Röntgen ray treatments. There was for a time pronounced improvement, but the eruption relapsed during treatment, and within a few weeks the patient was more profusely covered than he had been at any time during his life.

A young man with a *keloid* upon the side of the neck, resulting from the use of a "drawing plaster" a few years before, was subjected to radiotherapy.

The keloid, which was about 2 inches by ¾ of an inch in diameter, and ¼ inch elevated above the skin, was burned on several occasions, but gradually lost its fibrous feel and elevation, and is now practically upon a level with the surrounding integument. The patient received in all about 28 treatments. The result has been most satisfactory.

Three patients with *sycosis* of long standing were treated with very gratifying results. The return of the hair in some of these cases is followed by slight relapse which will usually yield to subsequent treatment.

A patient with papular *dermatitis herpetiformis* involving in particular the face, was much improved in appearance and relieved of the severe itching by Röntgen ray treatment.

A patient with a long standing and most pronounced *leukokeratosis lingualis* received 8 moderately vigorous exposures, after which a painful burn developed upon the tongue. After the healing of the burn, which lasted about 3 weeks, the whitish patches were much thinner and the patient's tongue was considerably improved. During a period of rest the patches began to increase in thickness again, since which time, although a number of mild irradiations have been given, there has been no change.

CONCLUSIONS.

1. The Finsen light is generally recognized as constituting the best known treatment for lupus vulgaris. In order to secure good results it is necessary to employ the large lamp used by Finsen. The smaller modified lamps may suffice for recent and superficial cases, but do not produce sufficient penetration of light to cure long-standing and deep-seated lesions.

2. In lupus erythematosus the Finsen light, in our hands, has effected some improvement but no cures. Cases exhibiting telangiectases and but little thickening of the skin, showed the most improvement.

3. In certain cases of lupus vulgaris the Röntgen rays give most gratifying results. This method of treatment is to be given preference over the Finsen light when the lupus nodules are ulcerated, when the mucous membrane

of the nose, lips, or mouth is affected, and probably also in hypertrophic and vegetative forms of the disease.

4. The Röntgen rays have certain distinct limitations in the treatment of cancer of the skin. The rays will cure practically all patients having superficial cancer, and some with carcinoma of the integument. But the majority of deep-seated cutaneous and subcutaneous growths do not do well. They may improve for a while and deceive both the patient and the physician, but relapse, and subsequent spreading is common. Buccal epithelioma and deep-seated epitheliomas involving the lip, had better be treated surgically and subsequently subjected to radiotherapy. The Röntgen rays find a splendid field of usefulness in superficial epithelioma about the eyelids and the nasal alæ, and in rodent ulcers that are surgically inaccessible. Superficial epitheliomas may be cured by many methods, but none gives such beautiful cosmetic results as the Röntgen rays.

5. The Röntgen rays are extremely valuable in acne,

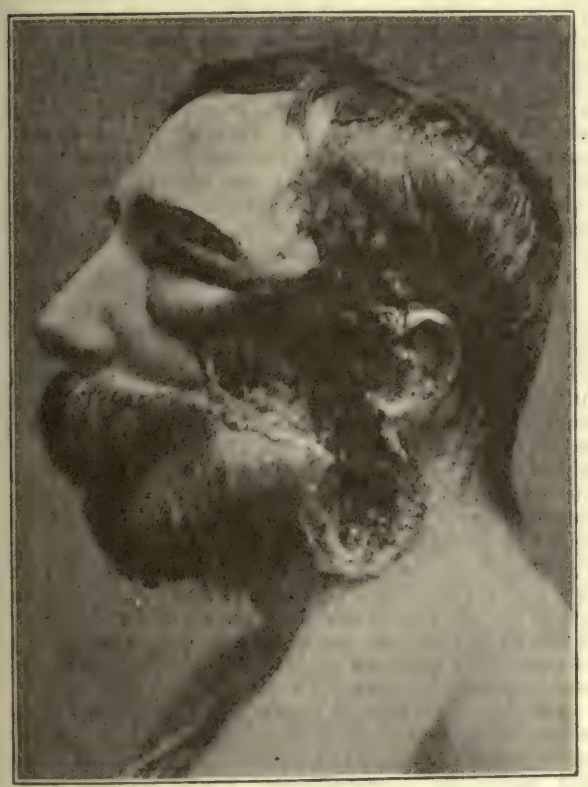


Fig. 14.—Showing the ravages that may be made by the rodent type of cancer. Röntgen ray treatment without much effect.

in which disease the most brilliant results are obtained, even in long-standing cases.

6. The Röntgen rays are of value in many cases of eczema, both in relieving the itching and in effecting a disappearance of the eruption. The rays have proved of great benefit in recurrent vesicular eczemas of the hands and feet.

7. In psoriasis, the effect of the Röntgen rays is but temporary, and relapses are not less common than under other methods of treatment.

8. The Röntgen rays find a large field of usefulness in dermatologic practice. In addition to the dermatoses mentioned, the rays have been found to be beneficial in sycosis, lichen planus, hypertrichosis, ringworm and favus of hairy regions, tuberculosis of the skin, mycosis fungoides, blastomycetic dermatitis, localized pruritus, etc.

9. In the treatment of diseases of the skin the liability to the production of a burn, with ordinary precautionary measures, is extremely slight.

THE DIAGNOSIS OF TRICHINIASIS.[1]

BY

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There came under my observation within the past year a case that proved to be trichiniasis; and the means by which this diagnosis was reached were of such interest as to warrant my reporting them in detail.

The patient, aged 23, entered Lane Hospital on December 6, 1902. She was born in Italy and had come to this country only 5 months before. She had been married for 3 years, but had no children; she was a housewife and was compelled to do washing and other hard work. In the old country she had always been well, and in this country likewise had remained in good health until the present illness began.

Her complaint was of pain that had commenced about 3 weeks before. This pain was first noticed in the legs, and especially in movements of them, as in walking or stooping. Later she began to notice the same pain in her arms. One morning when she arose she found her arms so sore that she could not raise them to comb her hair; and ever since they had remained in such a state that the slightest movement of them caused suffering. Later still she developed the same pain in her neck and jaws so that it hurt her to turn her head and she could not chew her food.

With this pain as the prominent symptom a starting point was found for a diagnosis. We at once considered what could produce such an amount of suffering; evidently it must be due to disease (1) in the joints, (2) in the nerves, or (3) in the muscles. Examining the patient with reference to these possibilities it was found (1) that none of the joints showed any redness or swelling or tenderness or stiffness on motion, so that the possibility of an articular rheumatism was excluded; (2) there was no tenderness over accessible nerve trunks anywhere in their course so that a multiple neuritis could reasonably be left out of account; (3) the most striking feature of the physical examination was the tenderness of the muscles and the patient's unwillingness to use them or to have them pressed upon in any way; for instance, simply picking up the muscles of the calf or thigh or arm between the thumb and fingers, would make the patient scream with pain; and from this singular but positive manifestation it became clear that the pain was due to a general myositis.

While searching for a cause for this extensive inflammation of muscular tissue, the temperature had been recorded every 2 hours as a matter of routine, and it was thus discovered that the patient had a continued fever resembling that of typhoid, ranging from 101° in the morning to 103° in the evening. This prompted an investigation for other evidence of typhoid fever, but no rose spots could be found over the thorax or abdomen; the area of splenic dulness showed no enlargement of that organ; there was no distention of the abdomen and no especial tenderness at any spot over it; instead of diarrhea there was rather obstinate constipation; and finally, the Widal reaction was negative in all dilutions, on repeated examinations. The urine showed the diazo reaction, but in all other respects was normal; and it may be remarked in passing that the diazo reaction occurs in so many other diseases beside typhoid that its presence is never to be taken as definite proof of that disease. From all these investigations it was concluded that the continued fever must be due to some other cause than typhoid.

The next thought was of sepsis as a cause of the fever, with the myositis due to toxins circulating in the blood. But no focus could be found for such sepsis. The throat was inspected with great difficulty, because the patient could not open her mouth widely; but nothing was found in the pharynx except a diffuse redness. There was no swelling of the cervical lymphatics. The lungs were normal in every respect. The heart showed no evidences whatever of a malignant endocarditis, which had been suspected. The liver and spleen were normal in size and not tender. There was no abnormality in the contour of the abdomen and no mass to be made out on palpation. Pelvic examination was entirely negative and the genitals gave no evidence of disease. The limbs were not swollen, there was no edema about the ankles and none about the eyes. The urine, as previously mentioned, was clear, contained no pus or albumin and was in every way normal except for the diazo reaction. The white blood count, made on the first day of the patient's admission, as a routine measure in the examination, showed 14,800 white corpuscles to the cubic millimeter; and this, while too high a count for typhoid fever, was not high enough for sepsis.

Thus, as a result of all our investigation, only a few evidences of disease had been definitely and positively elicited, while most of the findings were negative. The data so far found were as follow: (1) A polymyositis; (2) continued

[1] Read before the Alameda County Medical Society in Oakland, Cal., October 13, 1903.

fever; (3) a moderate leukocytosis; (4) a diazo reaction in the urine. Of these conditions, the first continued to be the predominating feature in the case. The woman could not turn her body in bed, or her head on the pillow. She could not bend her arms or her legs. She complained bitterly when her body was bathed, because the flesh was so tender, and she could not sleep at night without an opiate. Having eliminated the ordinary causes for such a state, we naturally were forced to the consideration of other more unusual conditions to explain the puzzling symptoms. I had never seen a case of trichiniasis, but knew from my reading that the parasites colonize in the muscles of human beings, and there produce a general myositis with much pain and soreness; also that this condition causes a fever resembling that of typhoid, and that it gives rise to a leukocytosis. It seemed in order, therefore, to investigate the case further, as to the presence or absence of this disease.

Accordingly the woman was questioned closely about her diet, but denied that she had eaten pork. She did not care for it, never partook of it freely in her life, and did not remember to have eaten it at all within the few weeks previous to her illness. Furthermore, there was no history of acute onset in her disease with abdominal cramps and diarrhea, such as one would expect when infected pork had been eaten. The history, therefore, did not seem encouraging to the diagnosis of trichiniasis.

It was then recalled that much had been written within the past few years about an increase in the eosinophiles in the blood as a diagnostic feature of trichiniasis. A differential count of the white corpuscles was therefore made on December 8, with the following result: Polymorphonuclears, 70 %; large lymphocytes, 8%; small lymphocytes, 12 %; eosinophiles 10%. On December 12, a second count showed: Polymorphonuclears, 65%; large mononuclears, 11%; small mononuclears, 9.4%; eosinophiles, 14.6%. These counts indicated a decided increase in the eosinophiles above the normal, though the percentage was not so high as in some of the cases previously reported by other observers. By the addition of eosinophilia to the previous findings—myositis, continued fever, leukocytosis, and diazo reaction in the urine—it now seemed certain that the case was really one of trichiniasis.

But when this disease occurs, it is because the trichinæ, taken into the human stomach with the flesh of the infected hog, pass thence into the blood and are so transferred to the muscles. The positive and final proof of trichiniasis is, therefore, the discovery of trichinæ in the muscles. In the case under observation, this search for trichinæ was the only method remaining that could settle the diagnosis beyond question. Accordingly, on December 13, with the aid of cocain, an incision was made through the superficial tissues of the calf of the left leg, and a small piece of muscle excised for examination. Numerous sections of this tissue were prepared for the microscope and mounted, and all of them showed very beautifully the little worm-like parasites between the muscle fibers. Thus the diagnosis was finally established, and the whole clinical picture became clear.

The patient remained in the hospital under constant observation until February 7, 1903—2 months. During all of this time she had fever; most of the time the range was moderate, between 99° and 101°, but it had not yet become normal when she left for her home. The pain gradually grew less and less, so that before she left our care, she could again use her muscles with practically no discomfort. The leukocytosis persisted during her stay under observation; the subsequent counts made showed 15,000 on December 23; 12,200 on January 3; and 14,000 on January 17. The eosinophiles were 13.5% on December 23, 17% on January 3, 12% on January 17, and 8% on January 19. It was the intention to make another complete investigation of the blood later, just before the patient left the hospital, but she was taken away unexpectedly by her relatives, and we had no opportunity. A second excision of muscle tissue was made on January 19, with the object of discovering whether the trichinæ had become encapsulated; but while many parasites were seen and all appeared more coiled and compact than at the previous examination, yet no calcareous deposit about them could be made out.

The data upon which the diagnosis of trichiniasis depends are, therefore, these: (1) Muscular pain, usually severe and widespread, due to a general myositis; (2) continued or remittent fever, resembling that of typhoid; (3) a persistent leukocytosis, averaging from 10,000 to 20,000; (4) an increase in the eosinophiles, varying from 10% to 50%; (5) the presence of trichinæ in the muscle tissue; and to these should be added (6) edema about the face and ankles, on which as a diagnostic feature much stress is laid by Osler and others, but which was never observed in the case under consideration; (7) least valuable of all, a history of having eaten pork.

In the differential diagnosis, the first thought will usually be of rheumatism or multiple neuritis to account for the pains; but these can usually be eliminated by examination, and the true cause found in a myositis. The most common mistake made probably is that of diagnosing the disease present as typhoid fever, but the absence of the rose eruption, of enlarged spleen, of tympanites, and of the Widal reaction should always persuade the investigator to look farther for the cause of the temperature curve. The presence of leukocytosis is another point against uncomplicated typhoid, and yet this leukocytosis, if high and persistent, may itself delude the diagnostician, and make him suspect the presence of a pus focus somewhere in the body. If, however, a differential count of the white blood-corpuscles is made, the diagnosis becomes at once more clear, even from this feature alone; for it will be found in sepsis that the increase in leukocytes is mainly due to an increase in the proportion of polymorphonuclears, while the eosinophiles are normal; but in trichiniasis the eosinophiles are greatly increased, and at the expense of the polymorphonuclears, whose normal percentage is decreased.

With regard to the value of eosinophilia in the diagnosis of trichiniasis, two questions naturally arise: (1) Is it constantly present? and (2) does it occur only in this disease? As regards the first question it is only since 1897 that the relation of the eosinophiles to trichiniasis has been recognized. It was announced first by Dr. W. S. Thayer, of the Johns Hopkins Medical School, and later confirmed by Dr. Thomas R. Brown, of the same school; and although the number of cases observed by Brown was small—four in all—the presence of eosinophilia was so constant that it was looked upon by him and by others as a most valuable diagnostic sign. In the last edition of his textbook on "Medicine," Osler says that in all, 7 cases of trichiniasis have now been observed in his wards since 1897, in all of which a marked increase in the eosinophiles has been found. But in the issue of *American Medicine* for September 26, 1903, appears an article by Dr. Edwin R. Gould, of Buffalo, N. Y., reviewing and tabulating all the cases of trichiniasis reported up to date, in which blood examinations have been made. He finds 37 in all have been published and that in six of these, in which diagnosis was confirmed by muscle examination, no increase in eosinophiles was found. DaCosta, who reports one of the 6 cases, concludes that while eosinophilia is of great importance in the diagnosis of trichiniasis, its absence does not necessarily exclude a diagnosis. This, therefore, is the answer to our first question, in the light of all the knowledge so far obtained, viz., eosinophilia is not constantly present in this disease, but is so in the great majority of cases.

As for the second question, eosinophilia does undoubtedly occur in a number of other conditions beside trichiniasis, particularly with the other intestinal parasites, as tapeworm, round worms, and pin worms. But while in a lengthy list of still other affections an increase in eosinophiles has also been found at times, these all vary so widely from the clinical picture of trichiniasis that practically no difficulty is offered in the differential diagnosis.

Finally, the finding of trichinæ in the muscle tissue can never be interpreted to mean anything else but trichiniasis. The failure to find them at one examination, on the other hand, does not negative the diagnosis, for they may not yet have developed in sufficient numbers to be discovered; and a second examination a few days later may reveal them clearly. Their persistent failure to appear in the muscle tissue, on repeated examinations, must be interpreted as positive proof that trichiniasis is not present.

Trichiniasis thus becomes one of the most easily diagnosed of diseases, provided its peculiar features are borne in mind. But it probably occurs more often than it is recognized, because it is not thought of and looked for. Gould, in the article already quoted, calls attention to the fact that governmental inspection of many thousands of hog carcasses has proved that of all the hogs slaughtered for food purposes, approximately 2% are

trichinous. The disease caused by eating this pork must be not infrequent, and probably it will be more frequently recognized as the means of detecting it become more widely known.

In conclusion, I wish to acknowledge my obligation and express my gratitude for assistance rendered in the investigation of this case by Dr. William Ophüls, Professor of Pathology in Cooper Medical College, and by my own assistants in the medical clinic, Dr. Henry Harris and Dr. Edith Hammond, who made the repeated blood counts for me, the examinations of muscle tissue, and in many other ways aided me in obtaining accurate records.

PERFORATED GASTRIC AND DUODENAL ULCERS: WITH A REPORT OF FOUR CASES OPERATED UPON.

BY

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The surgery of gastric ulcer within a few years has grown tremendously and the surgical literature of today is full of its discussion. Probably nowhere else in the field formerly considered exclusively medical has surgery advanced so far or been productive of better results than in the treatment of gastric ulcer. I do not refer of course to perforation of a gastric ulcer, this is a complication which has for years had its only hope in timely surgical intervention, but rather to the cure of the ulcer before perforation takes place or the patient succumbs to a fatal hemorrhage. It is in this direction that gastric surgery has made strides, and so well recognized have the results become that it is now a practically accepted fact that when medical treatment properly carried out has failed to cure a gastric or duodenal ulcer, when this condition is of long standing, or when it is accompanied by repeated hemorrhages uninfluenced by medical treatment, surgical intervention alone may be relied upon to cure the ulcer and prevent a disastrous perforation, or a fatal hemorrhage, to say nothing of pyloric obstruction, hour-glass stomach, perigastric adhesions, gastric cancer, etc. In this communication however it is not my object to deal with this subject as a whole, but to discuss briefly the perforation of gastric and duodenal ulcers and to report 4 cases coming under my care during the past 9 months. The pathology and treatment of gastric and duodenal ulcers are so similar that there can be no objection to dealing with them together.

The active cause of perforation in many cases cannot be learned, but in others it is quite apparent, as shown in one of the cases here presented. Any force, either from without or within the organ, which increases the tension of its walls, will tend to cause perforation, and to illustrate this it is but necessary to refer to the lifting of a heavy weight in one of my cases and to the drinking of a glass of carbonated water in a case recently reported by Wharton and Musser.

The symptoms of perforation will depend upon whether the perforation is acute, subacute or chronic, and upon the situation of the ulcer. Those of acute perforation are the most unmistakable, their suddenness and severity being characteristic. With or without a history of ulcer the sudden onset of pain in the epigastrium with boardlike rigidity of the abdomen and marked tenderness over the upper portion, accompanied by vomiting and prostration, are enough to cause the surgeon to suspect a perforated gastric or duodenal ulcer and to make him urge an immediate opening of the abdomen. In these cases the extravasation is general from the start and will certainly result in death unless promptly treated. Regarding the previous history, it may be of the greatest diagnostic value if it relates to symptoms indicative of ulcer. When it is negative, however, regarding these, it is worth little, since numerous cases of acute perforation are reported in which there have been no previous stomach symptoms. Often the patient will have only complained of dyspepsia, but this in connection with the acute symptoms is of value. He will frequently be able to explain that at the time of the onset of pain he felt as though something gave way in his abdomen. At first, the pain is confined to the upper portion of the abdomen and referred to the back, but later the whole abdomen is affected. Collapse varies greatly, both as to frequency of occurrence and as to degree. The vomiting which may have preceded the perforation is apt not to recur until the peritonitis is well established. If sufficient time is allowed to elapse without interference the patient, of course, develops all the symptoms of general peritonitis with marked abdominal distention. Acute perforation takes place usually in the ulcers situated upon the anterior surface. Posterior ulcers, however, do occasionally perforate acutely, fill the lesser peritoneal cavity, and by way of the foramen of Winslow, ultimately involve the general peritoneal cavity.

The subacute perforations present a set of symptoms less sudden and less severe than those just described. In this variety the opening is small or becomes partially occluded, or else the stomach is comparatively empty at the time of perforation and the resulting extravasation takes place slowly and usually makes its way between the omentum and the abdominal wall to the pelvis and iliac fossas. Both the first and third cases which I report belong to this variety. The patient may present severe symptoms at first, but these abate instead of progressing, as they do in the acute form. The history here and the character of the initial symptoms are of the greatest importance in making a diagnosis and in deciding the treatment. Moynihan states that in the subacute form of perforation there is usually complaint of great discomfort for several days preceding the rupture. Duodenal ulcers are more prone to subacute perforation than are gastric ulcers, the extravasated material passing into the right iliac fossa and producing a set of symptoms closely resembling appendicitis.

The chronic form of perforation is one in which the ulcer perforates so slowly that time is given for adhesions to form, and the result is the production of a perigastric abscess usually of the form known as subphrenic. The ulcers perforating in this way are, as a general rule, situated upon the posterior surface of the stomach and duodenum. The discussion of this form of perforation is not within the scope of this paper, and subsequent remarks will be confined to the acute and subacute forms.

In connection with the diagnosis of perforated, gastric or duodenal ulcer, attention has been called by Moynihan to the fact that with the commencement of menstruation there is occasionally presented a set of symptoms much like those of acute perforation, and so close is the simulation that he has known of 3 cases in which the abdomen was opened and no perforation found. The knowledge of these cases enabled him to avoid a similar mistake in a case of his own. The subacute form of perforation gives rise to symptoms which frequently cause a diagnosis of acute appendicitis. This was true in the case of duodenal perforation here reported, and has been true in a number of cases reported by others. Moynihan states that of 49 cases of perforated duodenal ulcer a diagnosis of appendicitis was made in eighteen. The mistake is natural, unless there is some definite history of gastric trouble and of symptoms indicating perforation. In my own case the rigidity, tenderness, and pain were confined to the lower half of the abdomen, and particularly marked in the right iliac region. As the treatment, however, in both of these conditions consists in immediate operation an error of diagnosis is of little consequence. The making of two incisions even is no drawback, but rather an advantage, as it permits of better cleansing and drainage of the abdominal cavity.

There are a number of other points frequently spoken of in connection with gastric perforation, namely, the leukocyte count and the obliteration of liver dulness, abdominal auscultation, etc., which, it seems to me, are not of great value in this condition.

The treatment of either the acute or subacute perforation should consist in immediate opening of the abdomen, its thorough cleansing, and, in my judgment, equally thorough drainage. The incision should be through the upper portion of the right rectus muscle, and when there is an accumulation in the iliac fossa or in the pelvis a second incision to effect drainage of these regions should be made. The second incision, however, may be dispensed with if the patient is operated upon within a few hours after perforation, if the upper wound is large, and if the pelvic cavity is thoroughly irrigated. The ulcer is usually found with little difficulty, but after it has been located and closed, a thorough search should be made for other ulcers, as it has been shown that in a large number of cases there is a double perforation. Moynihan states that the second ulcer is apt to be on the posterior wall directly opposite to the one on the anterior wall. It is unnecessary to excise the ulcer; it should be turned in by 2 layers of sutures, either catgut or silk. Frequently it will be found difficult to turn in an ulcer because of the infiltration of the surrounding tissues. Under such circumstances a pursestring suture will often accomplish the object. In the case of a duodenal ulcer, where its inversion will interfere largely with the caliber of the bowel, I believe that a single pursestring suture with an omental graft, or gauze packing, or both, should be employed. After the closure of the ulcer the entire peritoneal cavity, and especially the pelvis and both renal pouches, should be thoroughly irrigated with normal salt solution. A number of surgeons, however, prefer in cases in which operation is done early, or in which there has been but slight extravasation of the gastric contents, only to clear away the debris with wet sponges. I must confess that I believe the extensive irrigation with salt solution is a safer and surer plan of procedure. Regarding drainage, it is certainly true that a number of patients have recovered in whom the abdomen had been closed without drainage, but it would seem safer, I think, in all cases to introduce drainage. If the extravasation is great a second suprapubic opening with the establishment of pelvic drainage should also be instituted. Drainage by gauze is much preferable to that by the tube. A careful study of all the recent cases of perforated gastric and duodenal ulcers has convinced me of the advantage of both irrigation and drainage. Of course, there are cases probably of subacute perforation in which neither irrigation nor drainage would be indicated, but these, I think, must be few. Irrigation with normal salt solution not only acts as a cleansing agent, but is also a wonderful stimulant.

It is impossible to leave the subject of treatment without saying a word as to the prevention of perforation, since this catastrophe can be avoided in the large majority of cases by operating for chronic gastric ulcer before complications set in. Gastroenterostomy has become, in the hands of experienced abdominal surgeons, an operation presenting an extremely low mortality rate, and the chronic ulcers which this operation will not cure are indeed extremely rare. It therefore behooves both physicians and surgeons to study stomach cases carefully, and to institute rigid medical treatment, and, if this fails, to resort early to surgical means, bearing in mind the numerous and dangerous sequels which follow an unhealed chronic gastric or duodenal ulcer.

The prognosis depends entirely upon the time which elapses after the perforation before the abdomen is opened and the proper treatment carried out. It also depends upon the size and situation of the ulcer and upon the general condition of the patient. Statistics in this connection are of little value as undoubtedly numbers of patients operated upon die, and the cases are never reported, whereas few successes are not reported. By going carefully over the reported cases during the past 12 months I estimate that the mortality rate for all cases of acute and subacute gastric and duodenal perforations is between 45% and 50%. This percent, however, will fall considerably if the cases operated upon early only are taken. This estimate is made after a consideration only of reports of men who present their failures as well as their successes, isolated reports of recoveries being excluded.

CASE I.—A healthy looking young man of 18 was sent into the Bryn Mawr Hospital by Dr. T. F. Branson, of Rosemont, on January 12, 1903, and was operated upon the following day. The patient had been well, except for some gastric discomfort, until the day of admission, when he was suddenly seized with severe abdominal pain. Dr. Branson at once recognized the case as one of peritonitis demanding surgical interference, and supposed the cause of the trouble to be the appendix; in this I fully concurred. The sudden onset of pain occurred at 5.30 p.m. Dr. Branson saw the patient at 9.30 p.m., and I operated at 9.30 the next morning. When the abdomen was opened considerable flocculent fluid was found, and the pelvis was filled with it. The appendix was long, slightly adherent and considerably inflamed. There was, however, no lymph about it, and it was not in a sufficiently bad condition to have been the cause of the general inflammation. The ileum was examined and found normal. Exploration was then carried up the colon, and the hepatic flexure with the omentum in its neighborhood was found covered with lymph. The incision was extended to the costal border and the duodenum found to be covered with lymph. When a portion of this was removed a perforation into which a duck-shot could have been placed was found in the first portion of the duodenum. The perforation was inverted with difficulty because of the friability of the tissue surrounding it. However, 3 sutures placed deeply inverted it. The cavity was thoroughly irrigated with salt solution. Iodoform gauze was packed about the duodenum and hepatic flexure of the colon. The body of the stomach appeared normal. A gauze drain was then introduced into the pelvic cavity, and the wound closed in layers. The patient was in an extremely bad condition during the latter part of the operation, requiring the administration of oxygen; he, however, recovered promptly, and seemed in good condition a short time after the operation. The wound became infected and necessitated the removal of a number of the sutures. The gauze packing was gradually removed, and the wound ultimately closed. The patient was fed by the rectum for three weeks, receiving nothing by the mouth excepting small quantities of water. An exception to this diet, however, occurred about two weeks after the operation, when he obtained and ate two and a half sticks of peppermint candy. This, however, produced no trouble. He was discharged on February 27, 1903. After the operation it was learned that the patient had had attacks of pain in the abdomen, but never sufficient to require a medical attendant. He suffered from pneumonia one year before operation, had never had typhoid fever, and had never been burned. He has been seen a number of times since his operation, and has been perfectly well; he eats everything and suffers no discomfort.

The interesting points in this case are: The fact that there was nothing in the patient's previous history which could possibly indicate a duodenal ulcer; the attacks of pain which have been spoken of were supposed to have been due to the appendix. He had never had attacks of vomiting, nor had he ever passed blood by the bowel. His pain and rigidity were present to a marked degree over the lower half of the abdomen, but more especially on the right side, and therefore the diagnosis of a perforative appendicitis seemed the most likely one. Another interesting point is the long time which the patient was kept upon rectal feeding. The rectal enemas consisted entirely of malted milk, which I had never used before in this way, and which was suggested to me by Dr. Walter Chrystie, who had found it to be well retained and nonirritative.

CASE II.—A rather emaciated man of about 50 was seen in consultation with Drs. Patrick and Sharpless, of West Chester, Pennsylvania. This patient had for several years been under the care of Dr. Patrick, who had treated him for gastric trouble. On Friday, April 6, 1903, at 3 o'clock, the patient in lifting a buggy, was suddenly seized with excruciating pain in the upper part of the abdomen. Dr. Patrick did not see him until late the same evening, when he was somewhat more comfortable, the result of a hypodermic injection of morphia. Dr. Sharpless saw the patient with Dr. Patrick, and agreed in the diagnosis of perforated gastric ulcer. The patient's family, however, would not consent to his removal to a hospital nor to a surgeon seeing him until the afternoon following the perforation. I saw the patient first at 10 o'clock on Saturday evening, 33 hours

after the perforation had occurred. At this time he presented all the symptoms of general peritonitis; the abdomen was distended, rigid, and tender, particularly over the upper portion; the temperature had risen to about 101°, and the pulse was 130 and weak. The patient was sweating, and his facial expression was that of peritonitis. Two hours were consumed in obtaining consent for the operation from the patient's family and in removing him to the West Chester Hospital, a short distance from his home. The operation was performed at midnight. When the abdomen was opened a large quantity of yellowish fluid escaped with considerable gas. A large perforation was readily found in the anterior wall at the greater curvature near the pylorus. The perforation was sufficient to admit the tip of the little finger. Because of its size the perforation was closed with considerable difficulty with catgut sutures. The stomach and the liver in its neighborhood were covered with thick lymph. After the closure of the perforation, a second opening was made above the pubes and the pelvic cavity found to contain a large amount of fluid. The whole abdominal cavity was thoroughly irrigated with salt solution. In spite of stimulation the patient's condition on the table became extremely bad. Gauze drainage was introduced into the pelvis and down to the site of perforation. Immediately after the operation a quart of salt solution was introduced into the patient's circulation. After the operation consciousness was promptly regained, and he was quite comfortable for several hours. In spite of stimulation, however, he died 11 hours after operation.

This case is a very typical one of acute gastric perforation presenting a typical history and the characteristic symptoms. If operation had been performed when it was first advised it is quite possible that the patient's life might have been saved.

CASE III.—An anemic girl of 17 was sent into the Bryn Mawr Hospital by Dr. George MacLeod on May 1, 1903, and was operated upon the same day 4 hours after admission, about 7 hours after Dr. MacLeod saw her. She was taken ill with pain in the abdomen about 36 hours before admission, but this did not become severe until about 8 hours before admission, when she was greatly collapsed. Upon her admission the abdomen was slightly distended, and there was exquisite tenderness on the left side, and the left rectus muscle was absolutely rigid. It was stated that a mass could be felt in the pelvis by rectal examination. The patient's temperature was 100°, pulse 116. No history of previous gastric symptoms could be elicited; because, however, of the suddenness of the attack and the localized point of tenderness on the left side near the umbilicus, I stated that I thought we had to deal probably with a perforated gastric ulcer. The abdomen was opened below the umbilicus and the pelvis found to contain a quantity of dark yellow fluid containing flakes of lymph. The omentum above this incision was found adherent to the abdominal wall, therefore a second opening was made in a median line above the umbilicus. A perforation was found in the anterior wall near the pylorus and lesser curvature; it was about one-quarter of an inch wide and three-eighths of an inch long, and was closed with difficulty with catgut sutures. The extravasation of fluid had been so extensive in this case that all of the small intestine was removed from the abdominal cavity and a most thorough irrigation with salt solution performed. A plain gauze drain was introduced into the pelvis and several iodoform gauze drains placed in the upper part of the upper wound, one being put directly over the point of perforation. The patient's condition on the table was bad, but she responded promptly to stimulation. The after-treatment was the same as in the first case, and the patient did very well for about 2 weeks, when she showed some symptoms of obstruction of the bowels which were accompanied by a rise in temperature and considerable abdominal pain. These symptoms progressed until it was quite evident that to relieve them the abdomen must again be opened. At this time, the seventeenth day after the first operation, the upper wound had practically healed, but there was still some discharge of pus from the lower wound. The gauze drain at this time did not extend deeply. The patient was anesthetized and the lower wound reopened. The small intestine was found matted together in a number of places, and in one place there was a distinct kink which might readily have produced all the symptoms of obstruction. In addition to this condition it was found that the lower part of the pelvis was filled with foul pus. After liberating the intestine and thoroughly irrigating the pelvic cavity, drainage was introduced and the patient returned to bed. After the operation she improved somewhat, but died from sepsis on the seventh day after the second operation, the twenty-fourth day after the first operation.

This case was one of subacute perforation with the discharge of the gastric contents into the pelvis, and but for the complication which arose two weeks after the operation the patient would have recovered. This complication was the result solely of our failure to reintroduce the pelvic packing sufficiently deep to keep up drainage. This error is one which I believe frequently results in death. It is often difficult to reintroduce the packing as deep as it ought to go, and we are too frequently content to get it simply within the peritoneal cavity. I would have lost a case of gangrenous Meckel's diverticulum from this same cause had I not performed a second operation earlier than I did in this case and reestablished drainage of the pelvis.

CASE IV.—This patient, a man aged 45, was admitted to the Pennsylvania Hospital on October 1, 1903, and was operated upon immediately. He had suffered for 5 years from what was supposed to be a duodenal ulcer; he was under the care of several capable men who carried out a rigid treatment. Previous to his admission he had been in bed for a number of weeks on rectal feeding, but during the past week had been allowed soft diet. He had never vomited blood until recently, but had vomited dark material, and melena had been marked. I saw the patient at 2 p. m. with Dr. Morris J. Lewis. At 6 o'clock on the morning of the day we saw him, after a comfortable night he was suddenly seized with severe pain in the epigastrium accompanied by marked rigidity but no vomiting. Between 7 and 8 o'clock he was given two quarter-grain doses of morphia hypodermically and then brought to the Pennsylvania Hospital from his home in Moorestown, New Jersey. When I first saw him his pulse was 112, respirations 24 and entirely costal, and temperature about normal. Soon after the onset of pain in the early morning his temperature was subnormal. His facial expression was bad, though he was not sweating. The abdominal wall was rigid, especially on the right side, in spite of the morphia which he had received. He was unable to pass his urine though he had no pain in the lower portion of his stomach. There was a point of tenderness in the epigastrium. We very readily agreed that there was a perforation and advised immediate operation. When the abdomen was opened through the right rectus muscle a quantity of yellowish fluid containing small flakes of lymph escaped. The gastrocolic omentum was slightly adherent on the right side; the great omentum however was entirely free excepting over the right kidney, where it apparently had been adherent for a long time. The duodenum was quite free and there was no evidence of ulceration in it. On the anterior wall of the stomach however, about 1½ or 2 inches from the pylorus and just bordering on the lesser curvature, there was an area covered with lymph, which was removed and two points of perforation about the size of a head of a pin discovered. The lesser omentum was extensively adherent around the ulcer. Because of the situation of the ulcer exactly at the lesser curvature it was difficult to close it, and in doing so I was obliged to utilize the lesser omentum, sewing it firmly to the gastric wall beyond the perforation. The abdominal cavity was then irrigated throughout, a small suprapubic opening being made and a glass drainage tube introduced to the depth of the pelvis. A large gauze drain was placed over the point of perforation and the upper wound partially closed. The lower wound was drained by a glass tube, into which was passed a gauze wick. The operation required 30 minutes and the patient stood it very well. He was anesthetized first with ethyl chlorid, which was followed by ether. At the end of the operation his pulse was 120, his temperature a little above normal, and he was in fairly good general condition. It seemed evident from the appearance of the adhesions about the ulcer that an earlier perforation had been prevented by the adherence of omentum and that with the progression of the ulceration the omentum proved an insufficient control. It seemed wise to do a thorough irrigation of the abdominal cavity, because there was considerable free fluid, and I determined to drain the pelvis, because a number of pieces of lymph passed up through the tube during the irrigation.

November 16. The patient has not presented a single bad symptom since operation. He was fed by the rectum entirely for three weeks, being allowed only small amounts of water by the mouth. His diet has been gradually increased, until he is now taking the ordinary soft diet. He is going about in a wheel chair and has improved a great deal in general health.[1] It is thought that he will make a perfectly satisfactory recovery.

THE INFLUENCE OF THE MUNICIPAL MILK SUPPLY UPON THE DEATHS OF YOUNG CHILDREN.[2]

BY

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of Rochester, N. Y.

This paper, as its name implies, is an attempt to show the effect of a careful inspection of both the sources and the distribution of the municipal milk supply, and the effect of 7 summers' educational work, through the establishment of municipal milk stations in charge of trained nurses, upon the deathrate in children under 5 years for the city of Rochester, N. Y.

The deathrate is not figured upon the basis of popula-

[1] Both wounds are entirely healed.

[2] Read at the annual meeting of the New York State Medical Association, at New York, October 19, 1903.

tion; neither are the causes of death under 5 years given for intestinal diseases alone. Every death that has occurred under 5 years from any cause whatsoever has been included in the figures, for it is assumed that milk as food, affects the deathrate of all young children.

The deaths in children under 1 year and those between 1 and 5 years for the city of Rochester, N. Y., between 1891 and 1896, were as follows:

Years.	Deaths under 1 year.	Deaths under 5 years.	Total.
1891	539	240	779
1892	589	374	963
1893	483	279	762
1894	391	241	632
1895	415	170	585
1896	462	192	654
	2,879	1,496	4,375

The deaths in children under 1 year and those between 1 and 5 years, between 1897 and 1902, were as follows:

Years.	Deaths under 1 year.	Deaths bet'en 1 and 5 years.	Total.
1897	316	142	458
1898	354	128	482
1899	305	178	483
1900	333	165	498
1901	288	155	443
1902	291	108	399
	1,887	876	2,763

In the last period of 6 years 992 fewer children died under 1 year, and 620 fewer children died between 1 and 5 years.

The diminution in mortality for the last period over the first period is 65% for children under 1 year; 58% for children between 1 and 5 years.

In the first period from all causes more than 28% of children died under 5 years; in the last period 19.5% of children died under 5 years.

These tables of the deaths in children under 5 years for a period of years, hardly do credit to the boasted civilization of the end of the nineteenth century. The conditions believed to be responsible for this enormous infant mortality are mainly two. First, there is a general unpreparedness for the duties of parenthood. What should be done with the baby? How should it be cared for? How fed? When and how weaned? How given water? How given air? How dressed? How bathed? What about its sleep? Should it be let alone? Should it be amused? And not only how may all these things be done in a general way, but how must each child have its individual wants ministered to during its earliest period of development? These are questions which every mother asks, or ought to ask. Usually an old dame answers them out of the musty legends handed down to her from the time when a necklace of bears' teeth softened the gums, when the souls of unbaptized infants were contained in the pot-de-chambre, and when bedbugs from their clinical association were valuable to lying-in women. At the dawn of the twentieth century we have schools in which to teach all manner of things but the duties of parenthood. Realizing the necessity for reasonably intelligent answers to some of the questions here propounded, a little pamphlet in four languages, elsewhere alluded to in this paper, has been published in which an attempt is made to meet this need. But however well these questions may be answered in the pamphlet, or by nurse or physician, the mother becomes almost powerless in an attempt to rear her child because of the conditions which prevail in the majority of places from which the city's milk is supplied. The child if healthy may be reared in stuffy rooms, overdressed, seldom bathed, dandled and tossed, and may even be overfed to a certain limit, but it can seldom be fed on bad food without falling sick, and in many cases death may result. Milk, the chief, most necessary and most perfect food for children is the dirtiest of all foods. After it becomes dirty, as it usually does from barnyard filth, street dust, etc., no process of filtration, pasteurizing or sterilizing can possibly make it a fit food for infants. These various processes may lessen the danger but they can not wholly remove it. The infant fed upon dirty milk subjected to a heating process is no longer fed upon milk, but upon the chemic constituents of a fluid containing products derived from bacterial life transformed by heat and unfit for its digestive apparatus.

For these reasons milk, for infants at least, should be clean at its source. Adult persons may drink milk well-manured from dirty barnyards and thrive upon it. Such milk when pasteurized may even enable the ordinarily well adult to live without serious illness, but for the baby such pasteurized or sterilized manured products will not do. It must have clean, whole milk, unchanged by heat and containing at the most not more than 100,000 bacteria per cc., and preferably not more than 10,000 bacteria per cc.

In order that at least a majority of milkmen should supply milk having such a standard of cleanliness, the inspection of stables from which a city gets its milk supply must be rigidly carried out; the cattle and the milk utensils must be examined closely, and cleanly requirements enforced; the dairy, milk cans, wagons, etc., must be subjected to the same precautions, and finally, the city milk laboratory must insist upon a bacterial standard of cleanliness in order that the milkman hold his license.

I am aware that the bacterial standard of cleanliness is considered impracticable by some of those engaged in scientific milk work. Observe what has been accomplished in the city of Rochester to aid in securing a cleaner and better milk supply through this means. In 1900 a circular was sent to all of the milkmen supplying milk, informing them that thereafter 100,000 bacteria per cc. would be made a standard for cleanliness in Rochester's milk supply. Some newspaper comment was awakened by this circular, and the Milk Producers' Association held that such a standard was foolish and impracticable; nevertheless, we have attempted to maintain that standard for nearly 4 years, with what success the following figures will show:

Prior to 1900, the average bacterial counts of 86 samples of milk showed 837,000 bacteria per cc., excluding 26% of the samples, which contained over 5,000,000 bacteria per cc.

After the bacterial standard had been made, in 1900, 319 samples averaged 796,000 bacteria per cc., 15% contained under 100,000 bacteria per cc., and 10% over 5,000,000 bacteria per cc.

In 1901, 287 samples averaged 275,000 bacteria per cc., 28% contained under 100,000 bacteria per cc., and 9% over 5,000,000 bacteria per cc.

In 1902, 531 samples averaged 215,000 bacteria per cc., 34% contained under 100,000 bacteria per cc., and 6% over 5,000,000 bacteria per cc.

In 1903, up to September 1, 329 samples averaged 209,000 bacteria per cc., 33% contained under 100,000 bacteria per cc., and 4% over 5,000,000 bacteria per cc.

Turning to the records of the health office it is found that a milk inspector was appointed late in 1891, and that prior to 1891 no milk inspection of any kind was made in the city of Rochester. For lack of facilities the milk inspector, who is a trained chemist, was at first compelled to do the work of analyzing samples of milk in his own house. Between the time of his appointment and the year 1895, because of imperfect facilities, both for the collection and examination of milk, comparatively few samples of milk were examined. Between 1895 and the present time from 3,500 to 5,000 samples of milk have been taken each year. Stable inspections have been frequently made both in the city and in the country.

The conditions of the municipal milk supply prior to 1897 are believed to have been responsible for the large infantile mortality prior to that time. As has been

shown, after 1897, there was better and more frequent milk inspection both of the farms and the dairies. In the summer of 1897, believing that an improved milk supply for little children would diminish the infantile deathrate, the Health Commission was asked to allow an expenditure of $400 to provide milk stations where pure milk ready bottled for nurslings might be sold during the months of July and August. In the first week of July in a vacant store in one of the most populous sections of the city a milk station was established for the sale of pure milk for nurslings. The station was placed under the control of a trained nurse, who, with an assistant, prepared the milk by properly diluting it and making it ready for use in sterile nursing bottles corked with sterile rubber corks, after the general plan of Siebert, of New York. This milk was sold at cost price to mothers who in every instance at first brought their children with them to the milk station. At the station the nurse weighed the baby, and first talked to the mother about the importance of nursing her child; or, if hand fed, of feeding according to weight, and instructed her as to the general care of the child in the absence of any specific directions from a physician. At the stations pillows and beds of excelsior covered with cheese-cloth, and tooth brushes were sold at cost. Little booklets embodying the salient features of infant care and feeding were printed in English, German, Italian, and Hebrew, and distributed free of cost.

Such was the success of the work in the first season that 4 weeks later another station was established in another section of the city. Both stations were run at their greatest capacity until September 1, when they were closed. In July, 1897, but 50 children died under 5 years of age, and but 57 in the month of August. For 6 years prior to this time the deaths in children under 5 years of age had averaged 112 for July and 99 for August. At the close of the year it was found that 200 fewer children had died in 1897 than in 1896. There was a total of 452 deaths in children under 5 years of age for the year 1897. This was 125 fewer deaths in children under 5 years of age than any year of which the Health Department had record.

This experiment in 1897, was given widespread publicity in the local press, more attention was paid to the condition of the milk supply by the people, and more to that part of the milk supply going to little children. Of the decreased mortality, the critics said it was an accident, that the milk had nothing to do with it, and that such diminution could not be maintained.

It is now 6 full years since the summer milk stations were first established. In 1898 they were increased to four in number, two in vacant stores, one in a school house, one in a police station, each controlled by a trained nurse. A central station, at which the milk is prepared, is organized each season on a farm outside the city, where a trained nurse and assistants have full control of the cows, utensils, bottles, etc., and where all of the milk work is carried on in a portable milk laboratory. Everything coming in contact with the milk is thoroughly sterilized in steam sterilizers. The milk itself is not subjected to any pasteurizing or sterilizing process. Sterilizing and pasteurizing are only an open invitation to the milkman to be careless in the production and handling of milk.

At the milk station on the farm the milk is taken from clean, well-fed, tested cattle, into sterile cans, which are carried to the barn in sterile cheese-cloth bags. Just before milking the cows' udders are washed. A sterile cheese-cloth fly cover is placed over the cow, the first portion of the milk being rejected. So soon as the cans are filled they are immediately covered by a layer of cheese-cloth, held in position by a rubber band. The cans of milk thus covered are immediately taken from the barn into the laboratory, about 200 yards away, where the milk is properly diluted, sweetened, and turned off into sterile nursing-bottles of various sizes of the Siebert type. The bottles are corked with sterile rubber corks, placed in racks, covered with cracked ice, and immediately transferred to the city for use. Of the cleanliness of milk prepared in this way, 43 daily samples were found to average not more than 14,000 bacteria per cc., while city milk for the same period approximated 235,000 bacteria per cc.

From the milk farm an average of more than 600 bottles of milk was sent to the 4 city milk stations, and distributed by the nurses to more than 100 families.

This work has now been carried on for 6 successive years. During these years the mortality of infants under 5 years in Rochester has fallen from 28% of the total mortality from all causes, to in the last 6 years 19.8% of the total mortality for all causes. From 1897 to 1902, there were 1,612 fewer deaths in children under 5 years of age than in the period from 1892 to 1896. How well we compare with the mortality in children under 5 years of age in 9 cities in the State of New York with a population above 35,000, is shown by the following table:

PERCENTAGE OF DEATHS UNDER FIVE YEARS TO TOTAL DEATHS.

	1897.	1898.	1899.	1900.	1901.	1902.	Average.
New York	39.5	39.0	36.1	36.1	34.9	36.7	37.0
Brooklyn	38.2	37.2	36.8	36.9	34.2	33.6	36.1
Long I. C.	36.0	36.2	35.6	33.9	31.0	35.3	34.7
Albany	24.3	24.9	25.7	21.9	16.9	15.5	21.5
Yonkers	42.9	34.4	37.6	37.6	32.8	39.3	37.4
Troy	20.5	24.6	24.1	24.0	20.3	22.9	22.7
Utica	27.2	26.1	19.5	27.4	21.5	21.6	23.9
Syracuse	28.0	23.1	21.6	21.9	21.9	22.0	23.1
Buffalo	35.7	34.2	31.1	32.9	30.7	29.5	32 3
Rochester	19.8	21.2	19.5	22.1	18.7	17.7	19.8

The cost of distributing the milk, and what is far better and more important, spreading abroad some knowledge of the care and feeding of infants, has averaged less than $900 per year.

This is an example of what may be done to prevent infants from dying needless deaths from dirty milk. The success of this plan is not dependent so much upon the amount of milk sold at the milk stations as it is upon the educational factor in the work, upon the knowledge imparted to the mothers by the nurses at the stations, and by the work of the press. The success of this plan, too, has largely depended upon the system of milk inspection. Last year more than 4,000 samples of milk were taken from the 300 retail dealers supplying the city. Stable inspections were carried on in all of the surrounding towns supplying the city with milk.

While the educational part of the plan in the milk stations is the part most worthy of attention, it is the correlation of stable and dairy inspection and the maintenance of a bacterial standard of cleanliness for our municipal milk supply that has enabled us to report these results.

INDICATIONS FOR OPERATIONS ON THE GALLBLADDER AND BILE DUCTS.[1]

BY

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Roughly speaking the conditions which demand operations on the gallbladder and bile ducts are: Cholelithiasis or gallstones, cholecystitis and cholangitis, adhesions to surrounding parts, rupture of the gallbladder, and malignant neoplasms, either affecting the bile passages, or pressing on them from without. There are some other pathologic conditions met occasionally, but they need not be considered here. Of these conditions that of gallstones is by far the most common. Kehr

[1] Read before the Baltimore Medical and Surgical Association October 26, 1903.

states that one in every 10 adults has gallstones. He further says, that only 5% of those with gallstones have any suffering therefrom. In all forms of gallbladder and bile duct disease there are certain cardinal symptoms that should at once arrest attention; these are pain, tenderness in the upper part of the abdomen, muscular rigidity, jaundice, fever, and often a tumor. So long as the calculi remain quiescent in the gallbladder there will be little or no pain, but when from any cause infection takes place, setting up an inflammation of this viscus, with, perhaps, a localized peritonitis and adhesions to the surrounding parts, marked pain and tenderness will occur. Infection of the gallbladder causes an exudation of fluid, with consequent distention of the organ, and the colicky pain is due to the effort of the viscus to expel its contents, and not usually to the passage of stones. In some cases, however, the pain is due to the obstruction of the cystic or common ducts, in the effort of the stone or stones to pass through these narrow canals. When the stones are located in the gallbladder only, the pain is referred to the right hypochondrium; when situated in the ductus choledochus, it is felt in the epigastrium. This pain is entirely independent of the time of taking meals, as well as of the nature of the food partaken of. It frequently comes on suddenly at night, when the stomach is empty. These are important differential signs between gallstones and ulcer of the stomach. In ulcer of the stomach the pain is aggravated by eating, and one must be very careful as to the quantity and quality of the food. Many painful conditions of the abdomen are due to undetected gallstones, indeed, Kehr says, "the majority of the pains which are called cramps of the stomach, are gallstone colics." The pain varies in intensity, it may be of slight or moderate severity, or it may be intense and almost beyond endurance. It may remain localized, or radiate into the right shoulder, breast or to neighboring parts. Repeated paroxysms of pain in the upper abdomen without sufficient apparent cause, should always lead to a suspicion of disease of the bile passages. Tenderness in the right hypochondrium and adjacent parts is frequently observed, especially when the liver is compressed between the two hands, one placed posteriorly, and the other over the ribs. This tenderness is usually located in the right hypochondriac or epigastric region, but may extend as far down as the iliac region, and give rise to a suspicion of disease of the appendix. With this tenderness on pressure there will frequently be associated muscular rigidity, usually high up the abdomen, but sometimes extending downward. A distinct tumor is at times felt on the right side, but it may be situated in the middle line, or even on the left side. This tumor may vary from a scarcely distinguishable lump to a large swelling. It may be hard and irregular simulating a malignant growth, but is usually rounded or ovoid, tense, and evidently cystic in character. On one occasion I was consulted by a woman, who had a hard, irregular, and very movable lump in the region of the hepatic flexure of the colon, which I thought was a cancer of the colon or great omentum, but at the operation it proved to be a greatly elongated gallbladder, tightly grasping 6 large stones. Gallbladddder tumors are generally not very movable, but there may be a considerable range of lateral motion. A point in the differential diagnosis between tumors of the gallbladder and other growths is that in tumors of the gallbladder the lump moves with respiration, and cannot be kept from ascending in expiration, even when grasped firmly. This does not hold good in the case of other neoplasms or swellings occurring in the same region. In many cases of gallbladder and common duct disease, no tumor can be detected; in fact, in not a few instances the gallbladder is contracted. The viscus is enlarged and displaced, sometimes from calculi, as has been mentioned, but usually on account of the obstruction of the neck of the bladder, either by a stone or from inflammatory swelling of the mucous membrane, and the retention of the secretions of the muciparous glands. In these cases the contents of the cyst may consist of a clear mucoid fluid, or bile in greater or less admixture, or pus. Contrary to what one might expect, obstruction of the common duct by a concretion does not cause a distention of the gallbladder, but in most cases a shriveling of this organ, while an obstruction by a neoplasm is attended with marked distention of the gallbladder with bile.

Jaundice is a sign of biliary disease upon which great importance has been placed, but which should not be regarded too highly. In most cases of disease limited to the gallbladder there will be no jaundice, but when there is cholecystitis with accompanying cholangitis, there may be jaundice. One should not, therefore, conclude that there is no trouble with the gallbladder because jaundice is absent. When the common duct or the hepatic duct is obstructed by calculi, there is almost always jaundice at some time, but it may be neither constant nor intense. On the other hand, obstruction of the ducts due to a neoplasm is attended by severe and constant icterus. As stated before, marked jaundice with a distended gallbladder is usually indicative of carcinoma involving the gall ducts. The stools may or may not be altered in appearance, and this depends on whether there is or is not an obstruction to the escape of bile into the duodenum. When the cystic duct alone is obstructed, the stools will not be changed in color. An examination of the stools should be made for calculi during or soon after an acute attack of gallstone colic, but even when calculi are found, it is no evidence that the disease has terminated, as there are usually other stones remaining in the gallbladder. Another symptom of considerable significance is the presence of a fever which assumes an intermittent or remittent type, and is frequently mistaken for a malarial infection. The signs of gallbladder disease are then not so much due to the actual presence of the stones as to the inflammation which so frequently accompanies them, and which is due to infection, usually entering at the papilla and traveling up the ducts to the viscus. It is not necessary, however, to have stones in the gallbladder in order to have a cholecystitis, and it not infrequently happens that the typhoid bacillus or other organism gains access to the gallbladder and sets up an acute inflammation therein, sometimes causing a serous exudate, sometimes an empyema or collection of pus, and at times even terminating in gangrene and rupture. The symptoms in such cases will not differ materially from those produced by the presence of calculi, and operations are frequently performed when the gallbladder is inflamed and distended, but quite free from concretions. These cases demand operative treatment such as incision and drainage, and perhaps removal of the diseased gallbladder, equally as much as those in which calculi are present. The complications of cholecystitis are also both important and serious. Adhesions to surrounding parts, such as the stomach and intestines, cause at times great discomfort and distress, and may even result in death if not relieved by a timely operation. Symptoms referable to the stomach and suggesting pyloric obstruction are sometimes due to these adhesions, which by traction on the duodenum may actually prevent the passage of food from the stomach into the bowels. Sometimes the gallbladder becomes so distended and unduly mobile that a kink occurs at its neck, with an exaggeration of the colic and other symptoms. This also can be remedied by an operation. Perhaps the most serious complication of cholecystitis is gangrene, due to the intensity of the infection and the overdistention of the gallbladder. Such a case, if not speedily relieved by an operation, will terminate in death, from sepsis or rupture with peritonitis. Rupture of the cyst either from overdistention or injury is not always fatal, and this will depend upon the presence or absence of pathogenic organisms in the contents poured into the peritoneal cavity. It is a

very serious complication or accident in any event, and I have seen death follow rapidly with symptoms of most intense sepsis. Of course a prompt laparotomy with removal of the exuded bile, pus or calculi, and a careful cleansing of the peritoneum, offers the only hope of a successful issue.

I have mentioned briefly some of the conditions in which operations on the bile tracts are indicated, and have hastily sketched the chief symptoms by means of which these conditions may be recognized. In some cases one may make a positive diagnosis of cholelithiasis or other pathologic entity, but in other cases the symptoms will only indicate that a condition is present, which calls for an exploratory operation.

Malignant disease of the liver, gallbladder and bile ducts falls into a somewhat different category from the foregoing. The symptoms are materially different, and the results of operative treatment are not very encouraging. Cancer of these structures is frequently associated with gallstones and it is probable that the calculi have some etiologic bearing on the development of the malignant growth. A carcinomatous involvement of the bile channels usually comes on insidiously, and jaundice may be the first evidence of any trouble. This jaundice is usually unaccompanied with pain or there may be only a sensation of discomfort. There is at first no tumor or abnormal condition to be found. Fever is generally absent. The icterus becomes more intense and later the distended gallbladder may become palpable. A marked tendency to hemorrhage is present in these cases of severe jaundice, and death sometimes follows even a clean exploratory incision, from uncontrollable bleeding. When the gallbladder is the seat of cancer, it is ordinarily beyond the pale of surgical interference, but when it is not too extensively involved cholecystectomy may be performed, and some encouraging results have been reported in this direction. A small neoplasm of the common duct might in very rare instances be removed, but ordinarily no operative procedure is of any avail except a cholecystenterostomy, or the formation of an artificial fistula between the gallbladder and some contiguous portion of the intestinal tract, by means of which bile escapes into the bowels, the jaundice disappears and the patient is made more comfortable for a time.

The object of this paper is to call attention anew to the frequency of lesions of the bile passages and the serious effects resulting from their neglect. I do not wish to be enrolled among those who would resort to laparotomy at the onset of every attack of pain in the right upper quadrant of the abdomen, but I do insist that repeated paroxysms of pain, persistent or recurring jaundice and continued tenderness and distress are signs of serious import and should not be allowed to continue indefinitely. The difficulty and danger of operation increase in proportion to the length of time the affection has been in existence, and when after a fair trial of internal treatment good results are not apparent, operative measures should be resorted to without further delay.

THE RECENT EPIDEMIC OF SMALLPOX IN CALIFORNIA.

BY

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The recent epidemic, which is still active here and there in the western States, and which has been very extensive in the East, has been so unusual in the mildness of its attacks upon those considered most susceptible to it, has so seldom killed or even deeply marked those of its victims who have been unprotected by vaccination, and has acted so unusually in apparently successfully vaccinated persons, that everywhere grave doubts have arisen as to its identity.

The disease begins suddenly with a rigor, or at least with chilliness, primary fever ranging from 101° to 105°, headache, dizziness, anorexia, nausea, vomiting, and the general symptoms of grip, and during the first days this is the diagnosis generally made. In from 48 to 96 hours maculas appear, usually about the roots of the hair, on the forehead, cheeks, at the corners of the mouth, in front of the ears, backs of the wrists, or backs of the hands. In from 24 to 36 hours the eruption extends to the remainder of the body. These maculas change so rapidly to the typical papule that they are usually not seen except in the papular stage. With the appearance of the papule there is some relief from the general constitutional symptoms. The papules change into vesicles somewhat earlier than usual; frequently on the second or third day distinct vesicles are seen. These vesicles are of a dull pearly color, their covering is thick and resistant, giving them a translucent, but not a transparent appearance. Umbilication is seen in some of the lesions, but not in all. With the appearance of the vesicles complete relief from all of the constitutional symptoms is experienced, and the patient feels well enough to be about.

All papules do not form vesicles, some undergo resolution as it were, and many of the vesicles instead of going on to completion become stationary and undergo desiccation while no larger than pinheads. Thus we have papules originally with the typical shotty feel and beginning vesicles, remaining stationary, giving the casual observer the impression that the eruption is developing in distinct crops, whereas in reality the crop is all one, but part of it is undergoing retrograde change. This condition is seen in a large number of cases, and is commented upon by Fox, of New York, as being typical of modified smallpox. Frequently so early as the fourth or fifth day the vesicles change into papules. During the period of pustulation it is not uncommon to find the mucous membranes more or less generally involved, occasionally the eyelids, lips, nose, and tongue swell to a considerable degree. In severe cases the voice is husky, the breathing somewhat difficult and deglutition almost impossible. Just as the primary eruption comes earlier upon the face than upon the trunk and extremities, so that part of the eruption which goes on to vesication and pustulation also appears a day or two later, so that while pustules may be seen upon the face, vesicles are still to be seen upon the body.

In a small percentage of cases the appearance of pustules is accompanied by a secondary rise of temperature, in some cases so slight that unless a morning and evening record is made the change will not be noticed; but in a few cases it is markedly severe, reaching even to 105°. The pustules are also accompanied in a large number of cases by severe itching. The pustules rapidly go on to desiccation, but in those cases not accompanied by a secondary fever the patients resist any attempt to keep them in quarantine or control. The period of desiccation varies from 5 to 20 days, taking longer upon the palms and soles, owing to the thicker integument.

When desiccation occurs, and the thin crusts have fallen off, the solid part of the pock remains for a long time, giving the appearance of warty excrescences on the skin, and this is one of the points adverted to by those who consider the disease is not smallpox; although William Welch, of Philadelphia, comments on it as noted in the large number of cases seen by him in the Municipal Hospital of Philadelphia. Many purple spots are also left after the crusts have fallen off, and these give the patient a peculiar spotted appearance. This, however, wears away in a few months, leaving the dead white of the pit prominently noticeable. In a few cases the pitting is very marked.

DIFFERENTIAL DIAGNOSIS FROM VARICELLA.

1. *Prodromal symptoms* occur 2 or 3 days before the outbreak of the variolous eruption. In the very mild

cases, however, these are very slight, and occasionally absent. In varicella the symptoms and eruption are practically synchronous.

2. *Constitutional symptoms* are usually more severe in smallpox, but in the extremely mild cases these offer no guide.

3. *Distribution of Eruption.*—In smallpox it is, as a rule, most profuse upon the face, arms, hands, and legs. In chickenpox the greater part of the eruption appears on the trunk and covered areas.

4. *Character of Lesions.*—In smallpox there are maculas, shotty papules, vesicles, pustules. Vesicles often show umbilication and, as a rule, are uniform in size, except those before mentioned which abort before perfect evolution. Many, but by no means all, are multilocular, and all are resistant and not easily ruptured with the finger-nail. They do not appear in crops, but pursue a steady course, the eruption upon the body being later than upon the face and hands.

In chickenpox there appear velvety dewdrop vesicles, always unilocular, thin walled, easily ruptured, varying in size, and appearing in rapidly successive crops. Duration of eruption is much shorter than in smallpox.

Having seen some of these cases in my private work and in company with my colleague, Dr. Clark of the Alameda County Hospital, it occurred to me to investigate the characteristics of this disease as it appears in this State and elsewhere. Accordingly, nearly 200 letters were sent out to various points where the disease was or had been prevalent, asking for data and for descriptions of the disease from incipiency to complete convalescence. A very general response was elicited, and I am under considerable obligation to the medical men throughout the country for their care in reporting progress of epidemics and in giving clinical evidence in support of the conclusions which their experience forces them to form. The number of cases reported is something over 8,000. Records sufficient for giving accurate data were not kept in a number of cases; but in probably one-half of the number approximately correct reports are given. These reports give initial rigors or marked chilliness in 78%, lumbar pain in 79%, pustulation 94%, involvement of mucous membrane 78%, palms and soles 88%, severe pitting 9%, deathrate less than 5%; second attacks reported in 14 cases. The disease as described everywhere tallies with that with which we have been brought in contact in Alameda county, with the exception of Woonsocket, R. I., where the disease presented characteristics more nearly approaching a severer type of variola, as evidenced by the deathrate of 12.5%.

There seems to be small doubt that the appearance of the disease in the United States in its present form dates from the return of our soldiers from our new island possessions; equally doubtless is the fact that its extreme prevalence is due to its having been regarded as a mild disease, somewhat annoying to be sure, but devoid of danger, and hence not demanding quarantine. In the discussion as to the identity of the disease, the basis for refusing to accept a diagnosis of smallpox seems to rest upon the following grounds:

1. Mildness of attacks among those unvaccinated, and especially among those recognized as being markedly susceptible to the disease, coupled with severe attacks in those recently apparently successfully vaccinated.

2. The fact that in a series of 500 cases 4 out of 6 responded to successful vaccination after convalescence from the disease. (Thompson, San Bernardino.)

3. Rapidity of evolution of the disease.

4. Absence of typical pustule.

5. Absence of secondary fever.

6. Absence of pitting and absence of history of the usual sequels of smallpox.

7. Absence of appreciable deathrate.

The basis for claims as to the propriety of calling this disease smallpox rests, in the records which I have been able to accumulate, upon the following facts: From the various parts of the country, reports have come, in giving details of extensive mild attacks characterized by none of the manifestations of severe smallpox, with but few exceptions. In nearly every community in which the disease has made itself felt we have records of the occurrence of some severe cases, and even of death from the disease.

The following report was received by me from William Osler of Johns Hopkins Hospital with reference to the disease there:

"We have had very little smallpox here owing to the vigorous action of our State Board of Health, but the epidemic throughout the country has been characterized by singular mildness; in many cases it has not differed specially from chickenpox. We had an interesting local epidemic in the hospital among the colored patients, in which the first case was mistaken for chickenpox, and it was not until 2 or 3 more severe cases occurred that the nature of the disease was manifest. There is no question, however, that this is true smallpox, and oddly enough, these very mild epidemics have been described at intervals since the time of Sydenham, and even in the pre-Jennerian days there were outbreaks in which the mortality was almost nil."

Cody, the health officer of New Bedford, Mass., gives an account of some 250 cases in which the attacks, while generally mild and of the same type as that which has been met in the west, resulted in a deathrate of 1%; but severe pitting, and in fact, severe manifestations of the disease, were present in a considerable number of cases. One of the deaths was of a premature infant at 7 months, whose mother developed the disease 6 days before the birth of the child, the child having rash and papules.

Morse, of the State Board of Health of Massachusetts, sends a report of 394 cases in unvaccinated French Canadians, with marked pustulation and considerable involvement of the mucous membranes, but with no mortality.

Munroe, of Woonsocket, R. I., sends a report of 370 cases among French Canadians, the identity of the disease being doubted in the beginning, but eventually made by competent experts, five in number, including one from Montreal. The disease ran a somewhat typical course, the first 100 cases with, I believe, no mortality, the last 200 cases presenting a deathrate of one in eight.

Dr. McDonald, of Randsburg, sends a report of about 200 cases characterized mostly by extreme mildness, and every one typical of the disease as met throughout the country. He was in a position to study his cases somewhat more closely, because of the fact that he dealt with most of them in a hospital; and he reports that in nearly all cases careful daily tests showed the presence of slight secondary fever. No cases presented in any patient recently successfully vaccinated or having a good vaccination scar of less than 15 years' duration. He reports 2 cases of the eruption appearing in the posterior chamber of the eye, and the single death that he records is of considerable interest. The patient was a woman, whose husband came to Randsburg, a distance of 80 miles, peddling, and surreptitiously visited the homes of some of the quarantined patients and then returned to his own home. In due time he developed the disease in an exceedingly mild, discrete form; after the lapse of about 2 weeks his wife contracted the disease and died of confluent variola. The woman was a squaw and had never been vaccinated. He reports another case in which the patient, after convalescence from one attack, immediately developed a second one and passed through another typical siege of the disease.

Dr. Tebbe, of Montague, Siskiyou county, reports the occurrence of the disease in a number of cases attacking mildly 2 members of a family and very severely 1 or 2 other members of the family at the same time, and in the severe cases running a typical course, ending by desquamation in the usual time and leaving marked pits. He reports one case presenting typical primary rash.

Wright, of San Jose, reports a series of cases in 50 patients, 49 of whom were unvaccinated, 15 presenting severe manifestations, and 5 being markedly pitted; 2 mild cases followed by paraplegia; 1 of his severe cases presenting a pustule on the cornea, and 1 of the severe cases presenting miscarriage.

Dr. Jump, of Fruitvale, reports a series of cases at the Tesla Coal Mine traceable to the epidemic in Roslyn, which has been reported by Drs. Porter, Simonton, and Sloan. In the epidemic at Roslyn, in Washington, we have a record of 1,500 cases among miners, consisting chiefly of negroes, Poles, etc., people who have never been vaccinated, and during this epidemic there was no death due to the disease. However, at the Tesla Coal Mine, in Alameda county, we have a record of a case of smallpox developing in a negress who had left Roslyn 8 days prior to the beginning of her illness. The eruption was marked, confluent upon the face, typical, in fact, of smallpox, even to the marked secondary fever and to very extensive pitting. Two other patients in this district were markedly pitted.

In my own work, after having seen a considerable number of cases presenting those types which have become familiar to all of us, and which at first seemed to

be chickenpox, I was called to see a woman suffering from all of the premonitory symptoms of the disease in severe form. The eruption was typical of the description accorded to the disease in question; but upon the appearance of the pustules on the fifth or sixth day, marked secondary fever made its appearance; but this the health officer attributed to cold. The mucous membranes were extensively involved, even to the conjunctivas, the patient being unable to open the eyes, and breathing with difficulty. The case went on to convalescence, and 3 months following the illness, upon her face nearly a hundred wellmarked pits are in evidence. Three other cases in the same family at the same time presented the usual extremely mild type of the disease; the patients were not pitted; all were unvaccinated.

In another case, a family of 4 children about 6 months ago were taken with an absolutely typical varicella, which cleared up in the course of a few days. Owing to the smallpox scare these children were all vaccinated, the vaccination taking in 2 and failing in 2. Within the past month I have been called to attend these 2 unvaccinated children, suffering from an absolutely typical illustration of this modified smallpox.

Some months ago, a neighborhood here was invaded by the disease, which has been gradually claiming many victims and marking some of them with pits. I recently confined a woman suffering from the disease and the baby presented the typical desquamating lesions, which have left pits in several places upon the face, side of nose, and in front of the ear, as well as upon the body. The lesions bore such close resemblance to those of the mother that the nurse exclaimed upon cleansing the little one, "Why, the baby has smallpox too."

These cases do not, of course, prove anything in the way that a proper bacteriologic test will some time do; but these, and many others, of which time prevents discussion, go to show what is to be expected—that from the mild type of the disease eruptions typical of mild variola appear, proceed to complete development, and leave to their victims a legacy of pits to bear lasting testimony of their visitation.

The final word has not been said in the matter of diagnosis of the disease; something yet remains to be explained as to its contradictory manifestations in some vaccinated and unvaccinated persons. When another advance has been made into the field of bacteriology, which will identify the organisms at work in the various forms of variola and varicella, then the proof of the identity of the one or the other will rest upon solid ground and will be removed from the realm of speculation.

Barred under Pure Food Law.—Since the Pure Food act of March 3, 1903, went into operation 9 importations of food products into the United States have been rejected and refused entry. These include 3 invoices of olive oil and 1 of wine from France, a consignment of Frankfurter sausage at New York, shipments of olive oil at Boston and Philadelphia, Sauterne wine at Baltimore, and coloring matter at San Francisco.

A new naval camp for the treatment of tuberculosis will be ready for occupancy at Pensacola, Fla., in the near future. So far only one patient has applied for admission. Several prominent physicians have recommended Pensacola as a resort for the tuberculous and Surgeon-General Rixey decided to make the test. This class of patients in the navy is at present sent to the Army General Hospital at Fort Bayard, N. M. At the new camp, the open-air and forced food treatment will be instituted; patients will live in tents day and night and will not be allowed to go into the hospital or other buildings on the reservation.

To Restrict Spitting.—A committee, appointed by the Washington County Medical Society of Maryland, has petitioned the mayor and council of Hagerstown, Md., to placard the street corners, public buildings, street cars, and other places frequented by the public, with notices requesting the people not to spit on the sidewalks and floors. The passage of an ordinance imposing fines for spitting will not be recommended at present, but it is hoped that the placards will educate the people to expect the passage of an ordinance later. The matter has been referred to the city sanitary board, which is expected to take the action requested by the medical society.

THE WORLD'S LATEST LITERATURE

Journal of the American Medical Association.

December 12, 1903. [Vol. XLI, No. 24.]

1. The Trend of Gynecologic Work Today: Chairman's Address Before the Section on Obstetrics and Diseases of Women. A. PALMER DUDLEY.
2. Cooperative Work in Registration Methods and Vital Statistics. W. A. KING.
3. The Limitations in the Use of Aconite and Veratrum Viride. WARREN B. HILL.
4. Nontuberculous Hemorrhages of the Air Passages. LAFAYETTE PAGE.
5. General Surgical Anesthesia. ERNEST J. MELLISH (Concluded.)
6. Two Cases of Paratyphoid Infection: One Caused by an Aberrant Organism. G. BERTRAND SMITH.

1.—See *American Medicine*, Vol. V, No. 20, p. 774.

2.—See *American Medicine*, Vol. V, No. 20, p. 776.

3.—See *American Medicine*, Vol. V, No. 20, p. 781.

4.—Nontuberculous Hemorrhages of the Air Passages.—L. Page notes the close reflex relationship between the upper respiratory tract and the pelvic organs. The rapid development of the larynx at puberty is attended by marked hyperemia and the nose is prone to hemorrhage. By cocainizing the genital areas of Fleiss on the turbinates the pains of menstruation can be relieved and those of labor reduced to a minimum, and cauterizing permanently cures many cases of dysmenorrhea. Nasal hemorrhage may occur from arrest of hemorrhoidal bleeding, from the cure of skin diseases, from pressure on the abdominal veins during pregnancy and from all diseases which obstruct the return flow of blood. In the elderly, hemorrhage from the air passages points to incipient arteriosclerosis. Congestion of the cerebrum and meninges is liable to produce epistaxis. Five cases of tracheal hemorrhage following influenza are reported. The cause of hemorrhage in the epidemic fevers is still obscure. Hemophilia is the principal predisposing cause of hemorrhage. Among local causes of epistaxis deflections of the septum should occupy first place. That from neoplasms is often the most difficult to control. Many cases of cerebral apoplexy are doubtless averted by nasal hemorrhage. It sometimes relieves congestive headache. Fatal hemorrhages of the upper respiratory tract are reported in children under a month old from syphilis. Every mechanical means should be exhausted in determining the bleeding point. Cocain and suprarenal extract are invaluable in checking the flow and diminishing the reflexes, thus aiding in diagnosis. Keane believes every nose and throat surgeon should be prepared to ligate the external carotid in case of violent hemorrhage following the removal of the tonsils or adenoids. [H.M.]

5.—General Surgical Anesthesia.—E. J. Mellish describes the physiologic action of ether, chloroform, nitrous oxid, ethyl chlorid, ethyl bromid, and pental, and of their comparative value and safety singly, in certain combinations, and in succession, together with the best methods of administering. Safety depends on choosing the one best for the case in hand, on the best technic of preparation of the patient and general management. As a rule better work can be done under general than under regional anesthesia, and postoperative complications are less likely to occur. Both ether and chloroform reduce hemoglobin. When the percentage is below 40 an anesthetic should not be given when it can be avoided. Chloroform tends to cause fatty degeneration. Ether exerts its bad effects primarily on the respiratory, chloroform on the circulatory system. Nitrous oxid is satisfactory only in skilled hands. Ethyl bromid and chlorid are convenient for short operations. Strychnin should precede chloroform administration, and morphin and atropin etherization. Oxygen and posture are the best resuscitants. Compression of the phrenic nerve will control retching during operation, and gastric lavage after it. Anesthetic mixtures are generally less safe than "straight goods." Morphin-ether-chloroform anesthesia is valuable in face operations. Successions should be avoided, as a rule, excepting nitrous oxid ether. Hypnotism should be employed only exceptionally, if at all. Rectal etherization is too dangerous for routine use. The weight of evidence is overwhelmingly in favor of ether. The specialist in anesthesia is a neces-

sity of the times. The subject should be taught in medical colleges as a special branch, [H.M.]

6.—Paratyphoid Infection.—G. B. Smith reports these cases on account of the interest of the bacteriologic findings. The bacillus of the first case, while conforming to the general tests for paratyphoid bacilli, seems to occupy rather an independent position. It develops a strongly acid reaction in litmus milk, which does not, however, cause a coagulation of the casein, and which changes to the typical alkaline state, although very slowly. No reduction in the color of the neutral red agar occurs, which would seem to point toward a relationship with the typhoid bacillus. The absence of fermentation, except in the glucose media, shows a particularly wide departure from the common type of paratyphoid organism studied by Buxton. The bacillus of the second case possessed the general characteristics of the paracolons and from its growth in litmus milk and neutral red agar, together with the fermentation and agglutination tests, possesses a close relationship to Buxton's form. [H.M.]

Boston Medical and Surgical Journal.

December 10, 1903. [Vol. CXLIX, No. 24.]

1. General Peritonitis Complicating Scarlet Fever. JOHN H. MCCOLLOM and JOHN BAPST BLAKE.
2. Was He Insane? A Study in Mental Diagnosis. C. A DREW.
3. A New Method of Closing the Abdomen after Laparotomy. FRANK A. HIGGINS.
4. Albuminuric Retinitis. ALLEN GREENWOOD.
5. As to Pope's Leo's Case: Pleuropneumonia. SAMUEL DELANO.

1.—General Peritonitis Complicating Scarlet Fever.—McCollom and Blake state that in 2 instances out of 8,000 cases of scarlet fever peritonitis actually occurred. Report is given of the 2 cases, 1 of which terminated fatally; in neither case was there cause for anxiety until the occurrence of the abdominal symptoms. They hold that it is not reasonable to suppose that scarlet fever *per se* was the cause of the condition, but that it was due to streptococcus infection. It is well known that the difference in the severity of the attacks of scarlet fever is not due to the poison of the latter disease, but to streptococcus infection. A careful study of the literature on the subject of scarlet fever, by various authors, shows that exceedingly few cases of general peritonitis complicating this disease have been reported. In the way of treatment, they hold that if the symptoms are slight, palliative measures alone should be instituted, such as enemas, turpentine stupes, rectal feeding, etc. Should, however, the pulse steadily rise, pain, tenderness and spasm increase, the indication for drainage is imperative. The condition of the kidneys is the most definite obstacle, therefore a local anesthetic should be used if laparotomy is to be performed. When this is done thorough irrigation with salt solution should be done, drainage instituted and the proper stimulants given. [A.B.C.]

3.—A New Method of Closing the Abdomen after Laparotomy.—Frank A. Higgins discusses at some length the various methods which have been employed to close abdominal wounds. They all resolve themselves into 2 forms, or a combination of these two. These are: (1) The suturing of the several layers of the parietes separately; (2) mass sutures, or through-and-through sutures, which close the wound by passing entirely through the layers of the parietes; (3) a combination of these two. That none of these have proved universally satisfactory is evidenced by the numerous modifications, and the differences of opinion concerning these methods. The author has tried a number of modifications of the combined method. In brief, the writer's method consists in passing through-and-through sutures, which he terms mass sutures, or silkwormgut through the entire parietes, each end being threaded into a needle and passed from within outward. One of these is passed at each extremity of the wound and so many as are necessary in the intervening space; the ends are grasped by forceps; the peritoneum is then closed with a running suture of fine unchromicized catgut and the fascia by a like suture of chromicized gut, then the skin is closed by a subcuticular suture of silkwormgut; a thin metal plate, which is longer than the wound and some ½ in. in width, is laid directly over the wound, a thin layer of aseptic gauze intervening; the mass sutures are now tied over this metal plate. This prevents cutting through the skin by these sutures. Gauze is placed under the plate at either end to prevent irritation and the dressing is applied for 5 days, when the mass sutures are cut and not removed until the following day. Instead of a metal plate, he has later used celluloid with equally good results. The valuable point in connection with this method is that it secures the benefit of the mass sutures in obliterating all dead space without the ill effects in cutting through the skin. [A.B.C.]

4.—Albuminuric Retinitis.—A. Greenwood believes that many of the socalled forms of retinitis are merely stages in this inflammatory and degenerative disease. In every case of retinitis or neuritis, the urine should be examined. The vascular changes are sometimes due to a general arterial degeneration of which the interstitial nephritis is only a part, and sometimes to a slow uremic poisoning. The prognosis as to length of life is less favorable in the latter condition. Greenwood gives the statistics of his own cases and than of other writers. Life is but rarely prolonged more than 3 years. Those in the better classes live longest as the result of care. [H.M.]

5.—Pope Leo's Case.—S. Delano takes exception to the diagnosis of pneumonia. The pathologic diagnosis was made to rest upon the statement that "from the cut surface an abundant dirty white fluid without gas oozed out, showing complete hepatization." As a matter of fact, nothing could be much drier than the cut surface of gray hepatized lung. The description fits no stage of pneumonia, but comes much closer to an edema in a compressed lung. The paramount reason for taking exception to the diagnosis, however, is that pleuritic effusion in sufficient quantity to aspirate is next to never associated with fibrinous pneumonia. There may be a teacupful, but this is no more than agony or gravity would account for. The impression that many pneumonias end in simple effusion or empyema comes from a confusion of physical signs. Commencing effusion is characterized by a bronchial or sniffling respiration and voice sounds that easily pass for those of a solidified lung. If the chest fills up we may have a blowing respiration over the whole chest, the sound being fuller and more amphoric than in small amounts. These cases are defective like the Pope's in the rational signs of pneumonia. [H.M.]

Medical Record.

December 12, 1903. [Vol. 64, No. 24.]

1. The Function of Maternal Milk in Developing the Stomach; a Factor Hitherto Overlooked in Artificial Infant Feeding. HENRY DWIGHT CHAPIN.
2. Cyclic Albuminuria. ARTHUR M. ELLIOTT.
3. Muscle Tonus and Tendon Phenomena. JOSEPH FRAENKEL and JOSEPH COLLINS.
4. A Rare Case of Patent Diverticulum Ilei. AUGUST ADRIAN STRASSER.
5. The Treatment of Cancer by Caustic Paste. CHARLES WARRENNE ALLEN.

1.—Function of Maternal Milk in Developing the Stomach.—H. D. Chapin believes that young animals need milk because it supplies forms of proteid that have special and peculiar functions that other forms have not. The writer presents a brief study in comparative zoology illustrating the progressive development of the digestive tract and showing the profound changes which take place during the suckling period. Colostrum is particularly fitted for starting up the intestinal digestive process. It cleanses the alimentary tract and does not form curds. During this period there is little secretion in the stomach. As soon as milk appears there is abundance of rennet which changes the milk into a soft curd. Pepsin will not attack this soft curd which is digested in the intestine, the motor function of the stomach being thus developed. As soon as acid is secreted it combines with the curd to form a compound readily attacked by pepsin. This is denser tougher than rennet curds and unfit for intestinal digestion. Mother's milk and the secretions of the infant's gastrointestinal tract automatically adapt themselves to each other. If mother's milk changed according to the age of the child it would never agree with a puny backward infant; and if milk did not turn into a solid, the stomach would not be prepared for solid food at weaning, for there would be nothing to properly

develop the motor and glandular functions. Milk from different species forms different kinds of curds under the action of the same rennet and acid, showing that different milks are not the same from a functional standpoint no matter how nearly alike they may be in chemic composition. [H.M.]

2.—See *American Medicine*, Vol. VI, No. 17, p. 656.

3.—**Muscle Tonus and Tendon Phenomena.**—J. Fraenkel and J. Collins present a study of tonus in nervous diseases, and reach the following conclusions: Disease of the posterior columns causes hypotonia and decrease of reflexes. When these conditions are present, the tendon phenomena are absent or diminished, unless additional disease of the descending tracts counterbalance this influence (return of knee-jerks in tabes after hemiplegic attacks). Disease of the pyramidal tracts causes hypertonia and increase of reflexes. The tendon-jerks under such conditions are increased unless additional disease of the ascending tracts, anterior horns, or peripheral neurons neutralizes this influence. Histologic hypertonia and hypotonia modify the above stated relations to a slight degree when the disease has not advanced to its full clinical representation. They find in their lists a large group of more or less normotonic registrations with approximately normal behavior of the tendon-reflex. They find a smaller group with more or less marked hypotonic registrations. In this group the tendon phenomena are mostly diminished. This diminution is evidenced by the fact that the tendon-jerks are not easily elicited, that the muscular contraction is sluggish and vermicular, and is easily exhausted. The above mentioned behavior of the tendon phenomena is not influenced by a well-executed reinforcement. [H.M.]

4.—**Rare Case of Patent Diverticulum.**—A. A. Strasser reports the case. A child was born, and while the normally implanted cord was being tied, there was seen in its inferior aspect, at its junction with the umbilical ring, a triangular slit about 2 cm. long, through which protruded a dark purplish-red tumor the size of a cherry; in the summit of this there was an opening, from which issued meconium. This, in 24 hours, after the bowels had moved normally, changed to the ordinary yellow feces. In spite of scrupulous care, and after healing had apparently taken place, there was recurrence a month later with a fetal discharge. In a careful study of the literature he has been able to add to the 39 cases reported by Morian, and the 4 cases reported by Hibbard, 21 more cases, including his own. Discussion of the embryologic phase is given. The anomaly is the remnant of the vitellin duct, which, in early embryonic life connected the yolk sac with the alimentary tract of the fetus. Such malformations are classified by Riesman as follows: (1) Persistence of the proximal portion of the duct—Meckel's diverticulum; (2) persistence of the entire duct as a patulous canal; (3) persistence of the distal part of the duct connecting with the navel; (4) persistence of the middle of the duct; (5) persistence of the omphalomesenteric vessels. Strasser's conclusions are: (1) The condition is one of great rarity; (2) males are more frequently afflicted; (3) careful attention should be paid to any granulations at the navel, before and after the dropping of the cord; (4) it will be wise at all times to remember the possibility of an included bowel and tie the cord at least 2 inches from the umbilical ring; (5) a radical operation is safest, to do away with the possibility of intestinal obstruction through diverticulums later in life. [A.B.C.]

5.—**Treatment of Cancer by Caustic Paste.**—Charles Warrenne Allen's article is in defense of his custom of using certain caustic agents in combating epithelioma in selected cases. His remarks are called forth by certain sweeping criticisms which a medical authority had made against this method of treatment, claiming it has been discarded by almost all excepting charlatans. Allen claims he has received equally good results in treating properly selected cases by this method as with the use of Finsen or the Röntgen rays. He mixes the arsenic paste with orthoform, which prevents the pain without lessening the effect of the arsenic. In defense of his own position, he refers to Gottheil's review of dermatology and syphilis in which he quotes Allen as follows: "Allen's conclusions represent the position that seems rational, and as they summarize our present knowlenge upon the subject, I repeat them: 1. Cutaneous cancer is traceable in almost all cases to preceding local irritation. 2. There may be other causes, but infection is probably a source of the disease. 3. Benign epitheliomatous proliferation may be infectious. 4. Cancer is curable, but if the disease is allowed to progress, the patient may not be. 5. Only the most radical treatment is to be tolerated. 6. Caustic paste, with subsequent caustic dressing, is radical, and is often preferable to the knife. 7. The earlier cancer is treated, the less likelihood is there of relapses or metastases. 8. The Röntgen ray bids fair to be as effective as caustics." [A.B.C.]

New York Medical Journal.

December 5, 1903. [Vol. LXXVIII, No. 23.]

1. Report of a Case of Carcinoma of the Breast, Treated by Massive Mercuric Cataphoresis. G. BETTON MASSEY.
2. Twists in Normal and in Congenitally Dislocated Femora. ROBERT SOUTTER and E. H. BRADFORD.
3. Tuberculous Infection of the Peritoneum and Annexa. ANDREW STEWART LOBINGIER
4. Dry Hot Air in the Treatment of Bright's Disease. CLARENCE EDWARD SKINNER.
5. The Treatment of Acute and Subacute Anterior Gonorrhœa by Retrograde Injections of Stronger Solutions of Silver. HERMANN G. KLOTZ. (Continued.)
6. A Visit to Naha Hospital, Loo Choo Islands. J. A. GUTHRIE.

1.—**Carcinoma Treated by Massive Mercuric Cataphoresis.**—The case reported by G. B. Massey is that of a woman of 57. The carcinoma was situated in the outer half of the right breast; it was movable and was about 2¼ inches in diameter. The skin overlying was ulcerated and there was an enlarged gland in the axilla. A large negative pad was placed in moist contact with the entire back, and, under general anesthesia, the active electrodes of zinc coated with mercury were inserted, one at a time, into the growth near its periphery, connected with the positive pole of an apparatus with a pressure of 160 volts, direct current, and a current of about 200 milliamperes to each electrode, was gradually turned on. The area to be destroyed made it advisable to employ from 3 points to 4 points simultaneously, the total current in circuit being raised to 720 milliamperes at the expiration of about 20 minutes. One of the points was placed in the middle of the axillary gland and kept in this situation during the greater portion of the operation. At the expiration of 1½ hours the whole growth, the diseased gland, and the intervening tissues had been necrosed bloodlessly and a considerable zone surrounding the necrosed area rendered sterile, so far as outlying carcinoma cells were concerned. At the end of 6 weeks the slough came away, leaving a clear, granulating wound, which healed readily. A series of photographs are given, showing the appearance before operation, during the healing, and the scar a year later. The patient is in better health than for a number of years. [C.A.O.]

2.—**Twists in normal and in congenitally dislocated femora** are dicussed by Robert Soutter and E. H. Bradford. The apparatus employed and the manner of using it is given in full with a list of the torsion of 154 femora. Of normal bones the variation in the list is from + 40° to — 9°. [C.A.O.]

3.—**Tuberculous infection of the peritoneum and annexa** has been reviewed by A. S. Lobingier. He believes that many operators have been unfortunate in the selection of cases which may be properly termed operable, and also in the brief time which they have allowed to elapse before reporting their patients cured. Five years would seem to be a fair limit of time before claiming a cure. It is generally accepted that the ulcerative caseous type of involvement is not favorable, and as a rule should be let alone. Perhaps the same may be said of the extreme types of chronic adhesive, in which the peritoneal cavity has been totally obliterated. The treatment of tuberculosis of the appendages is somewhat dependent upon the extent of area involved. If the affected part is a slight ulceration of the cervix or vagina, the application of iodin, formalin, or lactic acid, following cureting of the ulcer, will usually prove effectual. If it should not do so, then excision and suture rarely fail to cure. Generally, the surgical results in tuberculosis of the appendages are decidedly favorable, unless there exists extensive tuberculous involvement outside the abdominal cavity. Lobingier believes with Veit that peritoneal tuberculosis may become cured spontaneously, but he does not believe that as many will recover without operation as with it. Recent cases should be operated on promptly; chronic

subjects should be closely observed, and operated on if spontaneous subsidence seems improbable. When the annexa are involved they should be removed. Statistics show 50% cured and 25% greatly benefited after the lapse of from 4 to 5 years from the date of laparotomy. Tuberculous lesions in localities outside the abdomen are not materially benefited. [C.A.O.]

5.—Acute and Subacute Gonorrhea.—H. G. Klotz, in discussing the treatment of subacute anterior gonorrhea, advocates the injection of the strongest possible solutions of gonococcicid drugs, principally salts of silver; the application to be made by the physician himself at more or less long intervals, during which the patient employs antiseptic and astringent injections in the conventional manner. The solution of silver used is from $\frac{1}{10}$% to $\frac{1}{8}$%, sometimes higher concentrations are found necessary. The injection is made so far as possible beyond the infected region of the urethra, in very recently infected cases about 3 inches from the meatus, in the more advanced ones as far as the bulbus. After passing the fossa navicularis and closing the meatus, the solution is allowed to flow out drop by drop, so that as the point is advancing it is washed by the silver solution. Then the syringe is slowly emptied while the meatus is closed between the fingers. The syringe is then withdrawn. After 2 minutes or more the fluid is allowed to escape and usually another syringeful is injected. About 8 or 10 hours after the injections the patient begins to use injections. The author's favorite prescription is as follows:

Boric acid		1.5 gm.	(24 gr.)
Lead acetate, Zinc sulfate	of each	75 cgm.	(12 gr.)
Glycerin		4 gm.	(1 dr.)
Water		120 gm.	(4 oz.)

In the acute cases, after the bladder has been emptied, an injection of some silver solution is immediately made in the concentrations of $\frac{1}{8}$% to $\frac{1}{4}$% of the nitrate, 2% of protargol, or 1% albargin. The fluid is deposited from 3 to 4 inches from the meatus, and the meatus kept closed for several minutes, as before mentioned. If the patient calls in the morning, he is advised to make an injection of the B. P. Z. solution before his evening meal, and once more before going to bed, but not the next morning; he receives a second silver injection in the forenoon, usually of a stronger concentration than on the first day, and also on the third day, the B. P. Z. injections being repeated as on the first day; on the fourth day only the astringent injections are repeated 3 times; on the fifth day follows a silver injection, then the B. P. Z. injections are continued for 48 hours, and on the eighth day, after 24 hours' omission of all treatment, another silver injection is made. Should the symptoms continue beyond the seventh or eighth day, the silver injections are continued as in the subacute cases. [C.A.O.]

Medical News.

December 12, 1903. [Vol. 83, No. 24.]

1. The Home in Its Relation to the Tuberculosis Problem. WILLIAM OSLER.
2. Syphilis and Divorce. PRINCE A. MORROW.
3. Some Practical Suggestions on Physical Education in the Public Schools. RICHARD COLE NEWTON.
4. Report of Cases with Exhibition of Specimens Diagnosed by the Cystoscope. JOHN R. WATHEN.
5. Hysteria. WILLIAM B. YOUNG.
6. Englarged Bronchial Glands. J. R. CLEMENS.
7. A Humble Sterilizer DOUGLAS H. STEWART.

2.—Syphilis and Divorce.—Prince A Morrow says communication of syphilis in married life may affect (1) contracts to marry; (2) annulment of the union; and (3) divorce. From a survey of the jurisprudence of syphilis and divorce, it appears that when a woman has been infected with syphilis by her husband, the law may grant her a divorce on the statutory ground of cruelty or infidelity. In some States in America, and in some foreign countries, suit for divorce may be instituted on the grounds of "cruelty"; in New York State, only "infidelity" is recognized as sole ground for divorce; the charge of cruelty is not pleaded. Under the present conditions of the law a physician should advise his patient that syphilis should never be evoked as a cause of action for divorce, unless it constitutes the chief or only phase of cruelty that can be alleged. The charge of infidelity, if it can be sustained, is always a preferential plea. This in no way reflects upon the wife, whereas a plea of syphilis, even if it be sustained and divorce granted, casts at least the odium of loathsome disease upon the wife. To prove the charge of syphilis she must prove (1) that her husband has syphilis; (2) that she has syphilis; (3) that the syphilis of the husband is the origin of her own; this, in many instances, is difficult. It is rarely advisable that the physician in charge of either husband or wife should appear in court in connection with the divorce involving the question of syphilis. The court should appoint a medical expert for that purpose. [A.B.C.]

3.—Physical Education in the Public Schools.—R. C. Newton has been told by a number of educators that at least 10% of all the scholars in American public schools are defectives, either mentally or physically. A large percentage of these are probably suffering from faucial adenoids, defective sight, deafness, and rickets. None of these conditions is hopeless, and advice and treatment at the proper time might be of inestimable advantage. Medical inspection should extend to the examination and record of the physical condition of every scholar, and the record should be sent to the parents and to the family medical adviser. This examination should be repeated once in 3 months and the results compared with previous records. This inspection should be provided for by a commission of five, appointed by the State, at least 2 members being physicians. At present no medical supervisor watches the exercises to decide whether any of the children are being injured by them. In order to pay for the inspectors, teachers of the ornamental and superfluous branches may be dispensed with. [H.M.]

4.—The Use of the Cystoscope.—J. R. Wathen says the importance of careful examination of the bladder accompanied by catheterization of the ureters, when necessary, has come to be a recognized procedure. He gives, in a general way, the results of examination of 126 bladders examined for diagnosis with the cystoscope. Several cases are reported somewhat in detail as illustrative of the value of this instrument. One case was that of a calculus the size of a hen's egg, which had formed about a hairpin in the bladder of a young woman of 24; another was a tumor of the posterior wall of the bladder in a woman of 60; another disclosed pus emptying into the bladder from a ureter which, among other things, led to a diagnosis of a hydronephrotic kidney; another was a large silk ligature imbedded in the bladder; while another showed the bladder pushed to one side, which led to pelvic examination with the discovery of pelvic abscess. His conclusions are that these few selected cases illustrate the necessity for more thorough and accurate methods of diagnosis in this important field of work. Of the 126 cases examined with the cystoscope on account of obscure diagnosis, the ureters were catheterized in 23 cases, he failed to do so for various complications in 12 others, and the remaining 91 did not need catheterizing to make a diagnosis. [A.B.C.]

5.—Hysteria.—W. B. Young devotes his paper to etiology, pathology, and treatment. Alienists seem to have entirely overlooked the history of the early mental training, which has more to do with its production than heredity. The disease is primarily a psychosis. The pathology, he believes, will be located in the adrenal system. The treatment should be psychic. Suitable resorts should be erected for properly caring for the afflicted among the poor. By such treatment hysteria would soon be on the decrease, as we thus get rid of the pernicious example of hysteric subjects. [H.M.]

6.—Enlarged Bronchial Glands.—J. R. Clemens says enlarged bronchial glands in children are important for 3 reasons: (1) Their great frequency; (2) the manner in which they are overlooked or ignored, and (3) their potentiality toward tubercle, and hence the danger of neglect. He states that in 70 consecutive cases in a children's clinic, where the patients were brought for various ailments, in 20 instances enlarged bronchial glands were found. Hector McKenzie reports that in 897 cases of tuberculosis in children the lymphatic glands were enlarged in 88% of cases. The writer found in 120 autopsies the children presented tuberculous lesions and caseation of the bronchial glands in 80% of the cases. Medical and hygienic treatment can do much to prevent this condition and cause its abatement, even when it has started. Open-air life, sound food, and the medicinal use of iodid of iron, arsenic, etc., will prove of great benefit in these cases. Occasionally,

due to pressure effects of the enlarged glands, cyanosis of the lips and face, spasmodic attacks of dyspnea and an increase in the anteroposterior diameter of the thorax due to atmospheric pressure and obstruction of the trachea are seen. Sometimes there is recession of the soft parts of the chest wall with resulting malformation known as "pigeon breast." Puffiness of the face will sometimes be found, suggestive of renal disease. A very suggestive combination of conditions is (*a*) enlargement of the cutaneous veins over the upper part of the chest; (*b*) some deficiency of resonance over or on either side of the manubrium, and (*c*) a venous hum in the same position when the head is retracted, especially if these occur in a thin, delicate-looking child, suffering from a cough for which no cause can be detected in the throat or lungs and from slight intermittent evening pyrexia without assignable cause. [A.B.C.]

7.—A Humble Sterilizer.—Douglas H. Stewart describes a simple sterilizer which he has used with success, and which can be improvised from the ordinary kitchen utensils. The essentials are everyday articles, viz., an awl, a wash-boiler, a string, washing soda, water, and a fire. Through the flange of the boiler-cover, at each of the 4 rounded corners and at the sides, punch a hole, in such a manner that it will be closed in by the boiler rim when the cover is in place. Through each hole pass a string. To sterilize heavy bed linen, sheets, etc., make a criss-cross network over the fabrics after packing the cover in the inverted position; put your instruments in the boiler itself, cover them with 6 inches of water, add one heaping tablespoonful of washing soda, put on the cover, place the whole on a gas, kerosene, or other stove, and boil hard 10 minutes. Then extinguish the flame or remove the apparatus from the fire and set it aside to cool. When the cover is finally lifted, it is a sterile tray, and should be stood bottom upward upon a convenient table, the strings should be severed, but its contents should be allowed to rest undisturbed until each is required. [A.B.C.]

CLINICAL MEDICINE

DAVID RIESMAN A. O. J. KELLY

EDITORIAL COMMENT

Etiology of Vesical Calculus.—The old, old question of the etiology of vesical calculus has been opened once more—in a new locus of surgical research and teaching. Professor Madden, who occupies the chair of surgery in the Government Medical School at Cairo, has published his views on the subject. They have, of course, been taken from the standpoint of the Egyptian observer. He informs us that the development of a certain proportion of Egyptian calculi depends upon the presence of the pathologic products of *Bilharzia hæmatobia* throughout the urinary system. It has been stated that the nucleus in a large proportion of cases has been a Bilharzia ovum; but Professor Madden thinks that it is more reasonable to suppose that the nucleus has really been a fragment of a papillomatous Bilharzia tumor—which would naturally contain some ovums—that had become detached, and subsequently encrusted with layers of phosphatic deposit. Certain calculi which originate in this way are quite white in color, and consist exclusively of phosphatic salts. The view of this writer is not surprising to one who has seen the postmortem conditions in an aggravated case of Bilharzia infection, which had engaged the pelvis of each kidney, both ureters, the bladder, and urethra. But all Egyptian calculi are not of Bilharzia descent, and a further source of derivation is easily obtainable. The universal drink of the native population of that country is Nile water, which is well known to be strongly impregnated with lime salts during some months of the year, gathered from the limestone beds through which the river passes in a great part of its course. The natives of Egypt and of the Soudan are almost exclusively vegetarian in their diet, meat being used in small quantities, and usually even then in the form of soup, which merely serves as a vehicle for vegetables. Green vegetables are the special favorites. It is suggested that excessive acidity of urine results from the continuous excretion of an unusually large quantity of vegetable salts; and, accordingly, without any mechanical stimulus in form of a nucleus, some combination of salts of uric or oxalic acid occurs. This, of course, becomes deposited, and will continue to accumulate so long as the same causative factors continue to exist.

REVIEW OF LITERATURE

Experimental Aortic Insufficiency.—L. Ferrannini's[1] experiments consisted in producing various degrees of aortic lesions in lower animals through openings in their carotid arteries. He found that the auscultatory phenomena were in direct relation with the extent of the lesion. He was thus able to produce an acoustic scale, from the simple, impure, diastolic, aortic sound to the diastolic murmur that completely replaces the normal sound. The murmur in aortic insufficiency never occurs at the end of diastole; it is heard in the middle or toward the beginning of diastole. In very slight degrees of insufficiency the murmur may be altogether wanting, and only an impure tone is produced. Sometimes, however, a murmur may be incited by stimulating the activity of the heart. No murmur is produced by fenestration of the valves, or by vibrating points or fibers, or by folds in the valves. The height of the dicrotic wave in the sphygmograph of aortic insufficiency, diminishes as the intensity of the murmur overcomes the normal second sound. [B.K.]

Causation of Melasma Suprarenale (Addison's Disease.)—A. J. Pospelow and E. W. Gautier[2] report a case and dwell extensively on Addison's disease. The patient was 40, and showed bronzing of the skin, general weakness, dizziness and epileptoid attacks. The weakness and dizziness had been manifesting themselves for the last 11 years, during which time she had also suffered with enlarged glands of the neck, the scars of which looked like scrofuloderma. The bronzing began 3 years ago and since then her state has deteriorated much. The only part of her skin, which has retained its original shade, is that of the palms of the hands and the soles of the feet. The activity of the skin was markedly diminished and the mucous membranes were not discolored. The enlarged glands of the neck and the scrofulodermatous scars over them establish in the authors' minds the tuberculous character of the suprarenal organ and their prognosis was given accordingly. Under the use of suprarenal gland extract the patient's condition improved very much. [E.L.]

Origin and Nature of Alexins.—R. Turró[3] states that the organism protects itself from bacteria not by mechanical destruction of the latter, but by a process chemic in nature. The substance which brings this about is called alexin. The alexins (lysins, bacteriolytic substances, cytoses, etc.) are substances which act chemically upon the protoplasm of the bacteria, converting it into an amorphous soluble mass. This process is called bacteriolysis. The alexins are the products of cell plasma, derived from the liver, the spleen, the kidneys, the epithelium of the thyroid gland, the white blood corpuscles, etc., and which become active by a previous solution in water containing the physiologic percentage of salt. The peculiarities of the individual alexins depend upon the cell plasma, which creates them; some acting upon one species of bacteria, while others act upon an entirely different variety of microorganisms. Alexins have been experimentally found to be present in the thyroid gland, the capsule of the adrenals, the renal tissue, lymph-glands, muscles, liver, spleen, in blood-serum, and finally in the yolk of eggs after previous solution in albumin. From a chemic point of view, alexins are to be considered as enzymes, which devour the bacteria by means of a progressive hydrolysis. The greater or less resistance of the organism to an infection depends upon whether the physiologic processes in the cell plasma favor the liberation of alexins. [W.E.R.]

[1] Zeit. für Heilkunde, 1903, Bd. xxiv, Heft 8, Abth. f. Int. Med., Heft 3.
[2] Archiv für Dermatologie und Syphilis, 1903, lxvi, 355.
[3] Berliner klinische Wochenschrift, September 7, 1903.

GENERAL SURGERY

MARTIN B. TINKER
A. B. CRAIG C. A. ORR

EDITORIAL COMMENT

Pneumococcus Peritonitis.—For some time it has been generally recognized that other parts of the body than the lungs are more or less frequently invaded with infection from the pneumococcus. Recent papers by Cole, Herrick, and others have recorded a number of cases in which the joints of the body are infected, but we have not noticed any report of infection of the peritoneum by the pneumococcus since the papers of Flexner, and of Cushing and Livingood from the Johns Hopkins Hospital. A very thorough discussion of this subject is given by Jensen, of Copenhagen,[1] with a bibliography of 134 references and an interesting report of several cases; and a paper by Brunn[2] also with quite a complete discussion of the literature will be of considerable interest to all who are following the progress of scientific surgery. Briefly stated, the main facts brought out in these papers are that this form of peritonitis is relatively infrequent, occurring oftener in children than adults, and usually secondary to disease of the lungs, though it may follow disease of the middle ear or occur as an independent disease. The mode of infection in the latter case has not been satisfactorily explained. Pathologically, the infection is characterized by a plastic exudate very rich in fibrin, which causes adhesions and encapsulation of the exudate quite early. In the severer forms the entire mass of intestines adhere together and are surrounded by pus. In typical cases the clinical picture is striking, particularly in children; the onset is that of acute peritonitis, followed very soon by a chronic stage with mild symptoms of peritoneal inflammation. The diagnosis is never certain, except after bacteriologic examination, though one might suspect this infection from the green, yellowish, odorless pus, and the abundant fibrinous adhesions. The prognosis is favorable, but recovery without operation is not to be expected, though it may occur in rare instances. If operation be undertaken early, the great proportion of children live, though the disease is somewhat graver in adults. Simple evacuation of the pus and drainage is usually all that is necessary. It is interesting to note that while infection of the joints by the pneumococcus is a very grave condition, almost universally fatal, the same organisms cause a milder form of inflammation of the peritoneum. The opposite is true of infection with ordinary pyogenic organisms, which, when involving the joints, if promptly treated, seldom cause a fatal result, but if causing a general peritonitis, almost certainly result fatally. Whatever organism may be the cause of peritonitis, in our present state of knowledge, operation is indicated, but the prognosis of peritonitis varies greatly with the variety of the bacteria causing the inflammation. The prospect of recovery seems to be extremely good in peritonitis caused by the pneumococcus, and is also considered good in infection by the gonococcus. It is far less favorable in infections by *B. coli*, almost certainly fatal with infection by staphylococci, and positively fatal with the streptococcus. From this it is evident that the statistics of most surgeons who advocate some special treatment of peritonitis whether by operative procedure, or by posture after operation are of extremely little value. The favorable results of one surgeon are due to the fact that he happens to have to deal with a series of cases of peritonitis caused by bacteria like the pneumococcus of low grade virulence, while the unfavorable results of another less fortunate surgeon may be due, not to less skill and care in operating, or poorer judgment in selecting operative methods, but to the fact that he has had to treat infections by organisms of a higher degree of virulence. The most important factor in decreasing the deathrate from peritonitis would seem to be the education of the general practitioner to recognize early the symptoms of the affections, such as appendicitis, salpingitis, etc., which most commonly cause peritonitis. With an early diagnosis and early operation a general peritonitis will usually be avoided.

[1] Archiv. für klinische Chirurgie, 1903, Vol. lxx, p 91.
[2] Beiträge zür klinische Chirurgie, 1903, Vol. xxxix, p. 57.

REVIEW OF LITERATURE

A false aneurysm in the inner and lower third of the right thigh, occurring in connection with injury of the right superficial femoral artery from fracture of the femur, is reported by Enrique Fortun[1] in a man of 28. The interesting feature is, that following recovery from the fracture, and some remaining sinuses from the passage of sequestrums, the patient enjoyed good health enough for some years. Recently, while playing base-ball, he was affected suddenly by a sharp pain at the seat of former injury, and immediately after, had fever. The gravity of his condition led to curetment of the old sinuses, which disclosed a cavity filled with partly coagulated blood. The region plainly was septic. A rise of the fever to 102° F. and delirium followed. Ligation of the common femoral artery in Scarpa's triangle and further curetment was done, finally amputation. Amputation was done at the hip, but 14 hours later the patient died. Examination of the thigh confirmed the diagnosis of a primary, false aneurysm. [T.H.E.]

Bier's Passive Hyperemia.—Habs[2] employs Bier's methods of active and passive hyperemia quite extensively. 1. In tuberculosis he applies the rubber bandage during the first week twice daily for from 4 to 5 hours, gradually diminishing the length of time until 1 hour is reached, which is maintained until complete recovery. Iodoform injections, curetments, and other operations are used when necessary. Active hyperemia is not employed. 2. In gonorrheal rheumatism the bandage is used from 8 to 12 hours daily. In the chronic stage acute hyperemia (hot air baths) is employed for 1 hour every third day. 3. In chronic articular disturbances following traumatism and inflammation he uses the bandage twice daily for 1 hour to assist massage and passive movements; every third day a hot-air bath of 1 hour duration is prescribed. 4. In chronic articular rheumatism he advises the electric light or baking apparatus for 1 to 2 hours daily. 5. Deficient callus formation calls for 2 hours daily of passive hyperemia, for massage, and counterirritation. 6. In frostbites and similar injuries he uses passive congestion. Habs has employed these methods many hundred times, and recommends them warmly. One of the best points about the treatment is that it can be employed during the office hours of the physician, when he can give the patient personal attention. [E.L.]

Cholecystectomy.—Frederick S. Eve[3] reports 3 recent instances in which he has performed this operation. Recovery was uneventful in each case. One case was noteworthy in that a young woman who had the symptoms of gallbladder enlargement and obstruction, was operated upon. The distended gallbladder was opened and a hasty search failed to find a stone. The patient's serious condition precluded further search, and the viscus was simply drained. A sinus persisted for several months when she was again subjected to operation. A large stone was found in the cystic duct, which was too large to conveniently remove, so cholecystectomy was done, the stone being removed with the gallbladder. The author says the simplest method of performing cholecystectomy is to incise the peritoneum covering the fundus of the gallbladder at its junction with the liver. A finger can be inserted between the gallbladder and the liver in the direction of the axis of the former. Separation is readily effected practically without hemorrhage. The peritoneum is divided with scissors on either side of the gallbladder, sufficient being preserved near where the stump is to be made to reflect over the latter. A ligature is applied at the point desired, the duct severed, and the mucous surface touched with pure carbolic acid. The cuff of peritoneum is then sutured over the stump. [A.B.C.]

[1] Havana Review of Medicine and Surgery, August 25, 1903.
[2] Münchener medicinische Wochenschrift, June 2, 1903.
[3] Lancet, June 27, 1903.

GYNECOLOGY AND OBSTETRICS

WILMER KRUSEN FRANK C. HAMMOND

EDITORIAL COMMENT

The Breast in Hysteria.—The diagnosis of the hysteric breast has certainly its importance, because it is quite necessary to avoid operating in the severer forms of these cases. The symptomatology is of interest for the reason that the clinical study of the manifestations of hysteria relative to each particular function and organ, should lead to a complete knowledge of this neurosis in general. This leads to the consideration of an important point of the subject, namely, the hysterogenous areas of the breast, because one has frequently to utilize the indications derived therefrom. Examination of the general sensibility of subjects of hysteria will frequently reveal areas of hyperesthesia in the mammary gland, while clinically, one often discovers that during an attack these hyperesthetic areas become hysterogenous. The reverse is also quite true. In a general way one may classify hysterogenous areas into two groups, according to their manner of action, namely, (1) spasmogenous areas; and (2) antispasmogenous areas, according as to whether they provoke or cut short the attack. On the thorax they are more frequently observed in the mammary gland, near the clavicle, intercostal spaces and spinous apophyses. Limited in extent, variable as to numbers, these areas, usually unilateral, are to be found on the side presenting the hemianesthesia, but infrequently they may be bilateral, occupying regions which have preserved their sensibility. At the commencement of an attack they become painful, the intensity of the suffering becoming intense in some patients. In some instances the patient may only present spasmogenous or antispasmogenous areas; or the spasmogenous areas may only result in producing a partial attack when pressure is exercised upon them. Here one is dealing with spasmogenous areas endowed with only an incomplete effect, but in the larger number of instances the thoracic areas are exclusively spasmogenous. Spasmogenous areas are of excessive frequency in the breast, being seated in the skin and nerve trunks supplying the region, in which case one is dealing with the *cutaneous areas;* or if the condition resides in the structures subjacent to the gland we have the socalled *visceral area.* In the former a slight irritation is quite sufficient to cause convulsions to supervene, while pressure is without any effect. Pressure of the mammary gland in cases of visceral areas will produce convulsions, while, as might be expected, superficial irritation remains without effect. All painful affections of the mammary gland, or where pressure is less distressing to the patient than simple touch, are considered by Wood as having an hysteric origin. There are some subjects who cannot stand even the friction produced by their clothing, while there are others in whom the attack will commence as soon as the mammary gland is compressed. A cutaneous area is frequently found overlying a visceral one, but it should be pointed out that the presence of hysterogenous areas is not in itself sufficient to constitute a local hysteria, and should be considered only as a stigma of the neurosis. The true hysteric breast is characterized by the presence of tumefaction, neuralgic pain (resulting from the action of an hysterogenous area) and also by the appearance of a vasomotor edema. The conditions presented may vary in the same subject. The types of hysteric breast may be conveniently classified as follows, viz.: (1) Mastodynia; (2) the hysteric breast with or without tumefaction, or with an ulcerative process. These various manifestations represent the series of vasomotor phenomena, from simple edema, to the formation of an ulcerative process. Between these extremes, the connective tissue edema, which may result in hemorrhage, will produce ecchymoses and hemorrhage of the breast. As will be seen, the diagnosis presents many difficulties, but its importance must be evident to all in order to avoid surgical interference, the only proper treatment naturally being purely medical.

REVIEW OF LITERATURE

Entrance of Air into the Veins during Gynecologic Operations.—X. Delore[1] reports the sudden death, from entrance of air into the veins, of a woman of 46, from whom he was removing a fibroid uterus. At autopsy the right side of the heart was found greatly distended and gas could be forced from the auricle to the ventricle and the reverse without hindrance from the valve. The organ was opened under water and from 4 cc. to 5 cc. of gas collected. The inferior vena cava also contained gas, the total amount in the heart and vessels being probably 8 cc. or 10 cc. The left side of the heart contained blood but no gas. But one similar case, that of Biermer, has been reported. Delore gives as predisposing causes of entrance of air into the veins during gynecologic operations: 1. Venous dilation, which is often pronounced around fibroids. 2. Changes in the vessels and surrounding tissues that cause gaping of divided vessels. 3. Intense anemia of the patient. 4. The Trendelenberg position. 5. The determining cause may be thoracic aspiration. The prognosis is not always unfavorable. To prevent the accident, large veins should be cut only between hemostatic forceps. This precaution is particularly needful in anemic patients. [A.G.E.]

Pregnancy Complicated with Uterine Fibroids.—A. Routh[2] gives a table showing the danger of this complication, the maternal mortality in such cases varying from 30% to 54%, the fetal mortality being still greater. The chief dangers are from rapid enlargement of the fibroids, their degeneration, abortion, hemorrhage, fetal malposition, obstruction, sepsis and secondary infection of the fibroids. According to Williams the increase in size of fibroids during pregnancy is due more to edema than actual hypertrophy. Atrophy of the fibroid sometimes occurs during uterine involution but this is generally temporary, continuing only during lactation. Table 2 shows that the percentage of abortion in pregnancy complicated with fibroids, is about 21% and table 3 shows that fibroids unquestionably cause fetal malpresentation. They also tend to produce postpartum hemorrhage and to increase the danger of sepsis during the puerperium. As to treatment, the writer agrees with Kelly that "operating during pregnancy when there are no urgent symptoms, on account of danger which may arise in the future, has no field here." If some emergency makes it necessary the choice lies between myomectomy and hysterectomy. Myomectomy can be done without interfering with pregnancy, though abortion is not uncommon, averaging about 10% of the cases, being much more frequent after the removal of sessile fibroids than the pedunculated. [W.K.]

Emergencies During Pregnancy.—A. E. Morison[3] reports 5 cases of interest, because in all the progress of pregnancy or parturition was complicated by conditions demanding immediate action. Two were of women with transverse diameter of the pelvis so contracted that normal delivery was found impossible after many hours of labor, and a Porro-Tait operation was performed in both with the delivery of living children and subsequent complete recovery of the patients. In one case a Porro-Tait operation was performed at term for sarcoma of the pregnant uterus, with the delivery of a healthy, living child and the partial recovery of the patient so that she left the hospital 2 months later; but she gradually failed in health and strength, and died from malignant disease 117 days after the operation. In case 4, the patient in the sixth month of pregnancy became eclamptic, the epileptiform fits rapidly succeeding each other. Cesarean operation was performed, the child was found dead, but the patient recovered, and some months later reported herself as again pregnant. Case 5 was rupture of pregnant uterus at the fourth month, rendering an abdominal section necessary. Because of the condition of the patient and the ragged, probably septic tear of the uterus, supravaginal hysterectomy was performed with recovery of the patient. [W.K.]

[1] Revue de Chirurgie, October 10, 1903.
[2] British Medical Journal, October 3, 1903
[3] Lancet, October 3 1903.

TREATMENT

SOLOMON SOLIS COHEN
H. C. WOOD, JR. L. F. APPLEMAN

EDITORIAL COMMENT

ALEXANDER, IOWA, DECEMBER 5, 1903.

To the Editor of Department of Treatment:

In a recent editorial on "The Therapeutic Uses of Hyoscin," appearing in your department of *American Medicine* under date of November 28, the following statement is made: "By virtue of its action on involuntary muscle, like atropin, it is often of service in asthma and intestinal colic." Dr. Hare, in his "Practical Therapeutics," seventh edition, page 225, says: . . . "And it is to be remembered that the drug will produce asthma rather than relieve it." As these two statements are so opposed to each other, I write asking which statement I shall revise. H. B. CRAGIN.

[The authority quoted by Dr. Cragin is very high. I am forced to emulate Max Mueller's reply to the student who quoted St. Paul against him: "That is where Paulus and I differ." My experience with hyoscin in the relief of suitable cases of asthma is too decided and of too long duration to permit me to regard the drug (which, I believe, was first advised by me for use in certain cases of asthma) in any other light than as a most useful agent. Its value is in the purely spasmodic cases. In the class of cases I have termed asthma vasomotoria, suprarenalin is the remedy of choice, as I pointed out many years ago. But the asthmatic syndrome is not only of very varied origin, but is also a most difficult one to diagnosticate etiologically and therapeutically, and successful treatment depends on such diagnosis. Hence no one should commend any remedy or any plan of treatment indiscriminately for "asthma." Individualization, often experimentation, is necessary, but usually persevering efforts achieve success.—S.S.C.]

REVIEW OF LITERATURE

Syphilitic Necrosis of the Inferior Maxilla.—Creutz[1] states that syphilitic lesions of the inferior maxilla are relatively rare. In the Indies, however, where the disease is not treated, the tertiary lesions are abundant. In Algeria, the affection is less prevalent. The cases are nevertheless very grave, for the patient is generally treated badly by the natives. Creutz reports the following case of syphilitic necrosis of the inferior maxilla: A woman, aged 23, presented herself for treatment complaining of violent pains in all her limbs and in the inferior maxilla. These pains had interfered with her sleep for more than a month. At the age of 6 she had been treated by a military physician for generalized pain in the bones, and syphilids, cicatrices of which were found on the external surface of the right thigh. Examination of the patient revealed recent healed cicatrices on the arms, thighs and back arising from ulcerations which had begun 3 months previously and which had been cured by inunctions of citrine ointment. Upon opening her mouth it was noticed that 7 teeth were missing from the inferior maxilla. These included the first premolar and the canine on the right side, all the incisors and the canine on the left side. The posterior surface of the bone was completely denuded. The anterior surface was also denuded for the extent of 1 cm. (⅜ in.), the remainder being covered by spongy and ulcerated tissue. The superior border of the bone showed 7 alveoli filled with pus; the bone was blackened and denuded of periosteum. The teeth of the superior maxilla were healthy, white and well ranged, as were the remaining ones in the inferior maxilla. Upon palpation, the inferior maxilla was found thickened. The patient stated that for 1 month she had no feeling in her lower lip; in fact, picking and pinching produced no painful sensation. Two tablespoonfuls of the following solution were prescribed daily:

Potassium iodid	60 gm. (2 oz.)
Mercury bichlorid	30 cm. (4½ gr.)
Distilled water	1 liter. (1 qt.)

In Creutz's experience this small dose of the iodid is sufficient to produce a cure in patients of that locality. A gargle of potassium chlorate was also prescribed. The severity of the pains in the bones in this case is characteristic of the disease in Algerians. [L.F.A.]

[1] Journal des Praticiens, Vol. xvii, No. 33, 1903, p. 678.

Impressions of the Sanatorium Treatment.—P. Horton-Smith,[1] in order to look at this matter from a patient's point of view, spent some time in a sanatorium as a patient. The experience proved most enjoyable. The most striking point was the rapidity with which he became accustomed to open-air treatment. He believes that the charge of monotony in this treatment has been greatly exaggerated. A point of interest was the amount of muscular exercise obtained during the long, slow walks enjoined upon patients. To walk 4 or 5 miles at the rate of 2 miles an hour is distinctly tiring to a healthy man. Smith devotes some space to the consideration of temperature taking. At the sanatorium in question it is always taken in the rectum. The wisdom of this was demonstrated by Smith by personal experiments. In the morning the temperature in the mouth may be from .7° to .9° lower than in the rectum, while in the evening the difference may be as much as 1.7°. The importance of this when the exercise of the patient depends upon the absence of fever can readily be seen. [A.G.E.]

An Aid to the Comfort of Bedridden Patients.—In cases of severe heart disease with orthopnea, the maintenance of the semiupright position becomes not only exceedingly uncomfortable from the direct pressure on the tuberosities of the ischium, but it is often difficult to keep, through the constant tendency to slip down in bed. In such cases Wynter[2] has found the following plan of great service: A hard bolster is placed under the mattress at the level of the thighs, forming with the pillows at the head of the bed a sort of double inclined plane, in the trough of which rest the patient's buttocks. The support to the position, and the removal of a part of the weight from the tuber ischii to the fleshy portion of the thigh, is a very grateful relief. [H.C.W.]

[1] The Practitioner, September, 1903.
[2] Treatment, 1903, vii, 481.

LEGAL MEDICINE

JOHN MARSHALL J. H. W. RHEIN

EDITORIAL COMMENT

Malaysian Arrow-poison.—Among the various items added to previous scientific knowledge by the Cambridge anthropologic expedition as the result of the sojourn at Saraoak, is a full and trustworthy description of the vegetable arrow-poison used by the inhabitants of the Baram district. The term *ipoh* is used by all the up-country natives as a generic appellation for arrow-poison. Its application in this sense is widely diffused throughout Malaysia. The composition is, however, by no means uniform over so large an area. More than one species of *strychnos* and *antiaris* appear to be employed in different localities; sometimes a mixture of two or more. Among the Kenijahs of the Baram district, however, it appears that the sole source of arrow-poison used is the upas tree of legendary and mythologic lore, the *Antiaris toxicaria* of romantically poetic and miraculously destructive reputation. The poison for the arrow-points is made from the inspissated juice. Its activity has been shown to be due to the presence of a nitrogen-free glucosid, which acts on the cardiac muscle, and also on the central nervous system. Dr. Seligmann has investigated its physiologic action. The *ipoh* in this case is obtained by scoring the bark of the upas tree in oblique grooves, the lower ends of which pass into a single, vertical, and larger one. At the lower end of the latter is placed an obliquely-pointed bamboo tutu, which receives the trickling sap. Rolled up in palm leaf and inspissated by artificial heat, this *ipoh* appears to retain its poisonous properties for years. The arrows, or *darts*, as they are more appropriately termed, are made of strips of palm wood, about 20 cm. to 30 cm. in length. These are carefully rounded, and present a diameter of about 3 mm. Each is provided with a butt formed of the pith of the sago palm, in the shape of a truncated cone, the base of which accurately fits the bore of the

blow-pipe from which the arrow is projected. This blow-pipe is from seven to eight feet in length. The natives aim well within a range of 20 yards, and at that distance the poisoned darts were made to penetrate the fairly hard wood of a target to a depth of one-third of an inch.

Arrow-poisons and their History.—Just before the publication of the report on *ipoh*, the results of the chemic investigation of another arrow-poison had been reported by Professor L. Brieger, who had at a former date constituted himself an expert by his research on the arrow-poison used by the Wakamba tribe. The recent subject of his skilled evidence is that used by the Wagogo. It is obtained by boiling the branches of the mahangu (*Acoconthea abessynica*). The fruit of this tree is edible; but the stone of the fruit contains the poison. Like the other known arrow-poisons, it acts on the heart. The active (cardiac) constituent proves to be a deliquescent glucosid. Another arrow-poison — of slower action—is obtained from the *Candelaier euphorbis*. The activity of those poisons is said to be suggestive of that of the toxalbumins; but it appears that no antitoxin can be produced. It is worth noting that, although the occurrence of poisoned arrow-wounds was recognized in classic antiquity, and probably for scores of centuries before, scientific identification was not obtained for such agents down to the past century. The elder Pliny stated that the ancient Gauls dipped their arrow-points in the juice of the black hellebore, so as to insure the infliction of a deadly wound. Following the expansion of modern travel and conquest, Hartmann reported the employment of various species of *Euphorbia* by native Africans for the same purpose; Ferreira de Lemos called the attention of the world to the use of *curara;* and other travelers found that some of the natives of South America utilized in the same way extracts obtained from certain plants of the *strychnin* family. The natives of the Banks Islands (South Pacific) use extracts of two plants. One of them, *toê*, is a member of the euphorbia family; the other, *lokê*, is probably one of the nux vomica group. The arrows are sometimes dipped successively in the separate extracts, sometimes in a mixture of the two. The efficacy of arrow-poisons, although apparently received with unquestioning faith in ancient and medieval times, was sharply questioned by some of the iconoclastic apostles, who laid the foundations of modern surgical belief and practice. Ambroise Paré emphatically denied that there was any proof of the efficacy of any arrow-poison whatever; and Heister, who investigated the evidence more elaborately, attributed the symptoms in all reported cases to the nature of the wound itself. Rochard absolutely refused to admit that the arrow-heads used by savages have ever been proved to exercise any special toxic agency. Mendam (in 1595), and Barney and Carteret (in 1767), who had had special opportunities of making themselves acquainted with such weapons, expressed strong doubts regarding the efficacy which had been always attributed to the poisons used. At Gaboon, MM. Polaillon and Caroille succeeded in demonstrating cardiac paralysis as the result of the action of an arrow-poison. In New Caledonia a committee, formed of Drs. Brassac and Michel, M. Campana, a druggist, and the missionary, M. Montrausier, investigated the native arrow-poison. Their finding was that the deaths attributed to it were caused by tetanus, but hardly by any specific toxic action. Indeed, the credit for the first collection of material by a single observer which sufficed for the satisfactory determination of an arrow-poison and demonstration of its potent principles, must rest with the Irish medical hero of the Emin Pasha Relief Expedition, Thomas Heazle Parke.

The Evils of Publishing Crime.—Whatever may be the advantages of publishing the legal consequences of crime, either by the reports in the newspapers, or by the publicity which comes from opening the court-rooms to the indiscriminate public during criminal trials, there are important evil consequences which must outweigh the possible lessons that are learned by observing criminals brought to justice. If we examine the consequences of a long trial of a person accused of poisoning another, with the long cross-examinations, the conflicting expert testimony, the long rehearsals of the details of the crime, the vulgar curiosity to observe the manner and appearance of the accused, some idea may be obtained of the effect of all this upon hearers who are composed of persons with all grades of intelligence, and who are often morally latent criminals. It is much better that a certain class, the members of which frequently attend criminal trials, should remain in ignorance of the action of drugs, and the postmortem changes that follow their administration. The court-room often offers a veritable criminal education, and is a school where many latent criminals learn their fatal lessons. It would be far better if, in such trials, the court-room door should be closed against the general public. The same can be said of the fatal consequences of publishing the details of these trials in the papers.

REVIEW OF LITERATURE

Legal Responsibility of Parents.[1]—In England no adult is forced by law to consult a physician, so that it is only when children die without proper medical attention, that the question arises whether the guardians or parents of the child should be punished. There are 2 religious sects in England, the Christian Scientists and the Peculiar People, whose religious beliefs do not permit them to resort to medical aid in time of illness. During the last 50 years a number of members of the Peculiar People have been tried for manslaughter. At one time the law of England made it an offense not to provide medical aid to children, and in the event of death occurring without medical attention, the guardians could be convicted of manslaughter. But this law has been for some time repealed, and in 1894 the Prevention of Cruelty to Children Act has taken its place. This Act makes it a misdemeanor for anyone having children in custody not to provide proper medical aid in time of illness, and in the event of death resulting from such neglect, the parent or guardian may be charged with manslaughter. However, as a matter of fact, it is difficult to convict in such cases, and when conviction is accomplished, the penalty imposed is very apt to be light on account of the tendency on the part of the judge to be lenient toward misguided persons who are acting honestly under a religious belief. Thus such punishments have no deterrent effect. As a matter of fact such deaths continue to occur, while other children are permitted to suffer unnecessarily. Thus far the Christian Scientists have not been accused of permitting any child to die without calling in medical aid.

Insurance Companies and Sanatoriums for Tuberculosis.—The insurance companies of Germany[2] have decided that it costs less to support sanatoriums for the treatment of their tuberculous policy holders than to pay the policies of those who without this treatment would die sooner. Arguments have been put forward to show why American companies should not follow the same practice, but here fewer persons with tuberculous history or who are tuberculous are accepted than in Germany, where the law prescribes that every laboring man shall be insured. In this way undesirable risks must be carried, and in consequence there is a greater need for sanatoriums.

Legislation in Relation to Dead Human Bodies.—A law enacted by the Indiana Legislature[3] and approved on February 25, 1903, requires that every unclaimed body must be reported to an anatomic board, and that they may be used by the medical colleges upon the payment of the cost of shipment. By this law the anatomic board is given complete control of unclaimed human bodies. There is no control under this statute of bodies obtained outside of the State. The object of

[1] Lancet, June 27, 1903.
[2] Baltimore Underwriter, April 6, p. 133.
[3] Medicolegal Bulletin, March, 1903.

this law is to prevent the promiscuous purchase of bodies and grave robbery. In April, 1902, a similar act was passed by Congress for the District of Columbia.

National Supervision of Insurance.—John W. Walsh[1] believes that there is very strong argument in favor of national regulation of insurance. In a former paper, published December 5, 1902, in the *Baltimore Underwriter*, he maintained that the decision in Paul vs. Virginia that insurance is not commerce is mere *dictum*, basing his conclusions upon the contention that the accepted doctrine of the Supreme Court at that time was that "the States had the power to regulate commerce in the absence of any legislature by Congress; that as Congress had not acted it was competent for the State to do so, and hence even if insurance had been held to be commerce the judgment of the court must have been the same." *Case and Comment* No. 2, Vol. viii, denies the truth of this contention on various grounds. Walsh believes there are many good reasons for believing that the ground held by *Case and Comment* cannot be maintained, and cites a number of cases and offers arguments in favor of national regulation of insurance.

The Medicolegal Use of the Röntgen Ray Photograph.—It is acknowledged generally that the Röntgen ray photograph[2] is valuable in determining internal conditions of the body, as extent of fracture, location of a bullet and deformities. What value then has the Röntgen ray picture as evidence in court? A witness using this form of evidence should have taken the photograph, developed it himself or witnessed the exposure and development in order to make his testimony valuable. In the case of Carlson vs. Benton, the Supreme Court of Nebraska established the rule that where the evidence points to the accuracy of the photograph being unquestioned "it is wrong to exclude it on the grounds that a sufficient foundation has not been laid; that is, that it was taken by a competent person; that the condition of the apparatus with which it was taken and the circumstances under which it was taken were such as to insure an accurate picture, and that competent witnesses can show that it truly represents the object it is claimed to represent." Courts in other States have admitted these pictures in evidence. Radiographs, therefore, have been accepted by the law as proper means of giving information to the court or jury.

The Doctrine of Survivorship.—Theodore Sutro,[3] in discussing the Fair accident in France, reviews the subject of the presumption of survivorship. The Roman Law, A.D., 533, presumed that when father and son died together in battle or shipwreck that the son outlived the father if he was above the age of puberty, but died first if under that age. When 2 or more under the age of 60 years died, the youngest one survived; if under the age of 50 years the oldest survived. The presumption was that the man survived if a man and woman died together in an accident. This same principle existed in the Code Napoleon in France, and is in operation in Italy, Spain, and Greece, at the present time. In Prussia, Austria, and Holland, the presumption is that death was simultaneous. In the United States, with the exception of Louisiana, where the Code Napoleon exists, the presumption is that death was simultaneous. [J.H.W.R.]

An Eddyite Case.[4]—The Court of Appeals in Ontario upheld the decision of the lower court who found a man guilty of manslaughter who permitted his son to die of diphtheria without providing proper medical treatment. The boy had been under the care of an eddyite. [J.H.W.R.]

Poisoning by Lysol.—K. Liepelt[5] reports 4 cases of poisoning by the internal use of this drug. The first case was in a girl of 16, who took 5 swallows of pure lysol. At once there developed pain in the neck and difficulty in swallowing. The mouth and throat were covered with a thick, gray crust. The stomach was then washed out, and sodium sulfate given internally. The patient recovered in about 3 weeks. The second case was that of a girl of 15, who had taken, with suicidal intentions, 100 grams of lysol. When first seen she was unconscious, and numerous rales were heard in the chest. The breath had a sweet odor, and the lips and tongue were covered with a slough. The stomach was washed out and Carlsbad salts administered. The patient had entirely recovered in a month. The third case was that of a woman of 20 who took 50 grams of pure lysol. When seen 2 hours later she was unconscious, rales were heard in the trachea, there were trismus, tonic and clonic convulsions of the extremities, cyanosis of the face, and the corneal and pupillary reflexes were lost. The stomach was washed out freely, and oleum camphoratum given hypodermically. The patient recovered in 2 weeks' time. The fourth case was that of a woman of 22, who took 30 cc. of lysol with suicidal intentions. When seen shortly afterward, the lips and tongue were bright red, consciousness was lost, the pulse was small (108), and the temperature was 38.6° C. The stomach was immediately washed out. The urine contained albumin but no sugar. Liepelt has collected 41 cases of lysol poisoning from the literature. Of these, 11 were due to the external use of the drug, of which number, 4 died. Of the 30 remaining cases of poisoning by the internal use of the drug, 13 died. In only 3 of these 13 cases was the stomach washed out. In the 17 patients that recovered, the stomach was washed out in 15. In 1 of the remaining 2 patients a high injection was given. Liepelt believes that lavage of the stomach is very important in these patients, and that the washing should be continued until the water is returned clear. The heart should be stimulated energetically in poisoning by this drug. [J.H.W.R.]

Osteopaths and Vaccination.[1]—The Ohio laws do not give osteopaths the authority to vaccinate. [J.H.W.R.]

Traumatic Inguinal Hernia Considered from a Medicolegal Standpoint.—G. Sultan[2] discusses hernia due to traumatism at some length, and concludes his article by summing it into the following dicta: A traumatic hernia can be presumed to be present, (1) if an accident has occurred or the man has performed work which has increased the intra-abdominal pressure considerably; (2) if no hernia has been known to exist previous to accident; (3) pain must have been associated with the production of the hernia, and the physician's examination immediately afterward must be productive of pain; (4) the hernia must not be larger in size than a lemon. The existence of a tendency elsewhere to a rupture and the ease or difficulty of reduction are not utilizable in proving the presence of a traumatic hernia. [E.L.]

Legal Responsibility of the Guardian when the Father is Living.[3]—The Appellate Court of Indiana, Division No. 2, in the case of Leach vs. Williams, decided that the guardian of a minor is not liable for medical services rendered to the minor when the father is living and able to support him, and in the event that the guardian had made no contract to pay for such services. [J.H.W.R.]

Privileged Communications.[4]—The English law does not protect from disclosure the communication made to a physician even if it were strictly confidential. In this country a statute was passed many years ago in New York, which prohibited physicians from disclosing information acquired while attending a patient in a professional character, provided that the communication was necessary to enable the physician to prescribe. California, Colorado, Indiana, Iowa, Kansas, Michigan, Missouri, Montana, Pennsylvania, Utah, and Wisconsin all have such a provision. In New York the privilege is not extended to information which the physician obtains during a social call. If a third party is present at the time of the communication he is not privileged, unless he be of the character of an interpreter. All communications respecting the disease of the patient are privileged in Michigan, whether they are necessary or not. In Indiana all disclosures the result of the physician's questions are privileged. The rule of privileged communication does not apply in a case in which a physician has been sent by a party to examine a person for the extent of injuries for which the party is liable, or to decide whether or not a person is insane, in both of which instances the physician

[1] Baltimore Underwriter, April 6, 1903.
[2] Medicolegal Bulletin, March, 1903.
[3] Medical Record, February 28, 1903, No. 33, p. 328.
[4] Medicolegal Bulletin, August, 1903.
[5] Berliner klinische Wochenschrift, No. 25, 1903, p. 567.

[1] Medicolegal Bulletin, June, 1903.
[2] Münchener medicinische Wochenschrift, February 3, 1903.
[3] Jour. of the Amer. Med. Assoc., March 21, 1903.
[4] Medicolegal Bulletin, August, 1903.

did not treat the patient. The privilege of communication is not cancelled by the death of either the patient or the physician. The right may be waived by the patient, his lawyer, or parent or guardian of an infant, or a personal representative of the patient. This privilege is invoked in actions on life insurance policies where there have been misrepresentations as to the health of the deceased, or in actions for injuries in which the condition of the body of the plaintiff is to be determined, or in those actions in which the mental condition of the deceased is in question. [J.H.W.R.]

Quarantine Upheld by the Court.[1]—Judge Davis, in the Court of Sessions of Philadelphia, dismissed a writ of habeas corpus which was brought to obtain the liberty of Norman R. Hyland and his family who were under quarantine at their home. It was claimed that they were starving to death, and the attorney demanded that the man be permitted to go out and work, or that the city should provide food for the family. The man had refused to permit one of his children, who was suffering from smallpox, to be removed to the Municipal Hospital, and the Board of Health justified its actions by the fact that the city provided a hospital for such cases. Judge Davis stated that the case was narrowed down to the question as to whether the city had the privilege of quarantining the house, and this right it had by the Act of 1888. [J.H.W.R.]

Poisoning by Nitric Acid Fumes.—T. L. Harrington[2] reports 9 cases of poisoning by nitric acid fumes, four of which were fatal. He relates the history of one of the cases that recovered. The subject inhaled the smoke which came from the nitric acid over which sawdust had been thrown. Symptoms of ill-health began to appear within 5 hours, and about 18 hours afterward the patient began talking "queer." After this he lost recollection of events for 3 days. He was mildly delirious, and had a rise of temperature to 102°. The pulse rose to 140, and respirations to 84. The urine was not altered. Increasing dulness was found over both lungs, and mucous rales were heard everywhere. The patient recovered after the use of cardiac stimulants and the inhalation of oxygen. When nitric acid comes in contact with metals or organic substances the oxids of nitrogen are given off, and these are irritating to the respiratory mucous membranes. [J.H.W.R.]

Legal Prosecution of a Physician Because of Neglect to Sew Up the Perineum.—Zweifel[3] relates a case in which the physician was sued for damages because of carelessly inflicted bodily injuries and neglect of duty in not repairing a perineal laceration. [E.L.]

Physicians' Fees.[4]—The common law of England did not permit a physician to recover for his fees, but in 1858 the Medical Act gave him the right to sue on the implied contract. The common law of England was adopted in New Jersey for a short time, but at present there is an implied contract to pay for the services when a physician is employed, and he has a right to sue for his fees. The patient may be a minor, a wife, a ward, or a servant, and the physician may be summoned by a third person, who may or may not be responsible. The husband is liable for services to his wife, unless the services were given upon the credit of the wife, when the husband is not liable. A wife is liable for services to her husband or her infant children when the husband is a lunatic or is otherwise incapacitated to support his family. The father is liable for services to his children providing they are minors. The father is not liable when he summons a physician to attend his children who are over age, unless he expressly agrees to be responsible for the payment of the services. When a master summons a physician to treat his servant he is not liable unless he expressly contracts to pay for the services. When a corporation summons a physician to attend an employe, the corporation is responsible for the agent who summons the physician if the latter does not act beyond the scope of his authority. When a third party, having no relation to the patient, summons a physician he is liable, providing he promises to pay the bill, or if the promise is inferred from the nature of the circumstances. When a third party states that he will pay the bill if the patient does not, this must be in writing or else there can be no recovery. But if this person promises to pay without qualification, then it is not necessary to have this promise in writing. The third party calling a physician to attend a patient assumes no responsibility by implied promise to pay for the services unless there is something in his relations to the patient which occasions a legal responsibility. The question in such cases is for the jury to decide. [J.H.W.R.]

Benzine Poisoning.—Racine[1] reports a case of poisoning by benzine. A child drank 15 gm. of benzine and immediately became cyanotic and lost consciousness. The pupils were dilated, and the child died in convulsions. The necropsy showed fluid blood, hemorrhages in all the organs, swollen and red mucous membranes in the bronchial tubes, stomach, and intestines, hyperemia of the brain, and meninges. The post-mortem findings resemble those of carbon dioxid poisoning. [J.H.W.R.]

A Verdict of $12,000 for the Loss of a Foot.[2]—Dr. Justin Harold, of New York, sued the Metropolitan Street Railway Company for injuries resulting from a collision between the cars. As a result of the accident his right foot was amputated. He was awarded $12,000 damages and this was based upon the loss sustained by the physician in his practice as a result of the injury. [J.H.W.R.]

Sulfonal Poisoning.—H. de M. Alexander[3] reports a case of sulfonal poisoning in a woman of 32, who had been suffering from mania for 2 years. Sulfonal in 30-grain doses was given daily for a week. Twenty-eight hours after the last dose the patient refused to eat her breakfast, and vomited shortly afterward. The temperature was subnormal, the pulse 86, skin cold and clammy, and the pupils normal. While the mental condition was clearer than it had been for some time back, articulation was slow, and the gait was unsteady. The leukocytes were increased to 6,000, the urine contained hematoporphyrin, and a flaccid paralysis developed in the legs and spread upward until it involved the neck muscles. There was some anesthesia of the lower extremities, and the muscles of the legs were the seat of tenderness and shooting pains. The superficial and deep reflexes were absent, and control of the bladder and rectum was lost. Gradually the ability to swallow was lost, the respirations became imperceptible, and speech almost inaudible. The patient died on the fifth day, the mind remaining clear until the last. [J.H.W.R.]

The Detection of Simulation in Hysteria, and in Individuals Claiming Damages on Account of Injuries Accidentally Received.—Niedner,[4] while considering Hoesslin's symptom of paradoxic contraction a valuable one, believes that Hoesslin over-estimated its usefulness, and to disprove the statement that all cases having organic changes do not have the paradoxic contraction, he relates the case of a man of 42, who, after a dislocation, complained of severe pain in left arm, so much so that he would not allow it to be touched. He would insist on lying upon his right side while in bed, stating that were he to rest on his left arm the pain could not be tolerated, but who was seen to sleep on this arm several hours at a time. He had paradoxic contraction, but the Röntgen rays showed a separation of the greater tuberosity, bony deformity of the lesser tuberosity and anatomic neck, and bony deposits in the capsular ligament, thus proving that in spite of simulation and paradoxic contraction he still had disease of bone and joint. [E.L.]

$10,000 Damages for Permanent Disability.[5]—The Second Appellate Division of the Supreme Court of New York, in the case of Waldie vs. Brooklyn Heights Railway Company, believed that $10,000 damages was not excessive for a pilot earning $125 a month, who sustained an accident resulting in permanent disability and the loss of his occupation. [J.H.W.R.]

The Practice of Medicine Defined.[6]—The definition of the practice of medicine as accepted by the State of Arizona is as follows: "Any person shall be regarded as practising med-

[1] Medicolegal Bulletin, August 1903.
[2] Wisconsin Medical Journal, Vol. i, No. 3, p. 177, March, 1903.
[3] Deutsche medicinische Wochenschrift, January 1, 1903.
[4] Medicolegal Bulletin, June, 1903.

[1] Vierteljahrsch. f. gerichtl. Med., Vol. xxii.
[2] Medicolegal Bulletin, June, 1903.
[3] Journal of Mental Sciences, Vol. xlix, p. 755, October, 1902.
[4] Münchener medicinische Wochenschrift, October 14, 1902.
[5] Jour. of the Amer. Med. Assoc., March 14, 1903.
[6] The Medicolegal Bulletin, May, 1903, p. 240.

icine within the meaning of this act who shall, within this territory, (*a*) by advertisement, or by any notice, sign, or other indication, or, by any statement written, printed, or oral, in public or in private, made, done, or procured by himself or herself, or any other, at his or her request, for him or her, claim, announce, make known or pretend his or her ability or willingness to diagnosticate or prognosticate human diseases, ills, deformities, defects, wounds or injuries; (*b*) or who shall so advertise or make known, or claim his or her ability and willingness to prescribe or administer any drug, medicine, treatment, method or practice, or to perform any operation, manipulation, or apply any apparatus or appliance for cure, amelioration, correction or reduction or modification of any human disease, ill, deformity, defect, wound, or injury, for hire, fee, compensation, or reward, promised, offered, expected, received or accepted, directly or indirectly; (*c*) or who shall within this territory diagnosticate or prognosticate any human diseases, ills, deformities, defects, wounds, or injuries, for hire, fee, reward, or compensation promised, offered, expected, received or accepted directly or indirectly; (*d*) or who shall within this territory prescribe or administer any drug, medicine, treatment, method or practice, or perform any operation, or manipulation, or apply any apparatus or appliance for the cure, amelioration, alleviation, correction or modification of any human disease, ill, deformity, defect, wound, or injury, for hire, fee, compensation, or reward, promised, offered, expected, received or accepted directly or indirectly; (*e*) or who shall act as the agent of any person, firm or incorporation, in the practice of medicine as hereinbefore set forth, except it be in the advertisement of practice of dentistry, midwifery, or pharmacy, or in the usual business of opticians, or of venders of dental or surgical instruments, apparatus, or appliances. Any person or persons violating any of the provisions of this act upon conviction thereof shall be fined in any sum not less than one hundred ($100) dollars, nor more than one thousand ($1,000) dollars, or by imprisonment in the county jail for a period of not less than three (3) months, nor more than one (1) year, or both such fine and imprisonment, at the discretion of the courts." [J.H.W.R.]

Iron Peroxid not an Antidote to Arsenic.—Busscher[1] experimented upon rabbits and dogs with a view to determining the value of iron peroxid in the treatment of poisoning by arsenic, and found that when Fowler's solution was given it had no effect upon the action of this poison, except that when relatively small doses were given, life was prolonged. It also had the effect of delaying death when large doses were administered, but the effect was less marked. When arsenious anhydrid was given the antidote had the opposite effect, of increasing the action of the poison. When small does, which in themselves were not toxic, were given in association with peroxid of iron, death soon followed. Busscher explains this phenomenon as follows: Arseniate of iron is formed in the presence of ferriperoxid. While this is less poisonous than the potassium arsenite it is more toxic than arsenious anhydrid. He concluded that poisoning by arsenic can only be properly treated by lavage, the administration of emetics and purgatives and not by antidotes. [J.H.W.R.]

Interpretation of the Words "Permanently or Totally Disabled." [2]—The Supreme Court of Minnesota, in the case of Monahan vs. the Supreme Lodge of the Order of Columbian Knights, held that the words, "permanently or totally disabled," by reason of accident or disease from following any occupation whatever do not necessarily mean that one should be so disabled as not to be able to follow some light employment. The words, "following an occupation," mean something more than merely performing one or more acts of that occupation, and imply the idea of continuity involving the performing of all the essential parts of the work or business in which a man is employed. [J.H.W.R.]

Reciprocity of Licenses to Practise Medicine.[3]—The Oregon Legislature passed a bill which gave the State Board of Medical Examiners power to grant licenses to physicians without examination, providing they possess a license from State boards which extend similar privileges to the licensed physicians in Oregon. At present this practically means the State of Washington, which has a similar clause in its examination law. [J.H.W.R.]

Concerning Heredity in Mental Diseases.—Before heredity can be considered an etiologic factor in mental diseases it is necessary, according to Janregg,[1] to note the degree in which the same variety of antecedents are found in individuals with sound minds; only when this is done can it be determined whether the antecedents of insane people are in reality worse than those of people with sound minds. It is wrong to search the family side-lines for such factors; only the parents of a patient, not the grandparents, uncles, aunts, and cousins, should be considered. Another error which is usually committed by statisticians is in addition to mental diseases many other conditions are believed to increase the tendency to insanity; *i. e.*, nervous diseases, dipsomania, suicide, apoplexy, etc. They exist in families of good mental equilibrium as frequently, if not more so, than in others. Predisposition to mental diseases is inherited, and they vary for each individual disease and in each family. Other statistics for proving heredity a factor in mental disease—family trees—are worthless for practical purposes, since every variety of disease is considered a factor in its establishment. Since out of every 1,000 individuals 45 show mental disease, every one has to some extent hereditary antecedents of unsound mind, and the division into individuals with or without inherited tendency must be of little value. [E.L.]

Liberal Interpretation of "Totally Disabled." [2]—The Court of Appeals of Colorado, in the case of Mutual Benefit Association vs. Nancarrow, holds that the words "totally disabled" and "confined to the house" should receive reasonable interpretation. It does not believe that an occasional and temporary absence from the house is inconsistent with the proper interpretation of these words. An individual might be incapacitated from work, yet be able to ride to his physician's office in the cars. [J.H.W.R.]

Lunacy and Law.—Under this heading the *Medical Press*, April, 1903, p. 355, publishes an editorial in which it refers to papers read before the Medico-Psychological Association of Great Britain and Ireland, at the instance of Sir William Gowers and Dr. Ernest White. The important question seems to lie in the stigma which follows one who has been unfortunate enough to have been treated in an asylum. The term "mental hospital" should be applied when speaking of an asylum. It is believed that if this term were adhered to religiously the supposed stigma would not again be heard of. A patient treated in a general hospital has no stigma attached to him; why, then, should one be attached to a patient who has been treated in a mental hospital? There is no sharp line between diseases of the body and of the mind, and in mental cases there is often more indication for the attention of the physician than for mental treatment. The stigma which formerly was attached to tuberculous patients is now rapidly disappearing, and there is no reason why in the future the same should not be true of cases of insanity. It is regretable that general practitioners encourage this unnatural sentiment among the laity by treating insane patients in private dwellings, a fact which militates against the patient's chances of recovery. He diagnoses the case as neurasthenia, and continues to delude the family of the patient until the symptoms of insanity become so pronounced that it is impossible to disguise the character of the case any longer. This is a condition which should not exist at the present stage of psychologic medicine. The establishing of real hospital wards in mental hospitals has done a great deal to remove the prejudices among the laity against such institutions. If terms such as "asylum," "lunatic," etc., were abolished, it would not be very long before the attitude of the public toward mental hospitals would be much more favorable. When the prejudice against consulting the physician for mental symptoms can be removed, the preventive treatment of insanity will have made considerable progress. The suppression of symptoms also is a serious

[1] Arch. Internat. de Phar. et de Therap., No. 10, 5-6.
[2] Jour. of the Amer. Med. Assoc., February 28, 1903.
[3] Medicolegal Bull., April, 1903, p. 204.

[1] Wiener klin. Wochenschrift, October 30, 1902.
[2] Jour. of the Amer. Med. Assoc., March 14, 1903.

obstacle in the treatment of mental disease, for it is most important that the history of the disease should be fully known to the physician. The editor expresses the hope that the public will view these matters in their true light, and that the prejudices will soon disappear. [J.H.W.R.]

The State Board of Registration in Montana.[1]—The Montana Legislature has passed 2 bills, one making a provision for appeals, which provides that all appeals against the decision of the Board of Medical Examiners shall be tried before a jury of 6 physicians, of which two, at least, shall be of the same school of medicine as the appellant. Thus this act takes the matter of professional conduct, standing, etc., out of the hands of the lay judges and jury. The second bill provides for reciprocity, and provides that applicants may receive a certificate and practise medicine in Montana if they present to the Board of Examiners a certificate from a Board of Medical Examiners from any other State recognizing the certificates from the State of Montana, which certifies that he has passed a proper examination, or is qualified to practise medicine in the said State, or, further, in such case that the applicant was exempt from examination by reason of his having resided in the said State in active practice at the time of the passage of the act, providing that applicants shall pass an examination. [J.H.W.R.]

Antitoxic Serum in Morphin Poisoning.—Leo Hirschlaff[2] experimented upon dogs and mice in an effort to discover an antiserum which was effectual in combating poisoning by morphin. He found that by injecting increasing doses of this drug into animals there developed in the blood of these animals something which, when injected into other animals, protected them against acute poisoning by fatal doses. He employed this serum in a case of morphin poisoning in a man, with success. Camphorated oil, atropin, coffee, camphor-ether, and lavage of the stomach were also used. The serum was employed in cases of chronic morphinism with encouraging results. Hirschlaff states that at no time was there the slightest local or general reaction observed. [J.H.W.R.]

Examinations Concerning the Osmotic Pressure and Electric Conductivity of the Blood in Medicolegal Diagnosis of Death by Drowning.—M. Carrara[3] attempts to prove with cryoscopy and electric conductivity, that in death by drowning a considerable quantity of fluid enters the blood. This, by passing through the pulmonary circulation, dilutes the blood contained in the left side of the heart more than that in the right. This is determined more accurately through cryoscopy than any other method. A body thrown into the water will not show any degree of blood dilution. Even if the body has been in the water some time the osmotic pressure between the halves of the heart will remain the same, and thus differentiate a drowned body from one simply thrown into the water. Fresh water deaths can be differentiated from salt water deaths, as the osmotic pressure of the former is not nearly as great as the latter. The electric conductivity of the blood is affected in exactly the same manner. [E.L.]

Tartar Emetic Poisoning.—Thomas Stevenson[4] reports 3 cases of poisoning by tartar emetic, with postmortem records. In 1 case the tissues were examined 8 days after death, and the stomach was found to contain .64 gr., the bowels contained 16.64 gr., the liver 1.98 gr., the kidneys .39 gr., and the brain 47 gr., making a total of 20.12 gr. of the drug. The second case was examined 21 months after death and 29.12 gr. of the drug were discovered in the stomach and its contents, the intestines and their contents, and the liver and kidneys. The third case was examined 5 years after burial, and 3.83 grains of the drug were found in the stomach, intestines, liver, and kidneys. The clinical histories of two of the cases are given, and there was nothing in them to suggest the possibility of poisoning, nor was there anything in the surrounding circumstances to indicate foul play. [J.H.W.R.]

The Toxicity of Sublamin.—A. Schuftan[5] has made studies to determine the toxicity of this drug as compared with sublimate. He introduced sublamin into rabbits by the mouth, subcutaneously and intravenously with the result that death occurred usually in the characteristic way. First there was marked excitement, then the head became more and more heavy until it could no longer be raised. The extremities next became paralyzed and the animal fell over. The respirations became difficult, and finally the animal died in convulsions. In some instances the muscles of mastication were involved first, and sometimes a bloody diarrhea developed. Sublamin was found to be less toxic than sublimate by weight, but when it is remembered that 17 parts of sublamin correspond to 10 parts of sublimate, the former is seen to be the more active, due probably to the fact that the coagulation of albumin in solution does not occur. [J.H.W.R.]

Heroin Habit.—George E. Pettey[1] reports a number of cases of the heroin habit. He states that this drug has little or no primary stimulating effect, and while it is more prompt and certain as a hypnotic, it is less useful as an analgesic. It has not the intense effect upon peristalsis of morphin, and is not so apt to produce constipation. In those cases in which morphin is indicated over a long period of time, heroin is preferable. He believes that the same precautions should be taken with heroin as with other forms of opium. [J.H.W.R.]

Colchicin Poisoning. — Courtors-Suffit and Trastour[2] describe a case of fatal poisoning by colchicin in a man of 43, who had nephritis and was subject to gout. He took 12 capsules, each containing ½ mg. of colchicin and 20 cm. of methyl salicylate, in one evening. On the following morning he awoke prostrated, and vomited blood-tinged mucus. He had also unconsciously vomited through the night. Melena and hematuria were present, but no diarrhea. Four days later he was admitted to the hospital, when his condition was as follows: He was pale and cyanosed and the extremities were cold. The second sound of his heart was accentuated, and there was present a bruit de galop. Tremors, rapidly increased by excitement, were present. Arthritis of the right elbow, attributed to the drug, was observed. The urine contained albumin and blood. Ten days after the ingestion of the drug the patient died, and the necropsy revealed intense congestion of all the organs, particularly the stomach and intestines, and there was extravasation of blood in places. There was interstitial nephritis, the left kidney weighing 60 grams, and the right 80 grams. Up to the time of death the urine contained colchicin. It is to be noted that the usual symptoms of colchicin poisoning, namely, headache, abdominal pain, abundant vomiting diarrhea, etc., were absent. This case shows the importance of using colchicin with care in cases of gout in which the kidneys are diseased. [J.H.W.R.]

[1] Medicolegal Bull., April, 1903, p. 207.
[2] Berliner klinische Wochenschrift, Nos. 49 and 50, 1902.
[3] Vierteljahrschrift für gerichtliche Medicin, Vol. xxiv, 236.
[4] British Medical Journal, April 11, 1903.
[5] Medical News, January 3, 1903.

THE PUBLIC SERVICE

Health Reports.—The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended December 11, 1903:

SMALLPOX—UNITED STATES.			Cases	Deaths
California:	San Francisco	Nov. 22–29	1	
Maine:	Madawaska Twp	Nov 1–30	65	
Michigan:	Detroit	Oct. 31–Nov. 5	3	
	37 localities	Nov. 21–28	Present.	
Mississippi:	Natchez	Nov. 29–Dec. 6	11	
Missouri:	St. Louis	Nov. 28–Dec. 5	2	
New Hampshire:	Manchester	Nov. 29–Dec. 5	2	
New Jersey:	Camden	Nov. 29–Dec. 5	3	1
New York:	New York	Nov. 29–Dec. 5	1	1
Ohio:	Cincinnati	Nov. 27–Dec. 4	5	
	Dayton	Nov. 28–Dec. 5	1	
	Youngstown	Nov. 28–Dec. 5	19	
Pennsylvania:	Erie	Nov. 28–Dec. 5	13	
	Johnstown	Nov. 28–Dec. 5	7	
	McKeesport	Nov. 28–Dec. 5	1	
	Philadelphia	Nov. 29–Dec. 5	99	15
	Pittsburg	Nov. 29–Dec. 5	28	6
			One imported.	
Tennessee:	Memphis	Nov. 29–Dec. 5	5	
Utah:	Salt Lake City	Nov. 21–28	2	
Wisconsin:	Milwaukee	Nov. 14–28	3	
SMALLPOX—INSULAR.				
Philippine Islands:	Manila	Oct. 10–24	1	

[1] Medical Record, April 18, 1903.
[2] Lancet, May 2, 1903.

SMALLPOX—FOREIGN.

Austria:	Prague	Nov. 7-21	16	
Belgium:	Brussels	Nov. 7-14		2
Brazil:	Rio de Janeiro	Oct. 25-Nov. 8	89	59
Chile:	Antofogasta	Oct. 1-31		13
Colombia:	Barranquilla	Nov. 15-22		1
France:	Paris	Nov. 7-21	10	1
Great Britain:	Glasgow	Nov. 13-27	38	5
	Newcastle-on-Tyne	Oct. 31-Nov. 21	8	
	Nottingham	Nov. 14-21		1
Italy:	Catania	Nov. 12-19		5
Malta:		Oct. 31-Nov. 7	1	
Russia:	Moscow	Nov. 7-14	5	3
	Odessa	Nov. 7-21	4	2
	St. Petersburg	Nov. 7-14	54	
Turkey:	Constantinople	Nov. 8-15		1
	Smyrna	Nov. 1-15		29
Venezuela:	Guarico District	Oct. 26	Epidemic.	
	Pascua District	Oct. 26	Epidemic.	
	Tucupido District	Oct. 26	Epidemic.	

YELLOW FEVER—UNITED STATES.

Texas:	Laredo	Dec. 1-7	2	

YELLOW FEVER—FOREIGN.

Mexico:	Ciudad Victoria	Nov. 15-21	5	4
	Linares	Nov. 15-21	29	4
	Merida	Nov. 15-21	5	2
	Nuevo Laredo	Nov. 15-21		1
	Tampico	Nov. 15-21	2	2
	Tehuantepec	Nov. 15-21	1	
Venezuela:	Barquisemeto	Oct. 16	Present.	
	Tucuyo	Oct. 16	Present.	

CHOLERA—INSULAR.

Philippine Islands:	Manila	Oct. 10-24	60	57
	Provinces	Oct. 10-24	1700	1384

CHOLERA—FOREIGN.

India:	Calcutta	Oct. 24-31		19
Straits Settlements:	Singapore	Oct 17-24		12
Turkey in Asia:	Aintab	To Nov. 9	9	4
	Aleppo	To Nov. 9	16	15
	Anah	To Nov. 9	51	93
	Antioch	To Nov. 9	7	7
	Biredjik	Nov. 9	4	4
	Damascus	To Nov. 9	2	2
	Dolonki	To Nov. 9	11	11
	Haiffa	To Nov. 9	7	5
	Urfa	To Nov. 9	4	2

PLAGUE—INSULAR.

Philippine Islands:	Manila	Oct. 10-24	3	2

PLAGUE—FOREIGN.

Australia:	Perth	Oct. 13	1	
Brazil:	Para	Nov. 1-8	2	
	Rio de Janeiro	Sept. 28-Oct. 18	124	53
Chile:	Iquique	Sept. 1-30	12	7
Egypt:	Alexandria	Oct 31-Dec. 11	2	3
India:	Calcutta	Oct. 24-31		19
Japan:	Yokohama	Oct. 17-24	3	4
Mauritius:		Oct. 29-Nov. 5	72	36

Changes in the Medical Corps of the U. S. Army for the week ended December 12, 1903:

HUGHES, LEONARD S., contract surgeon, is granted leave for two months, with permission to visit the United States, and with authority to apply for extension of one month.

WATERHOUSE, First Lieutenant SAMUEL M., assistant surgeon, is relieved from further duty at Jolo, Jolo Island, and will proceed to Iligan, Mindanao, for duty.

LEWIS, Captain WILLIAM F., assistant surgeon, is relieved from duty at Camp Vicars, Mindanao, and will proceed to Jolo, Jolo Island, for duty.

MARROW, First Lieutenant CHARLES E., assistant surgeon, is granted leave for fifteen days, to take effect upon completion of his examination for promotion at Washington, D. C.

STEER, First Lieutenant SAMUEL L., assistant surgeon, is granted leave for twenty-one days.

SHILLOCK, Major PAUL, surgeon, is granted leave for four months, with permission to go beyond sea.

POLHEMUS, Major ADRIAN S., surgeon, leave granted November 7 is extended one month.

A board of medical officers, to consist of Lieutenant-Colonel George H. Torney, deputy surgeon-general; Major Louis Brechemin, surgeon; Major Walter Stephenson, surgeon; Captain James M. Kennedy, assistant surgeon, is appointed to meet at the United States General Hospital, Presidio, for the examination of candidates for admission to the medical corps of the Army.

A board of medical officers, to consist of Major John M. Ranister, surgeon; Major W. Fitzhugh Carter, surgeon; Major Henry I. Raymond, surgeon; Captain Thomas J. Kirkpatrick, assistant surgeon, is appointed to meet in Manila, P. I., for the examination of candidates for admission to the medical corps of the Army.

SPARRENBERGER, FREDERICK H., contract surgeon, now at Denver, Col., will proceed to Fort Mott for duty.

WATERHOUSE, M. MANLEY, contract surgeon, is relieved from duty in the department of the East, to take effect upon the arrival of Contract Surgeon Frederick H. Sparrenberger at Fort Mott, and will then proceed to Fort Sheridan for assignment to duty with troops of the Second Cavalry en route to the Philippine Islands.

ARTLAND, FRANK E., contract surgeon, now at Lake Providence, La., will proceed to San Francisco, Cal., for transportation to the Philippines on the transport to sail about January 1.

LYON, WILLIAM H., sergeant first class, now at Fort Columbus, will proceed to Fort Mansfield for duty.

So much of orders of October 23 as direct Sergeant First Class William McFarland to proceed to Fort Mansfield, is amended to Fort Mott, to relieve Sergeant First Class Patrick Looby. Sergeant Looby will proceed to Fort Robinson for duty.

SLATER, ERNEST F., contract surgeon, is relieved from further duty in the division of the Philippines, and upon his arrival at Fort Ethan Allen with the Third Squadron, Fifteenth Cavalry, will proceed to Fort Hancock for duty.

BOURKE, First Lieutenant JAMES, assistant surgeon, is relieved from duty at Fort Sheridan and will proceed to Chicago, Ill., and report for temporary duty as attending surgeon and examiner of recruits in that city.

CORNMANN, LEIGHTON R., contract surgeon, now at Lowell, Mass., will proceed to Fort Sheridan for assignment to duty with troops of the Second Cavalry en route to the Philippine Islands.

AMADOR, R. A., contract surgeon, leave granted September 17 is extended fifteen days.

PURVIANCE, Captain WILLIAM E., assistant surgeon, is granted leave for two months.

RAMSAY, WILLIAM H., contract surgeon, now at Omaha, Neb., will report to the commanding general, department of the Missouri, for assignment to duty.

KILBOURNE, Lieutenant-Colonel HENRY S., deputy surgeon-general, will proceed to Manila, via Hongkong, on the Oriental Steamship Company's steamer sailing December 8.

RHOADES, REX L., contract dental surgeon, will proceed to Manila, via Hongkong, on the Oriental Steamship Company's steamer sailing December 30.

REAGLES, JAMES, contract surgeon, leave granted November 4 is extended one month.

Changes in the Medical Corps of the U. S. Navy for the week ended December 12, 1903:

WHEELER, W. M., surgeon, ordered to the Navy Yard, Puget Sound, Washington, and also on board the Nipsic.—December 4.

THOMPSON, J. C., passed assistant surgeon, detached from the Navy Yard, Washington, and ordered to the Albatross—December 4.

BUTLER, C. S., assistant surgeon, detached from the Albatross and ordered home to wait orders—December 4.

PECK, C. S., assistant surgeon, detached from the Iris and ordered home to wait orders—December 4.

PERCY, H. T., surgeon, detached from the Indiana and ordered to the Iowa—December 7.

JENNESS, B. F., assistant surgeon, detached from the Indiana and ordered to the Iowa—December 7.

BROWNELL, C D. W., surgeon, ordered to the Amphritrite, with additional duty at the Naval Station, Guantanamo, Cuba—December 8.

PICKRELL, G., surgeon, ordered to additional duty in charge of the Naval Hospital, San Juan, P. R.—December 8.

MCDONNELL, W. N., acting assistant surgeon, detached from the Naval Academy and ordered to the Glacier—December 8.

Changes in the Public Health and Marine-Hospital Service for the week ended December 10, 1903:

BROOKS, S. D., surgeon, to proceed to Brunswick, Ga., and assume temporary command of station—December 8, 1903.

MCMULLEN, JOHN, passed assistant surgeon, relieved from duty at Hongkong, China, and directed to proceed to San Francisco, Cal., and report arrival by wire—December 3, 1903.

PARKER, H. B., passed assistant surgeon, to proceed to New York, N. Y., and report to Surgeon G. W. Stoner, Immigration Depot, for duty—December 7, 1903.

WHITE, M. J., passed assistant surgeon, relieved from duty at Honolulu, H. T., and directed to proceed to Hongkong, China, for duty—December 2, 1903.

RICHARDSON, T. F., assistant surgeon, granted leave of absence for seven days from December 6, 1903, under paragraph 191 of the regulations.

AMESSE, J. W., assistant surgeon, to proceed to Seattle, Wash., and assume command of the service at that port—December 3, 1903. Granted leave of absence for one day—December 5, 1903.

BERRY, assistant surgeon, detailed as inspector of unserviceable property at Cleveland, Ohio—December 5, 1903. To proceed to Cairo, Ill., and assume temporary command of service at that port during absence of Surgeon P. E. Guiteras—December 10, 1903.

EBERSOLE, G. M., assistant surgeon, relieved from duty at Gulf Quarantine Station, and directed to proceed to Tampa Bay Quarantine Station and assume command—December 7, 1903.

EBERT, H. G., assistant surgeon, granted leave of absence for four days from November 28, 1903, under paragraph 191 of the regulations.

SMITH, A. C., assistant surgeon, to proceed to Santa Clara, N. Y., for special temporary daty to examine aliens—December 10, 1903.

BREADY, J. E., acting assistant surgeon, granted leave of absence for two days from December 15—December 8, 1903.

GREGORY, G. A., acting assistant surgeon, granted leave of absence for seven days from December 5—December 4, 1903.

RYDER, L. W., pharmacist, granted leave of absence for fifteen days from December 10—December 9, 1903.

Casualty.

BURFORD, HUGH, acting assistant surgeon, died at Brunswick, Ga., December 7, 1903.

American Medicine

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PUBLISHED WEEKLY AT 1321 WALNUT STREET PHILADELPHIA BY THE AMERICAN-MEDICINE PUBLISHING COMPANY

VOL. VI, No. 26. DECEMBER 26, 1903. $5.00 YEARLY.

Street Sampling of Drugs.—The *Druggists' Circular and Chemical Gazette* rightly denounces this abuse. It says that a number of cases of overdosing and injury of children have occurred, and that as a result local laws have been enacted prohibiting such free sampling of drugs. No objection can be made to this sampling when it concerns harmless products, but when narcotics and poisons are indiscriminately given to anybody passing in the street, it is evident that not only may accidents happen, but that the morbid habit of drug-taking may be encouraged. The circular says that Mr. H. Mannhardt, a Chicago chemist and graduate of the University of Michigan, went before a notary and swore that he had analyzed Crown Catarrh Cure, Dr. Birney's Catarrhal Powder, Noseine Catarrh Powder, and California Catarrh Cure and that each of them contained cocain. On this testimony the Illinois Board of Pharmacy is endeavoring to get Chicago pharmacists to stop selling these preparations, their sale being illegal in that State. In Illinois it is a violation of law to either sell or give away anything containing cocain. In New York it is illegal for nostrum manufacturers to furnish any scheduled poison without proper labeling. As cocain is in the list of poisons, it is evident that these sample distributors were violating the law by their furnishing passers-by with this poison in the manner in which they did. The tempting of people to become cocain fiends through the aid of free samples is certainly no ordinary crime and deserves severe punishment. Boards of Health should give the matter attention and try to stop so dangerous and pernicious a method of advertising.

"Live Feathers" is the sign often displayed as an inducement to purchasers of feather-beds and pillows, and we wonder if the members of the antivivisection societies have found their sleep more peaceful and innocent by their use. We have never heard a word of protest on the part of these antis against the universal custom of plucking the feathers from living geese, ducks, and chickens. Recently the neighbors of a householder in Philadelphia were horrified by an often-repeated spectacle in his back yard. The live chickens for the Sunday dinner were strung up by the feet from a pole, and while a woman held and choked the animal to stifle its cries, every feather was plucked from its quivering body. The agent of the Society for the Prevention of Cruelty to Animals—a society entirely distinct from those of the antivivisectionists, who seem little concerned by animal suffering except of one (mostly imagined) kind—tells us that many instances of such cruelty to chickens have been unearthed, and that all were by one race of people. We are unable to learn exactly why this is so, or if it is true generally. It is a disgrace that should be stopped. The Pennsylvania S. P. C. A. is also making persistent attempts to bring to an end the common shipment of fowls in crates too small and overcrowded, and also against the tying of turtles with cords thrust through the limbs. Then there are dozens of other kinds of disgusting cruelties—performing animals, castration of domestic animals, etc.—which do not seem to move our antivivisectionist critics to pity.

A Bad Mistake of the London Antivivisectionists!—"The Antivivisection Society" (of Great Britain) has been hoist by its own petard. An action was taken by Dr. Bayliss, assistant professor of physiology at University College, against the secretary of that society for defamatory statements publicly made by the latter, which were also reported in the columns of the *Daily News*. Stimulated by the verbal report conveyed to him by an enthusiastic Swedish lady and her companion, the energetic secretary (the Hon. Stephen Coleridge, a member of the English bar) took this rash step for the purpose of exposing the unspeakable ways and methods of the experimental physiologists. Subsequent events have demonstrated that "it was worse than a crime, it was a blunder." In the course of his remarks, in opening the case for the plaintiff, the counsel observed that: "During the course of the performance of the experiments and researches which were necessary, which had been performed not only by Dr. Bayliss, but by a large body of men such as Lord Lister, Sir Victor Horsley, and gentlemen of that eminence, it was curious that Mr. Stephen Coleridge had made attacks on a number of persons on the ground that what they were doing was ruthless torture and torment, with the allegation, which was a serious part of the case, that they performed these operations, and cut and tortured the animal when it was fully conscious, and without recourse to anesthetics. That was the charge in the present case." It is peculiarly—we may say, startlingly—painful to find

an educated (and presumably enlightened) man avowing (upon oath) his continued belief in the statements of his lady friends, after they had been absolutely denied by Dr. Bayliss and his assistants, whose evidence was corroborated by a number of independent witnesses. Fortunately for science and justice, the jury were more perceptive or less prejudiced, and they returned a verdict for Dr. Bayliss, with $10,000 damages. So that the only course now open to the Antivivisection Society to reestablish their damaged dignity is to pay the large bill of damages and costs for their secretary, and proceed to decorate him with the crown of martyrdom! The practical lesson which has been enforced must necessarily have some moderating effect on the public statements of antivivisectors, and Dr. Bayliss should be congratulated on his victory.

Statistics of attendance of our 20 largest universities are subjoined, taken from an article by Dr. Rudolf Tombo, Jr., in *Science* of December 11, 1903. As a general rule, there is an increase of students over last year, this, however, not being so great as would have been the case had not the attendance at the schools of medicine, pharmacy, and dentistry shown a somewhat sudden falling off.

	California.	Chicago.	Columbia.	Cornell.	Harvard.	Illinois.	Indiana.	Johns Hopkins.	Leland Stanford, Jr	Michigan.	Minnesota.	Missouri.	Nebraska.	Northwestern.	Ohio State.	Pennsylvania.	Princeton.	Syracuse.	Wisconsin.	Yale.
College Arts, Men	490	569	493	} 726	2077	302	923	158	800	742	470	284	330	371	271	} 514	732	} 942	732	1251
College Arts, Women	943	812	399		444	305	596	.....	478	685	745	133	608	421	200				525	.....
Scientific Schools*	840	.....	719	1317	547	797	§	.....	§	801	524	253	382	§	720	540	586	264	705	845
Law	80	89	384	285	734	140	95	.....	198	823	430	180	170	210	159	324	.....	125	194	255
Medicine	118	147	669	355	380	669	25	278		448	265	80	59	512	.....	472	.....	140	.....	144
Agriculture	†	.....	.....	135	19	285	.....	.....	.....	.....	700	67	98	.....	151	.....	.....	...	496	.....
Art	206	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	49	.....	33
Dentistry	112	.....	.....	.....	115	585	.....	.....	.....	74	140	.....	19	500	.....	363	.....	.....	.....	.....
Divinity	.....	177	.....	.....	50	.....	.....	.....	.....	.....	.....	.....	.....	150	.....	.....	.....	.....	.....	98
Forestry	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	21	.....	.....	.....	.....	64
Music	.....	.....	.....	.....	.....	93	.....	.....	.....	.....	.....	.....	320	318	.....	22	.....	579	227	80
Pharmacy	84	.....	.....	.....	.....	183	.....	.....	.....	56	46	.....	.....	217	47	.....	.....	.....	32	.....
Teachers College	‡	95	624	...	.....	.....	.....	.....	.....	.....	.....	84	.....	.....	...	165	.....	‡	.....	.....
Veterinary	.....	.....	.....	85	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	84	75	.....	.....	.....	.....
Graduate Schools	207	442	620	177	394	104	73	194	86	69	75	42	88	43	27	195	116	46	95	316
Summer Session	868	2244	1001	470	1392	225	479	.....	18	523	175	639	191	.....	104	.....	.....	52	400	.....
Other Courses	32	.....	17	157	.....	72	.....	65	.....	.....	.....	.....	.....	100	35	.....	.....	110	.....	15
Deduct Double Reg.	(290)	(429)	(369)	(219)	(139)	(99)	(577)	(1)	(210)	(245)	(20)	(222)	(18)	(102)	(109)	(26)	.....	(100)	(185)	(141)
Grand Total	3690	4146	4557	3438	6013	3661	1614	694	1370	3926	3550	1540	2247	2740	1710	2644	1434	2207	3221	2990
Teaching Staff	342	197	585	420	549	399	71	150	128	182	295	106	220	304	140	308	108	180	225	325

* Includes schools of engineering, chemistry, architecture, mining, and mechanic arts. † Included in scientific schools. ‡ Included in college statistics. § Included in college statistics.

Medical College Statistics.—The figures in the foregoing table concerning medical students are, of course, not complete, because of the fact that they do not include nonaffiliated medical colleges. But they are indicative, and if, as appears, there has been a general reduction in the number of medical as compared with other students, the profession must be interested to find an explanation. The relative falling off may be due to one or more of several causes:

1. The higher standards exacted by all schools, and especially by the university schools may account for the decreased attendance. This may explain it in a general way, or only the decrease in these special schools.

2. The decrease in the deathrate and the sickness-rate consequent upon preventive medicine and public hygiene may account for the lessened chances of professional income and so of the number of students.

3. The increase of opportunities to make money and success in other careers of life, while in medicine it is the reverse.

4. The additional cost and length of the medical course of study may prevent many from entering upon it.

5. The intellectual ability now required to complete the course of study and attain success in competition with an increasingly bettering class of minds deters those less well equipped intellectually, from undertaking the arduous task.

Doubtless each cause in individual cases has been operative, and, as probably, all combined have been effectual in bringing about a necessary and desirable reduction in the total enrollment.

Vivisection and Theology.—A recent article in *The Humane Review*, the special organ of the antivivisectionists, bears the title, "Cruelty to Animals and Theology: A Reply." It gives the orthodox teaching of the Roman Catholic Church on this now much-debated subject. The writer is the Right Rev. Mgr. Canon John S. Vaughan. He takes for the text of his discourse two quotations from the published opinions of English cardinals. "*We have no duties toward the brute creation;* there is no relation of justice between them and us. Of course, we are bound not to treat them ill, for cruelty is an offense against that holy law which our Maker has written on our hearts, and it is displeasing to Him. But they can claim nothing at our hand; into our hands they are absolutely delivered. We only use them; we may destroy them at our pleasure, not our wanton pleasure, but still for our own ends, for our own benefit and satisfaction, provided that we can give a rational account of what we do." These are the words of Cardinal Newman. The second quotation is from Cardinal Manning: "It is true that man owes *no duty directly to the brutes*, but he owes it to God, whose

creatures they are, to treat them mercifully." Starting from these expressions, the writer proceeds to explain the present teaching of the Church on the subject of cruelty to animals in general, and that of vivisection in particular. The article is brilliantly written and subtle, but unconvincing, and it would be without practical result under any circumstances. It is special pleading, and would be without effect upon atheists. If these were the only motives and reasons for kindness to animals, we fear the poor animals would suffer far worse than now. In truth, the greatest cruelty and the greatest amount of cruelty is shown in the most Catholic nation—Spain. Religion seems historicly to have had no thought of the sufferings of animals, the greatest agency in lessening them is medical science.

Smallpox Barbarism.—If the newspaper reports are true, an incident occurred last week in the supposedly civilized State of Pennsylvania, which illustrates how little the people are removed from barbarism, especially when exposed to infectious disease. The report says that 24 people were cooped up in a car in a desolate spot on a mountain side and not allowed to leave it; they were guarded day and night by sheriffs with shotguns. When finally they were allowed to go to a neighboring town, these men and women were turned out into the cold, and maltreated, for 3 days, and then were shipped to a neighboring State. All this was because one of these 24 in the car on the mountain side, had smallpox. Why did he have the disease? Because he had not been vaccinated. Why were the others of the Company treated so brutally? Because they were in intimate association (a theatrical company) with at least one person who had not been vaccinated. Why were the neighborhood people, armed with shotguns, such savages? Because many of them had not been vaccinated, and they had not been instructed that vaccination prevents smallpox. Why were they not vaccinated and instructed? Because there is no State law making vaccination compulsory. Why is there not such a law?

Ankylostomiasis in Great Britain.—The ankylostoma plague has of recent months forced itself very prominently under the notice of the British public. The "miners' worm" has heen imported in quantity into Great Britain from the Continent and from South Africa, where many thousands of subterranean operatives have been attacked by this peculiar parasite. The *Colliery Guardian* has issued a special supplement devoted to a full and critical examination of ankylostomiasis, its cause, treatment, and prevention, issued, of course, in the joint interests of the mine-owners and the miners; and it is pointed out that if both parties—the employers and the employed—will join in hearty cooperation, the disease will be eradicated. The writer treats his subject very thoroughly, indeed; and his text is profusely and instructively illustrated. The document is an exhaustive one; and should prove of great value to all interested in the mining industries—we should add the tunnelling industry too, as it is well known that the first great recorded epidemic of Europe occurred among the workmen engaged in the construction of the great St. Gothard tunnel. Another result of the parasitic visitation was a Conference held at the Home Office, Whitehall—between the representatives of the coal owners and miners of England and Wales, with the purpose of discussing its appearance in English mines. The following conclusions were unanimously accepted:

1. That the time had not arrived for the promulgation of special rules. 2. That it is desirable that local conferences should be held in each district between the owners and miners in order to agree upon the best measures to be taken. 3. That a recommendation should be made to the Secretary of State that in the event of his attention being called to any mines which were seriously suspected of being infected, arrangements should be made for an examination of them. 4. That the Secretary of State should also be asked to circulate information as to the disease, its diagnosis, treatment, etc., to medical practitioners in mining districts and also (in a more popular form) to the persons engaged in the mining industry.

The Henry Phipps Institute Engages Dr. G. Sims Woodhead, and on December 29, this distinguished scientist will deliver an address in Philadelphia on the paths of Infection in Tuberculosis. The subject is one which just now is both of theoretic and practical interest to the profession, and American physicians will await with eagerness the conclusion which Dr. Woodhead has reached upon this most important question. The Institute is attacking the problem of tuberculosis in an admirable manner, and seems destined to become a powerful influence in America in combating the terrible disease.

Exemplary journalism is illustrated by the New York *Evening Post*, and medical men may take heart that there is at least one great newspaper which both in its advertising and reading columns upholds medical ethics and intelligence. The *Post* had been imposed upon in publishing a notice of the "Interdenominational Committee," and its supposed crusade for the "suppression of drug-habit." In the issue of November 21, *American Medicine* directed attention to the "Old German Scientist," the Rev. Dr. Richie, and the probability that investigation would show the humbuggery of the whole affair. Moved by our word of caution the *Evening Post* made inquiries which soon showed that Rev. Dr. Richie was simply a cheap peddler of a secret tonic, the first bottle costing 25 cents, the next, $1.00, the third, $2.00. The "Rev. Dr." (does the contraction mean *Revenue?*) was arrested by the agent of the County Medical Society and fined $75 for illegally practising medicine. The reporter elicited the information that the formula for the nostrum might be obtainable for perhaps $20,000. Since his legal punishment he has been prescribing under the protection of a certain "Dr. Linkworth," although this name is not listed as a registered physician of New York. The "Committee" met on December 17, and decided, in view of the revelations cited, to disband. The *Evening Post* should have the gratitude of all good citizens and especially of the medical profession for its demonstration that "the whole performance smacks of the baldest charlatanry."

AMERICAN NEWS AND NOTES.

GENERAL.

International "Reputation."—According to the journal of Barcelona, Spain, *La Medicina Práctica*, of September, 1903, Munyon's remedies are by Royal order disbarred from Spanish pharmacies.

Effect of the Antitoxin of Diphtheria.—The Bulletin of the Chicago Health Department says: "Seven years' experience clearly proves that no child should—that no child ever did die of diphtheria when treated early enough with a sufficient quantity of good antitoxin. The preantitoxin mortality of diphtheria in Chicago was about 35 deaths in every 100 cases of the disease. In the many thousands of cases among the poor and destitute treated by the Department inspectors, under the most adverse conditions the rate for the whole number has been less than 7 deaths in the 100 cases. And there are many physicians in Chicago and elsewhere who have records of hundreds of cases with a rate of less than 2 deaths per 100."

Chances for Promotion in the Marine-Hospital Service.—In an address elsewhere referred to in these columns, Surgeon-General Wyman said: "I know of no medical service in the world which holds out the same facilities for the professional advancement for its officers. It has at least 15 expert bacteriologists. It offers opportunity and encouragement for continued study, free from the petty annoyances and interruptions of private practice. It keeps its officers supplied with the latest special books, instruments, and apparatus, beyond the reach of many recent graduates. Aptitude and ambition to excel in any branch of medicine, surgery or preventive medicine have in it their full chance of fruition. Because of the extension of its functions by recent act of Congress, it is necessarily a growing service. The corps is being gradually but constantly enlarged. The service was by act of July 1, 1902, placed upon a broad and strong foundation, and has but just begun its development upon its higher plane. It has a fine record and a brilliant future—and it is free from politics."

Marine-Hospital Service.—In an address recently delivered before the students of Jefferson Medical College, Philadelphia, Surgeon-General Wyman said: It is not generally known that the Marine-Hospital Service was the pioneer in the adoption of the principles of Governmental appointment which some years later were embodied in the Civil Service law. Congress has increased its duties from time to time, adding those of quarantine, scientific investigation of disease, etc. There are 22 national marine hospitals and 121 relief stations; 56,000 seamen are treated annually in them. The surgeons examine by request of masters, any seamen about to ship for a voyage. They examine for color-blindness all applicants for licenses as pilots; treat all of the United States life-savers, seamen in the lighthouse and the revenue service, and seamen from foreign vessels, on request of the consul of their nation. They report upon epidemic disease and local sanitation. They make physical examinations to determine upon the fitness of life-savers and upon the condition of revenue officers in view of retirement. There are 37 quarantine stations at which Marine-Hospital officers are stationed. They inspect immigrants upon arrival. The service has charge of the tuberculosis sanitarium at Fort Stanton, New Mexico, where are 200 patients, nearly all of whom live in tents. Officers of this service are on duty in Hawaii, the Philippines, Porto Rico, Cuba, Tampico, Vera Cruz, and Progreso, in Mexico; at 8 of the principal fruit ports of Central America; at Panama, and occasionally you may meet them inspecting the sanitary conditions at other Pacific ports of Central America and Mexico. Officers are stationed in Japan, China, India, Italy, and Canada. Half a dozen surgeons are attached to the Hygienic Laboratory in Washington as scientific investigators; others pursue there a course of instruction, varying from 3 months to a year.

EASTERN STATES.

Scarlet Fever Germ Reported Discovered.—On December 14, Dr. Frank B. Mallory, assistant professor of pathology at Harvard Medical College, read a paper in that institution in which he reported the discovery of what he believes to be the germ of scarlet fever. He stated that in the skin of 4 patients affected by scarlet fever, and who died in the eruptive stage, he had found a series of bodies, which closely resembled the various development stages of a protozoon. Thus it appears that in its etiology the disease bears close relationship to malaria and other diseases caused by the protazoa. The bodies found in scarlet fever resemble the different stages of the sexual development of the malarial organisms, but do not live in the blood. Instead they live in the epithelial cells of the skin and tongue, between these cells, and in the superficial lymph vessels and spaces of the corium. Like the malarial parasites they multiply by forming segmenting bodies or rosets. These rosets are about one-third larger than the malarial rosets and the number of segments would seem to be about twice as many. Whether or not sexual development occurs as with the malarial microorganisms could not be determined.

Bequests to Charity.—BOSTON: By the will of the late George W. Boyd, bequests aggregating nearly $350,000 are made to charitable institutions in Boston, New York, and Maine. PHILADELPHIA: By the will of the late Charles Hart, an estate valued at $75,000 is left in trust, the income to be paid to the testator's mother. Upon her death the entire estate is left to charity. The following are the institutions which are to be recipients of portions of the estate: Children's Seashore Home, Atlantic City; Children's Country Week Association, Sanitarium Association, Pennsylvania Training School for Feebleminded Children, Philadelphia Home for Incurables, and Western Home for Poor Children, $5,000 each; Children's Aid Society, $3,000; Pennsylvania Society to Protect Children from Cruelty, Philadelphia Home for Infants, and Philadelphia Fountain Society, $2,000 each, and the Pennsylvania Society for the Prevention of Cruelty to Animals, $1,000. The balance is to be divided equally among the Children's Seashore Home, the Children's Country Week Association, the Sanitarium Association, the Philadelphia Home for Incurables, the Children's Hospital, and the Western Home for Poor Children. This will, however, is being contested by a son of the testator. —In disposing of an estate valued at $4,000, the will of Hannah Adler gives $2,000 to the Jewish Hospital, and $250 to the Jewish Foster Home and Orphan Asylum.

NEW YORK.

Decrease in Tuberculosis.—According to newspaper reports the deaths from tuberculosis in New York have decreased 40% since its Health Department began its crusade against the disease 2 years ago.

Deathrate among Foundling Babies.—Owing to the beneficent efforts of the State Charity Aid Association and the New York Association for the Improvement of the Condition of the Poor, the deathrate among foundling babies is now only 11%, which is less than the normal deathrate among all babies under 2 years of age in New York City.

Registering Barbers in New York.—Nearly 30,000 barbers have been registered under the new law in New York State, which forbids the knights of the razor to ply their trade without registration and license. The Board of Barber Examiners will prosecute those who fail to comply with the statute, and great will be the gain for cleanliness and security to health in many a "tonsorial parlor."

New York Academy of Medicine Elects Officers.—The annual election of officers of the Academy of Medicine on the evening of December 18, resulted as follows: Dr. W. Gilman Thompson, vice-president; Dr. George L. Peabody, trustee; Dr. John H. Huddleston, recording secretary; Dr. Charles S. Bull, corresponding secretary; Dr. Herman G. Klotz, member of library committee; Dr. Wisner R. Townsend, member of committee on admissions. Dr. Andrew H. Smith held over as president, his term being for 2 years.

International Warfare against the Mosquito.—On December 16, a convention was held in New York whose aim was to devise and perfect means for keeping out the mosquito. It was called by Governor Murphy, of New Jersey, and papers were presented and addresses made by a number of prominent men on the subject. Robert W. De Forrest, of the Charities Organization Society, and president of the Tenement House Commission, was chosen permanent president; H. Clay Weeks, secretary, and N. J. Mattheson, treasurer. Resolutions were adopted recommending that a provisional committee be appointed by the convention to consider the formation of a central organization of national character, with which local bodies might cooperate in conducting a gigantic mosquito crusade.

PHILADELPHIA, PENNSYLVANIA, ETC.

Serious Accident to Physician.—On December 14, Dr. George I. McLeod, Jr., fell under a moving train at Ardmore, a suburb of Philadelphia, and sustained injuries which necessitated amputation of both feet. Dr. McLeod is a promising young physician, and served as surgeon during the Spanish war on the staff of Captain Warburton, in Battery A, and is a member of the Bryn Mawr Hospital staff. His many professional friends greatly regret his serious misfortune.

Medical Lectures to School Teachers.—Mention of 50 medical inspectors to be appointed in Philadelphia, has hitherto been made in these columns. In arranging their work, it is found that they will not have sufficient time to inspect personally all students of public schools, and Director Martin is planning to have certain of this work done by the teachers after they have received lectures on the subject from medical men. He says: "It will be impossible for even 50 assistant medical inspectors to examine all the public school children every day, and for that reason it is the purpose of the department to prepare a course of lectures to which the school teachers will be invited, the purpose of which will be to enable them to detect disease among the pupils as soon as it appears. This will much simplify the work of the medical inspectors, for, instead of attempting the impossible task of examining all the pupils, they can give attention only to those pointed out by the teachers who are probable subjects needing attention.

To Prevent Smallpox.—The following letter addressed to the various physicians of Philadelphia should be heeded.

DEAR DOCTOR:—The conditions in Philadelphia are such as to threaten a grave epidemic of smallpox. Can you help in the preventive work by urging upon your patients and all the members of their households immediate vaccination of all unvaccinated persons, of all children over 12 who have been vaccinated successfully in infancy, of all adults who have not been vaccinated successfully within the last 5 years.

Cuban Itch.—An epidemic of Cuban itch is reported among the children attending the public schools at Essington. It is thought that the disease was brought there by some of the sailors who frequent the port in this section. The symptoms are an eruption of small acuminated vesicles over the body. Although not contagious the disease is transmissible by contact. The local health authorities will endeavor to prevent a spread of the epidemic.

The Pathological Society of Philadelphia.—The annual exhibition meeting of the Pathological Society will be held on January 14, 1904, at the College of Physicians. It is desirable that the high standard set in the past at these exhibitions be maintained. Any member of the society who has an interesting specimen or series of specimens illustrating any department of pathology is requested to communicate with the secretary in order that space for the different exhibits may be arranged. It is also desired te have an exhibition of microscopic sections of interesting conditions. D. J. McCarthy, secretary.

Typhoid Epidemic Threatens Pittsburg.—While Pittsburg is contributing funds to assist in checking the epidemic of typhoid fever at Butler, Pa., it is threatened with an epidemic of the disease itself. The Pittsburg Health Bureau December 15 reported 26 new cases of the disease during the previous 24 hours, which made a total number of cases of the disease reported to that date this month, 283. This is the largest number of cases reported during the same length of time (15 days) since the present Health Bureau was established. The patients are 90% from among those drinking water from the Allegheny river.—[*Public Ledger.*]

Cause of Typhoid Epidemic in Butler.—Dr. George A. Soper, a sanitary expert, engaged by the *Engineering News* to investigate the typhoid epidemic at Butler, Pa., has reported that the epidemic has by no means attained its culmination, about 50% of the cases not having reached the critical stage. The epidemic, which he regards as the most severe one of typhoid of recent record, he attributes to the suspension of the mechanical filtration of the city water supply. The water for the town is obtained from surface sources, and is usually treated by mechanical filtration, but during changes in the waterworks plant unfiltered water from the Conoquenessing Creek was supplied from October 20 to November 2, the epidemic starting on November 5. In 3 weeks there were 1,000 cases, and up to December 14, 1,247 cases and 51 deaths had been reported. Investigation of the drainage areas showed the existence of numerous sources of pollution, and particularly the occurrence of cases of typhoid on the banks of the Conoquenessing since July.

Situation at Butler, Pa.—The following statement has been issued by the official citizens of Butler and those in charge of the work directed against the epidemic and approved by Dr. Wilmer R. Batt, quarantine officer-at-large: "The number of typhoid fever cases in November was 1,123. The number of deaths from typhoid, 20. New cases up to December 13, 114. Number of deaths to December 13, 26. Total number of cases to December 13, 1,254. Total number of deaths to December 13, 51. For the past week the average of new cases has been 12 per day. The population of Butler and Lyndora, adjoining, is 18,000. A conservative estimate of those dependent upon daily wages is 14,000. The present organization, founded for the relief of the sufferers is composed of an executive committee, representing the very best element of our citizenship, elected by the citizens themselves. This committee has appointed various lady auxiliary and subcommittes in each ward. Typhoid experts and eminent physicians who have had large experience in epidemics of this character insist that we are confronted with a seige that in all human probability will continue to a greater or less degree for a period of from 2 or 3 months from this date, and that it will involve an expenditure of from $75,000 to $100,000 before the scourge will be completely eradicated and the normal condition of our community restored. The present contributions aggregate $25,000; our records show that up to date there has been expended for general relief purposes $18,000, in a period of 14 days, leaving a balance of $7,000, which will be exhausted within a period of 1 week. The extensive sanitary work made necessary by the existence of our epidemic has been assumed by the State Board of Health of Pennsylvania. Our municipality at present has a bonded indebtedness practically up to the limit allowed by law, hence we cannot bond the town to meet the emergency. In view of this condition of affairs, the citizens of Butler appeal to the generosity of the people of the United States for contributions of cash to aid them in fighting the epidemic. All contributions should be made to Thomas J. Shuffin, treasurer of the Relief Committee.

WESTERN STATES.

Ravages of Pneumonia.—The Bulletin of the Chicago Health Department says: "The forecast in the Bulletin of October 24, that there would, between November 1, 1903, and May 31, 1904, be an excess of pneumonia deaths over deaths from tuberculosis in the proportion of more than 60% of the former to less than 40% of the latter, is fully sustained by the figures for the first 42 days of the period. During these 6 weeks there have been 286 deaths reported from tuberculosis and 506 from pneumonia—a proportion of 36.2% for tuberculosis and 63.8% for pneumonia."

FOREIGN NEWS AND NOTES

GENERAL.

International Sanitary Bureau Proposed.—A Paris correspondent to a London newspaper states that the sanitary conference has at present under its consideration a project for the creation of an international sanitary bureau for the collection of information respecting infectious diseases, such as plague, cholera, and yellow fever, and also for the harmonious working of those sanitary regulations in the East which have so greatly contributed within the last 5 years to the preservation of public health, as well as to the benefit of trade, by the suppression of the old quarantine system. The international sanitary bureau will have its headquarters in Paris, if successfully organized.

CONTINENTAL EUROPE.

Cholera Epidemic at Kerbela.—News from Constantinople under date of December 16 says: An epidemic of cholera is raging at Kerbela, south of Bagdad. From December 9 to December 12, 176 deaths from the disease were recorded. Kerbela is 60 miles south of Bagdad. It is a great Shiah necropolis and place of pilgrimage, on account of its containing the tomb of Hussein and the mosque of Hassan, sons of Ali, regarded as the first legitimate successor of Mohammed. The town has a population of about 65,000.

OBITUARIES.

Cornelius O'Leary, of New York City, was killed by a motor train at New Utrecht, Brooklyn, December 19, aged 64; a graduate of the College of Montreal and of the medical department of the University of New York, the latter in 1862. One time professor of philosophy and classics at Manhattan College. In 1870 he was inspector of the Board of Health and resigned that position to become a founder of pharmacy, in 1871. He was a voluminous writer.

William Ingalls, at his apartment in Roxbury, Mass., December 1, aged 90; a graduate of Harvard Medical School in 1836. Surgeon to the Fifth Infantry, Fifty-ninth Massachusetts Volunteers during the Spanish war. Former surgeon to the Boston City Hospital, member of the Massachusetts Medical Society and the Obstetrical Society of Boston.

Francis W. Higgins, suddenly at his home in Cortland, N. Y., December 18, aged 46; a graduate of the University of New York in 1881. President of the Third District Branch of the New York State Medical Association and vice-president of the State Medical Association.

Angelo Maffucci, professor of anatomy and pathology in the University of Pisa, Italy, died recently. He was renowned for his work in the treatment and management of tuberculosis, and experimental pathology.

Corydon Pirnie Cronk, of Cape Henry, Va., at the State Hospital, Baltimore, December 13, of Addison's disease. The body will be taken to Flushing, Mich., the former home of the physician.

Calvin B. Phillips, at his home in Cuero, Texas, December 6; a graduate of Washington University School of Medicine, Baltimore, in 1868 and member of the American Medical Association.

John F. Meeham, at his home in Urbana, Ohio, December 3, from fracture of the skull, aged 30; a graduate of Baltimore Medical College in 1894; assistant surgeon in the Spanish war.

Henry C. Utz, at his home in Atlanta, Ga., December 7, aged 37; a graduate of the Louisville Medical College in 1891; a member of the American Medical Association.

Delano G. Brown, at his home in Honeoye Falls, N. Y., November 30, aged 50; a graduate of the College of Physicians and Surgeons, Buffalo, in 1883.

L. A. Frost, at his home in Jacksonville, Ill., December 15, aged 61; a graduate of Amherst College and of Detroit Medical College.

Robert Garrett Dock, at his home in Germantown, Philadelphia, December 14; a graduate of Hahnemann College, Philadelphia.

Joseph E. Greer, at his home in Fort Wayne, Ind., of blood poisoning, December 14, aged 68.

CLINICAL NOTES AND CORRESPONDENCE

[Communications are invited for this Department. The Editor is not responsible for the views advanced by any contributor.]

LICENSURE.

BY

L. D. SHEETS, M.D.,
of Bloomfield, N. J.

To the Editor of American Medicine:—At the last session of the New Jersey Legislature, the law in regard to licensure was amended so as to permit graduates in medicine to go before the board of examiners for registration, in accordance with the requirements of their colleges at the time of their graduation. Thus, a man who was graduated when only 2 courses of lectures were required will be relieved from the four-course clause, which the law required before the last amendment. The examination will likewise correspond with the branches then taught.

This is all very good; but it does seem to me that the board should have discretionary power in regard to registration, as suggested by Dr. VanMeter, "to act according to its judgment and pass upon the candidate's fitness to practise medicine, whether by examination, the possession of a diploma, or reciprocity." It is certainly a great indignity to compel a man verging on four score years to submit to an examination, who is the possessor of a first-class diploma, supplemented by a half century's practice, especially when he has passed an examination for a public appointment many years after his college examination. It seems only fair to register a man without an examination, who has a good diploma and a good, clean record of 25 or more years' practice.

The examinations are now, I believe, entirely written. I think they should be oral as well as written to test a man's general intelligence and good judgment. Dr. Detmold used to say to his class, to be a surgeon requires only a little anatomy with good, sound judgment. A man may answer many technical questions correctly, and not be much of a doctor either. I like to test both methods.

Many years ago a very clever doctor asked me to see, with him, a patient to whom he had just been called. We found a man suffering from concussion of the brain, caused by a stroke on the head with an iron instrument. Instantly the doctor became excited, and lost his mental balance. He suggested that we bleed the patient, to which I demurred. I said, "He has no circulation and you may draw no blood if you try, or, if blood should flow you may kill him; rather let us try stimulation first." This was done with good results.

In another case a doctor summoned me to meet him in consultation, in a case of confinement, to come in great haste and bring my instruments. When I arrived I found him walking back and forth in a high state of excitement in front of the country house. I immediately saw the patient, who was very much frightened; made an examination and found nothing wrong. I assured her she was all right, got her quieted, and in a half hour delivered her of twins.

These cases exhibit faulty judgment, a lack of mental equipoise, etc., which, I think, may be discovered to some extent, sometimes, by oral examination and conversation.

It is right and proper to compel young graduates to undergo an examination; but those of advanced years, and who are not teachers, necessarily have forgotten much that was once very familiar and should not be put to the same tests, which are usually more technical than practical. How many of us can remember the origin of the 12 pairs of cranial nerves, and through which foramina they pass out of the skull; the origin and course of the vidian nerve; with how many bones the sphenoid articulates; the minute relative anatomy of the more important joints; what is a calory, an ion or kation, or a quantivalence, or the symbols and number of atoms of each in protein, starch, gluten, etc.?

We may not remember all these things and yet be able to ligate successfully the common carotid artery, amputate a limb, extract a cataract, diagnose a case of pneumonia, or enteric fever without the Widal reaction, or diphtheria without a bacteriologic examination. In the latter case the patient might be dead before the examination could be made.

Many pass an examination and are registered, who do not know as much as many who are not registered. Not long since, I sent a prescription to a medical journal for the benefit of a doctor who asked for assistance in a case he had. One of the components was sol. morph. mag. The doctor wrote me to know what that was. I answered and told him he could find it in medical dictionaries as well as elsewhere. Three times lately I sent prescriptions to drug stores, which were incorrectly compounded by registered men, simply because they did not understand the meaning of the Latin preposition *ad*, but presumed it meant the same as the English word add.

THE REVOCATION OF THE LICENSE.

BY

THOMAS R. EVANS, M.D.,
of Deepwater, W. Va.

To the Editor of American Medicine:—Allow me to write that I was much interested in your editorial on the "Revocation of Licenses," given in your issue of November 21.

It is perhaps an unwritten law with lawyers that they can disbar a fellow lawyer. How much more important it is that a man dealing with flesh and blood should, if necessary, be stopped from causing suffering and death, which is done under a medical diploma or State license.

The methods of the college examination, together with those of examining boards, usually keep ignorance or incompetency out of the profession, but not always.

There is a tendency upon the part of a medical professor to be lenient with the attentive and punctual candidate for the degree, and compends have been freely used in the rooms with State Boards. The test of fitness comes when the doctor goes out among the people.

So far as the passing of an examination is concerned, a man may be graduated with the highest honors, and yet, from various causes, become a death-dealing practitioner, and unless he is convicted of malpractice, which in the eye of the law is narrowed down to criminal abortion, or to defective surgery, he is subject to no penalty. In the most common acceptation of the word malpractice, it does not therefore apply to the broadest field of labor of the doctor—comparatively few people die from criminal abortion, but how many infants, women, and old persons have been killed from mistakes of overdosage and the use of the wrong preparation of a drug for the age, etc. Dover, of whom you wrote so interestingly, has indirectly put many infants to the final sleep.

West Virginia has had a law for the revocation of the license for several years, but although there has been need of its enforcement, I have never heard of its application, and from the wording of it, and the hedging of it with an appeal to the Circuit Court upon the part of the defendant, it does not at all cover the ground, and is comparatively a dead letter. It makes the word malpractice synonymous with dishonorable conduct, for which the licensing body, the State Board of Health, can revoke the license, after a trial before a court, if desired. Licensing boards should most assuredly have the power to suspend a license in the case of a man who is notoriously unsafe, as from insanity short of the madhouse, or who is unfortunately addicted to habits which tend to destroy the memory and the judgment, or for notorious incompetency. A man who has unworthily passed the examination by the State Board should be compelled by the Board to go to some reputable school until such a time, and by an honest reexamination by Board, when he shall satisfy it that he will do more good than harm, otherwise he is a malpractitioner. In appropriate cases plenary power should be given the Board to revoke a license, and that without appeal, but it is inevitable that the civil law will be attached to such a matter in many States.

This subject is too comprehensive for a letter. As a lexicographer, by calling attention to the full significance of the word malpractice, and in other ways, you can greatly assist this cause. It is a curious condition of our jurisprudence that in such a vital matter all of the States had not with the institution of the law to create, . . . made a law to revoke the license.

ORIGINAL ARTICLES

TYPHOID FEVER AND TUBERCULOSIS.[1]

BY

WILLIAM OSLER, M.D.,

of Baltimore, Md.

Professor of Medicine, Johns Hopkins University.

Two patients in the wards of the Johns Hopkins Hospital illustrate the important relations which may exist between typhoid fever and tuberculosis.

1. The diseases may be concurrent. A person with chronic tuberculosis may contract the fever. Of 80 autopsies in typhoid fever, 4 presented marked tuberculous lesions. Less frequently miliary tuberculosis and typhoid fever may occur together.

2. Enteric fever may be mistaken for tuberculosis. This, I think, is rare. You will find on page 464 of Series III of "Studies in Typhoid Fever," [2] a case in which for nearly 2 weeks we suspected a tuberculous pneumonia and looked for tubercle bacilli. The disease began with a slight fever, headache, cough, and on examination there was impaired resonance in the right infrascapular region with tubular breathing and moist rales. Ten days after admission to the ward the left lower lobe was involved. The patient had a bad family history, one sister having died of tuberculosis, and for the first 2 weeks we were very anxious indeed. Then the picture changed entirely. She had a continuously high temperature, rose spots appeared, the spleen enlarged, and the symptoms of typhoid fever became well marked. The Widal reaction was not positive until the end of the third week. Such cases are not common.

3. Very much more frequently tuberculosis is mistaken for typhoid fever, a point which these cases illustrate. There are 5 types of tuberculous infection which may simulate typhoid fever—the acute miliary form, tuberculous meningitis, tuberculous peritonitis, the acute toxemia of certain local lesions, and forms of pulmonary tuberculosis. You will find much in the literature on the question of the diagnosis in the first three of these groups, but not on the last two, and, judging from my personal experience, the profession is not fully alive to the importance of the subject.

The patient, H. L. D., a man aged 30 (Hosp. No. 44,014) was admitted on September 13, 1903, complaining of shortness of breath, pleuritic pains, and cough. His habits had been fairly good. He had worked hard. His present illness had begun 2 weeks before admission with pain in the left chest and back. He did not feel very ill, and continued at work until September 13, the day before admission. He thought he had had some fever at times. On September 12, he had epistaxis and 2 chills in quick succession. On the night of September 11 and ever since he has had fever. There had been no cough and no diarrhea. Altogether the features of onset resembled very much those of typhoid, and on admission he had a temperature of 102°, pulse 108, respirations 24. The leukocytes were 5,500 per centimeter. He looked ill; had a heavy drowsy expression. The abdomen looked natural. The spleen was not felt. There were no rose spots. On examining the lungs, there was impaired resonance in the left infrascapular region with distant tubular breathing, distinctly blowing on expiration, and on coughing a shower of fine, crepitant rales. The patient coughed a little every day, but there was at first no sputum. On September 17, Dr. Futcher noticed that he was a little cyanosed, and there was on the left side of the chest a leathery friction. The sputum on this day was examined for tubercle bacilli, but was negative. His general condition remained good. The temperature ranged between 102° and 103°, and was very steady. There were no sweats. In the next few days there was no special change in the character of the pulmonary signs. The involvement of the left lower lobe was marked, and the tubular breathing became more distinct. There were no rose spots, and the nature of the case was doubtful. The leukocytes were not increased. The Widal reaction was negative. The absence of more positive signs of typhoid fever and the absence of rose spots and the Widal reaction, made the marked pulmonary features more significant, and the sputum was examined with great care. On September 25, a few bacilli were noticed, which were regarded as suspicious, and on September 26, well-characterized tubercle bacilli were present. Elastic tissue was not found. The local signs persisted at the left base, but the fever gradually subsided, the respirations were not above 24, and on September 27, the temperature became normal. The chart is very suggestive of a mild typhoid subsiding in the third week, and had not the pulmonary symptoms been pronounced and the tubercle bacilli so definite, I think we should have had much difficulty in making a positive diagnosis. At present there is impairment of resonance at the left base with distant tubular breathing. The cough has lessened, he has had no sputum, and he looks as though he were going to do very well.

The issue in these cases is not always so satisfactory. We had a sad lesson 5 or 6 years ago.

A medical student, Edward S. O., aged 26, was admitted to Ward C on June 13, 1898, complaining of fever and headache and cough. His father had died 18 years before of tuberculosis, and two uncles on the mother's side had died of tuberculosis. He had been very healthy and well. He had just finished his examination and had naturally been somewhat "used up." On Saturday, June 4, he had slept in a draught, and on the following morning he was very heavy and drowsy. On Monday morning he took a long walk, began to feel feverish and had creepy, chilly sensations. He felt very badly on Tuesday and started for Baltimore. He had a little diarrhea that week, headache and fever persisted, and on Sunday morning, June 12, he began to cough. He had loss of appetite; no diarrhea.

On admission the temperature was 101.3°; pulse 96. Leukocytes 8,200. He felt very much prostrated, but on coughing he felt no pain; he had no expectoration. No rose spots were seen. The Widal reaction was not present. He was dull and drowsy, complained of severe headache, and was easily excited. The lungs were very carefully examined on June 13 and June 14, and there were no special signs detected. Throughout the month of June the fever persisted, once reaching 103°, usually about 102° in the evening. The Widal reaction was not present, there were no rose spots, and the spleen was not enlarged. The tongue was slightly coated and the bowels were constipated. There was no diazo reaction in the urine, no albumin, no tube casts. When I left town about the middle of the month my impression was that he had typhoid fever. Throughout July the condition remained practically the same. There were repeated notes of the physical examination. The temperature range was perhaps a little lower, particularly the evening record, and after July 15 it rarely rose in the evening above 101°, and in the morning was usually normal. The spleen was not palpable. After the middle of July the tongue was clean. The only suspicious points at all were a little pain on deep inspiration, and there were a few fine rales heard at both bases. There was no cough. On July 26 it had become evident that there was trouble in the right lung. There was a tympanitic note at the right apex; there was flatness in the lower interscapular region and in the infrascapular area, with tubular breathing and fine moist rales. He seemed, however, to be doing very well. The appetite was good and he had no cough and no expectoration. By this time the possibility of tuberculosis was entertained, but it was not possible to say definitely. On July 28, the red blood-corpuscles were about 4,000,000; there was no leukocytosis. Early in August he improved a great deal. The temperature was rarely above 100.5° and the respirations were only 20. He had little or no cough, and he seemed very much better. He left the hospital on August 10. There was still an area of consolidation at the right base. Subsequently he grew very much worse, the tuberculosis became quite manifest and he went to the Adirondacks, where he was under the care of Dr. Trudeau for several years.

Dr. Thayer and I were criticised very severely by the family for having regarded this case at the outset as one of typhoid fever. In truth we never reached a definite conclusion, and the diagnosis which Dr. Thayer put down on the history sheet was "Continued Fever; Pneumonia (Tuberculous?)." Under the circumstances I do not think that we could have done anything else, but the case illustrates a serious clinical difficulty which you will find very hard to meet.

There is in the private ward at present another case which illustrates the readiness with which this mistake may be made.

A young married woman, aged 26 (Hosp. No. 44,466); with a good family history, noticed in May of this year that she had some "bubbling feelings" on the left side. She was pregnant at the time; her child was born June 13, shortly after which time she began to have a cough, with pain in the left shoulder. Ten days after delivery she got up, but she felt weak and feeble and she had cough and night-sweats. She was sent to the country and in the fourth week in July she was confined to bed with fever. The temperature rose to between 102° and 103°, and the diagnosis of typhoid fever was made. She was placed on a liquid diet. She continued in bed, supposed to have typhoid or typhomalarial fever, until the middle of September, when she was allowed to get up. Shortly afterward the

[1] Clinical Remarks, Johns Hopkins Hospital, October 24, 1903.
[2] Johns Hopkins Hospital Reports, Vol. viii.

fever reappeared, of a remittent type. She had a great deal of cough and mucopurulent expectoration. She lost in weight, the fever persisted and she applied at the hospital on October 22, believing that she had some sequel of typhoid fever.

The chest showed marked asymmetry, owing to shrinkage of the left side. The muscles of the left shoulder girdle were wasted, and there were signs of extensive disease in the left lung. The sputum was profuse, mucopurulent, and contained very many tubercle bacilli. Her temperature-range while she was in the hospital was from 99.5° to 103°.

Here the pulmonary tuberculosis was latent in onset, probably before the birth of her baby. As is so often the case, rapid progress was made during lactation, and the fever was mistaken for typhoid. Apparently, no suspicion had been entertained of tuberculosis.

4. In rare cases pulmonary consumption follows typhoid fever.

You not infrequently see the statement made that patients convalescent from this disease are particularly prone to tuberculosis. I do not think the facts warrant this, and I believe very many of these cases are tuberculous from the outset. The original attack, as in the case of the young man you have just seen, simulates typhoid fever so closely that the physician is deceived. Then pulmonary symptoms supervene, and it is thought that the tuberculosis has come on after typhoid fever. Every year I see one or two cases of this sort, and I am glad to have had this opportunity of bringing the subject before you, as one of great importance which has scarcely received the attention it deserves.

RETRODISPLACEMENTS OF THE UTERUS.[1]

BY

J. M. BALDY, M.D.,

of Philadelphia.

There was a time when ascites was described as a disease, and was generally accepted as such. Now we know it to be but the indication of some disease or other, and he would be a bold man who would venture to describe ascites as a distinct lesion.

So it is with retrodisplacements of the uterus. Gynecology roved in the uncertainties of development for many a long year, and although we are now almost at the finish, we still have a few legacies of the "dark ages." Retrodisplacements are notably one of these legacies. But the time will come when men will be just as much ashamed to speak and write of them as a distinct disease, as they are at present, so to speak of ascites.

All rules have exceptions which in no way vitiate the truth of the rule; and so it is with retrodisplacements. There are a few cases in which it seems as though the displacement were the only thing which would explain the symptoms from which the woman is suffering, and in which a replacement of the womb cures the patient. These cases are the great exception, however, and in no way shake our faith in the rule. In fact, many of these apparent exceptions have other possible explanations.

The rule is this: *Retrodisplacements of the uterus are mostly coincident with other lesions, and when such is the case, the symptoms almost universally come from the associated disease.*

Any number of displacements are reported; volumes are written on the subject, and physicians continually tell us of innumerable cases they have in their practice, and yet to be perfectly frank, the fault is not with the condition, but mostly with the lack of accuracy in diagnosis of the practitioner. I say this in a spirit of charity, not of wanton criticism; it is true in either case. When a practitioner of medicine has a case of retrodisplacement of the uterus, together with a prolapse of the ovaries, which ovaries are possibly adherent or at least cirrhotic, and he only sees the displacement of the womb and believes that this alone creates the symptoms why should he complain if I suggest that his diagnostic powers are a bit undeveloped; and this in spite of the fact that a replacement of the pelvic organs by a pessary or an operation may have relieved the symptoms. He has simply stumbled on a cure in that individual case without a true appreciation of the pathologic condition present; but where he has stumbled upon a cure in this one case, he will probably fail even to obtain relief in the next dozen.

The most common disease with which displacements of the uterus are associated (and in fact which often causes the displacement) is inflammatory disease of the pelvis. Childbearing, neoplasms, and traumatisms cause the greater part of the remainder.

Retrodisplacement of the uterus, even with prolapse of the ovaries, may exist for years without producing a symptom disagreeable to the woman. Eventually, it is true, many of these displacements give rise to pelvic distress. Given a young woman with such a condition, free from symptoms for years (and this often occurs), matrimony intervenes, and within 3 months to a year sexual life causes irritation sufficient in those ovaries to send the woman to a doctor—mark you, I say, *ovaries*, not uterus. If the ovaries were out of the way and uninvolved, the uterus would give little or no trouble. Even when the fundus becomes tender, as is so often the case, it is almost always due to the reflex irritation from the tender ovaries or to the direct adhesions of the fundus itself. A displaced uterus, which even in a married woman is giving no trouble will, if a puerperal septic attack or a gonorrheal infection supervene, become at once troublesome. More so is this true than it is in the case of a set of organs in a socalled normal position. But who will venture to contend that in any of these cases it is the displaced uterus which is the disease, and not the new factor which has entered into the case.

The more I see of gynecologic practice, the fewer unexplained cases of apparent trouble from retrodisplacements come under observation, and the more am I inclined to limit the list of exceptions. In too many cases, in which, at my examination (even with the patient under the influence of an anesthetic) I have thought I had a simple case of displacement with no complication, I have found myself mistaken at a subsequent operation in which the abdomen was opened and the parts directly inspected, to allow me to place too much reliance on any one's diagnosis as regards adhesions and minute lesions of the appendages when they have had no subsequent opportunity of seeing the actual conditions of pelvis through means of an operation. "The treatment of retrodisplacements" is, then, a misnomer; it should be "the treatment of conditions in connection with which retrodisplacements occur as an incident." In most of these cases the displacement of the womb itself can be ignored and the result will be perfectly satisfactory, as years of abdominal surgery have taught. A discussion of these conditions would mean a discussion of the treatment of almost all the pelvic ailments of women. Suffice it to say that each disease found, whether as the result of puerperal sepsis, gonorrheal infection, cirrhotic disease of the appendages, neoplasms, adhesions or anything else should be treated on the proper line of treatment for that disease whichever may obtain.

Thus far I believe I am voicing the almost universal opinion of gynecologists of the present day. There yet remain a few of the old school who see nothing beyond the uterine displacement; but these men are becoming fewer day by day, and will eventually be entirely eliminated. These are the men who are having large numbers of women come daily to their office for years for local treatment of one kind or another.

There is a considerable difference of opinion in the profession, however, as to the best method of treatment of these cases. In those few cases in which no disease can be found, and again in those cases in which the disease

[1] Read at the fifty-third annual meeting of the Medical Society of the State of Pennsylvania at York, Pa., September 24, 1903.

found has been dealt with by the appropriate treatment, and it is in addition considered desirable to bring a retrodisplaced fundus forward (for instance, where the peritoneum of the pelvic walls back of the womb and broad ligaments is denuded and bleeding, and where adhesions between them and the fundus would occur if they were allowed to again come into contact, or where it is desirable to draw up prolapsed ovaries, etc.) there is a choice of methods to which I may be permitted to call attention.

Some of us have seen the day in which the clamp was used in the treatment of the stump in the removal of ovarian tumors; the ligature took its place, and the clamp passed into history as a necessary and interesting step in the development of the completed and simple operation of today. The same thing took place in the evolution of hysterectomy for fibroid tumors of the womb and other conditions. The same transition is now taking place in the surgical treatment of cases complicated with retrodisplacements of the uterus. A short while yet, and Alexander's operation, hysterorrhaphy, ventrosuspension and similar operations will have become history. The results of some of these are primarily uncertain and the operations must be done in the uncertainty of diagnosis, notably in Alexander's operation. In the remainder, subsequent complications and dystocias in future pregnancies have been so many and serious, that men, in ever increasing numbers have been driven to search for something which would prove a safe and final substitute. This has, I believe, been found in intraabdominal operations on the round ligament. Theoretically, these operations fulfil all the indications desired. They open the way to a thorough inspection of the parts and to an intelligent application of the proper treatment to any complication existing. They do not weaken any of the already weak canals of the body (the inguinal canals). There is no chance of failure of the operation (such as tearing the ligaments or failing to bring them out, as happens in the best hands with Alexander's operation). They cause no unnatural attachment and no adhesions which can possibly give subsequent trouble. They leave the uterus a pelvic organ and do not draw it up into the abdomen. They bring the womb into a perfect anterior position, hold it there accurately and with certainty, and at the same time leave it freely movable. The only objection I can see which can be advanced against them is the danger of opening the abdomen. With anyone who sees this as a serious danger or objection under the circumstances I do not care to discuss the subject; I simply have no faith in his surgical judgment and skill.

The number of this class of operations, all based on the same principle, but differing in details, is large. Many of them are good, but some are more simple than others. The correct principle is involved in most of them: both theoretically and practically they do all that either hysterorrhaphy or Alexander's operation does, involve no more danger and have the merit of leaving undone all the objectionable, uncertain, or dangerous parts of these 2 procedures.

The claim made for Alexander's operation and also for hysterorrhaphy in all its varieties, which is usually hurled at one as a final argument is, that pregnancies follow and proceed with little trouble to a favorable termination.

The intraabdominal round ligament operations are rapidly accumulating like testimony, which goes to prove practically that pregnancy occurs after the operations, progresses normally and easily and the few patients who have up to this time been observed have been delivered without difficulty.

It can, therefore, be justly claimed for these operations that they give every advantage which any or all operations performed for such conditions give; in addition, they are free from every objectionable feature attendant upon Alexander's operation or hysterorrhaphy. The only possible objection, as I have said, rests in the invading of the peritoneal cavity, which objection is likewise common to the other 2 classes of procedure as they are practised today.

The question of the use of pessaries I shall not discuss; their utility is so limited, and even in cases in which they do apparent good, it is so questionable that their employment is almost time wasted. This I will say, that in the vast majority of cases in which they will relieve unpleasant symptoms, a tampon will do quite as well and is much safer. The 2 classes of cases in which relief is experienced by their use are chronic pelvic inflammatory troubles (in which they are a positive element of danger), and cases of retrodisplacement with prolapse and disease of the ovaries. A few of these cases are relieved through the use of a pessary by lifting up the vaginal vault and relieving the general weight and drag. In the great majority of cases in even this class the presence of the instrument will not be tolerated, so painful is it. In my experience, the vast majority of women who come to me for consultation, in whose vagina I find a pessary, have perfectly normal pelvic organs in such condition and position as to make it perfectly plain that they never had been misplaced. These women are usually suffering from gastrointestinal disturbances or neurasthenia, or from both. This state of affairs is the result of the teaching of the past; is it not time that those of you who know better should take an emphatic and unequivocal stand in the matter? Balance all possible good from the use of pessaries with the harm done by them, and there can be no question but that it would be better for women if the profession could forget there was such a thing as a pessary.

THE RESULTS OF THE SURGICAL TREATMENT OF ASCITES OCCURRING IN CIRRHOSIS OF THE LIVER, WITH THE REPORT OF A CASE.[1]

BY

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Talma, of Utrecht, was the first to suggest this operation, but the idea subsequently occurred independently to Morrison and Drummond, of New Castle, and they first carried it out practically, and reported the first cure. Talma and Drummond noticed at autopsies that the cases showing least ascites were those in which anastomoses were most abundant, both through preexisting bloodvessels and through adhesions between portal and systemic vessels. They thought that if the adhesions were increased and an adequate collateral circulation secured, portal congestion would be relieved and ascites cured. The operation as generally performed, consists in opening the abdomen in its upper right quadrant, draining away the ascitic fluid, gently rubbing with gauze sponges the peritoneal surface of the liver, or of the liver and spleen and abdominal wall, and sewing the omentum to the margin of the abdominal incision. Greenough thinks that better results are obtained in cases in which the omentum has been spread out between the layers of the abdominal wall.

Of course, this operation is based upon the theory that the ascites occurs from mechanical causes only. It probably is the chief cause, though toxemia may be a factor, too.

I do not wish to discuss the causes of the ascites of liver cirrhosis, though the subject is full of interest. The purpose of this brief paper is to present the results of the operation so that a physician may judge whether the operation is justifiable or not, and act accordingly in recommending it to his patients.

[1] Read before the Pennsylvania State Medical Society, at York, September 23, 1903.

Packard and Le Conte, Torrance, Montgomery and Greenough, have searched the literature carefully for recorded cases. Greenough collected 115 cases. Since the publication of his paper I have found 3 cases reported by J. F. Baldwin, in one of which there was probably malignant disease; a case reported by T. R. Neilson, one by Keen and Fisher, three by Lejars, one by L. W. Pearson, and one by Hildebrand. To these cases should be added two of Mauclaire's, reported in the thesis of Leport, and mentioned by Lejars. No details, however, are given, and I have not seen Leport's thesis.

The cases of Neilson, Fisher and Keen, and Hildebrand are especially valuable, as showing the possibilities of the operation. In Neilson's case there was no return of ascites 21 months after the operation; in Keen and Fisher's after 2 years, while Hildebrand's patient remained cured after a lapse of 2¾ years. Omitting Baldwin's second case, in which malignant disease was suspected by the operator, and adding one of my own, we have 10 cases to add to the 115 collected by Greenough. I have heard of others, mostly fatal cases, but as they have not been reported it would not be proper to count them. Of these 125 cases, 38 patients died within 30 days after the operation; 35 were not improved, and 51 were improved; or about 60% were not improved. At first sight these figures are far from encouraging. But we should not forget that the disease, if left to itself, is almost inevitably fatal. It would, therefore, be fair to regard all those among the improved who appear cured at the end of 2 years as so many patients rescued from death by the operation. It is not possible at this writing to give the number of patients who are permanently cured of the ascites, because most of the cases have been reported within a few months of the operation. But even if the operation showed much worse results it would still merit consideration in a disease for which medicine can do so little.

Moreover, a better selection of cases will reduce the mortality and increase the number of permanent cures. With all new operations the tendency at first is for the physician to recommend it only in desperate cases. This has been true of Talma's operation, and accounts in part for the high mortality.

A study of several of the cases in which permanent cures have been effected ultimately, shows that repeated tappings were necessary after the operation, and that only after months was collateral circulation so far established that the fluid ceased to be formed (see cases reported by Frazier, and by Keen and Fisher). If the patient seems so weak as to make one believe he would not survive 5 or 6 months, he cannot be regarded as a favorable case for operation. For example, I have now in my wards in the Philadelphia Hospital a man of about 50, who has recently developed an ascites, due to cirrhosis of the liver. He is an alcoholic, has chronic syphilis, and arteries so beaded and sclerosed that very little blood can get through them. He has also chronic nephritis, and a feeble heart. I do not believe he is strong enough to warrant me in recommending operation. And yet the superficial abdominal veins are dilated, which is a favorable sign, as showing some collateral circulation.

Again, the presence of hebetude, nervousness, restlessness or insomnia are unfavorable symptoms, for they generally indicate toxemia, either of liver or kidney origin, and this toxemia may not be lessened by operation, but may be aggravated.

If one could judge of the extent of collateral circulation already begun, and of the size of the omentum before operation, he could make a better prognosis. The presence of dilated veins in the abdominal walls is favorable, and so, from the point of view of ridding the abdomen of ascites, are hemorrhoids and dilation of the esophageal veins.

Greenough's analysis shows a decidedly better outlook for cases of ascites accompanied with enlarged instead of contracted liver; whereas the presence or absence of repeated tapping, and of edema of the feet, does not seem to make any difference in the prognosis.

Speaking as a physician, I think we may say the operation in suitable cases merits further trial. The report of my own case follows:

A. D., white, aged 62, was born in New Jersey, and is a laborer by occupation. He was admitted to the Philadelphia Hospital July 31, 1902, complaining of abdominal distention with pain and shortness of breath.

The family history was unimportant. As to his personal history, he had had the usual diseases of childhood; he had also had intermittent fever when a young man. He says he has often felt poorly, but was seldom bedfast. For many years he has had attacks of cramp colic—a sudden intense pain in the abdomen, which does not radiate to shoulder or down the legs, and is accompanied by retching and prostration. He has been a beer and whisky drinker, and occasionally he drank to excess. He used tobacco a great deal. His wife had 4 children, 3 of whom are living and well; 1 died of brain fever. The patient had gonorrhea about 30 years ago, and a venereal sore with secondary manifestations later. He had rheumatism for many years, but has not been troubled with it in recent years.

When in the hospital in June and July, 1900, the patient's liver was slightly enlarged, and he had fluid in his belly and in both pleural sacs. His chief complaint was of sharp pain in the left side increased by breathing. There was no albumin or sugar in the urine, and the specific gravity was 1,025–1,030. The heart sounds were weak, the second accentuated. There was no enlargement of the heart and no murmurs. The pulse was 82 to 88. There was slight edema of the legs, especially of the right. The heart sounds improved under rest and treatment, and the effusions lessened. The patient was dismissed at his own request, July 13, 1900.

About 2 weeks before his last admission, on July 31, 1902, the patient was taken with severe pain in the abdomen, which became almost unendurable. There was nausea with retching, but no vomiting. The attack lasted for 4 or 5 hours, and in it he became unconscious, and when he regained consciousness the pain had ceased. This attack was followed by very frequent stools of greenish mucus passed with tenesmus, and accompanied with nausea and vomiting, giddiness and great abdominal tenderness, which were aggravated by any movement, and accompanied also by prostration. Following the seizure the abdominal distention increased and was accompanied with dyspnea and cardiac pain.

The patient is well developed and fairly well nourished. The pupils are equal and react freely to light and accommodation. The tongue is red, fissured, dry, and tremulous. The pulse is regular, accelerated, of good force and volume; the vessels atheromatous. The skin is dry. The chest is well formed. Respiration is slightly accelerated, but not labored. The breath sounds are very loud down to the sixth rib, where they become distant. Resonance is impaired from the sixth rib down. Heart apex is visible, palpable, and forcible in the fifth interspace midclavicular line. No murmurs. Abdomen is very much distended. The umbilicus projects; the girth of the abdomen is 38 inches. There is movable dulness in the flanks. Liver and spleen cannot be outlined on account of the abdominal distention. There is an inguinal hernia on the right side.

August 1, 1902.—The ascitic fluid had increased in spite of hydragog cathartics and diuretics. Paracentesis was performed, 98 ounces of fluid being withdrawn. It is of a clear greenish-yellow color, specific gravity 1,010, and contains 5% of albumin. The patient was relieved by the withdrawal of fluid, but it reaccumulated in a fortnight, and on August 14, 312 ounces of fluid were withdrawn by aspiration. It was a clear, straw-colored fluid, specific gravity 1,006, reaction faintly alkaline, and contained 7% of albumin. The patient was more comfortable the following day, but by August 17 it had again accumulated. Dr. A. C. Wood was invited to see him, and surgical interference was advised by him. The patient had the risk of operation explained to him, but chose to have it performed. He was transferred to the surgical wards on August 18. During his stay in the medical wards the temperature was generally between 97° and 98.6°. The pulse was always accelerated, ranging from 88 to 120, and generally being about 100. The urine was examined on several occasions, but no albumin was found and no sugar. The specific gravity was 1,024 and 1,029.

The patient was operated on by Dr. Wood August 18, and died 10 days later. There was no recurrence of fluid. The wound never showed any signs of healthy granulations. He died apparently of inanition and exhaustion. The course of temperature was afebrile—in fact, subnormal temperature prevailed generally, except on the day of his death, when the temperature rose to 99.8°.

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SARCOMA OF THE ABDOMINAL WALL, AND PROBABLY OF THE PELVIC VISCERA, WHICH HAS DISAPPEARED UNDER THE USE OF THE RÖNTGEN RAYS.[1]

BY

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Our knowledge of the influence of the Röntgen rays on malignant growths is still in its infancy. Any report of a decided curative action must be tentative. Nearly all the favorable reports have been on superficial growths, and, therefore, a special interest attaches to the present case; because the disease was apparently deeply seated, as well as superficial. The unusual location, the microscopic examination of the tissue, the opportunity for examination afforded by abdominal section, and the absence of any other cause than the Röntgen rays for the improvement which has occurred, are features which give to this case a certain importance.

The patient, present at the meeting of the college was aged 36, has been married 20 years, and has had 3 children, the youngest aged 17. There have been 3 miscarriages, the last, 3 months ago, and a still-birth 5 years ago. There was no specific history, and no enlargement of the glands in groin or occiput. She was referred to me in November, 1902, by Dr. M. B. Hartzell on account of a growth in the lower abdomen. There was a history of irregular hemorrhage from June to August, 1902, followed by enlargement of the abdomen, and an inflammatory attack, which began August 7 with a chill followed by temperature of 104° and perspiration. There was no vomiting and no diarrhea. The soreness, which has continued more or less ever since, is worse in the left ovarian region. When first seen, November 19, 1902, examination showed a swelling in the median line just above the pubic bone, and apparently continuous with it. This first appeared 3 months before, during the illness previously referred to. It had been extremely sensitive, so that ordinary clothing could not be worn, and pain had been so severe as to require a large amount of opium for its relief.

The mass was about 2½ inches in diameter, dark reddish in color, smooth rounded and immovable, appearing to infiltrate the tissues at the insertion of the recti muscles into the pubic bone. There was some tenderness. The skin was unbroken. There was almost constant severe pain in the lower abdomen, bearing down in the bladder, and frequent urination with pain at the end of the act.

As a pelvic mass was detected to the left of the uterus, she was admitted to the Presbyterian Hospital, abdominal section was performed November 26, 1902, above the limits of the superficial tumor, but below the umbilicus. After tying off and removing thickened and adherent omentum, it was found that the appendix, right tube, and ovary were free from adhesion, and were not diseased. The rectum, the uterus, and the left tube and ovary were inseparably united by an apparent infiltration, but had a certain range of motion, considered as one mass. The tumor in the lower abdominal wall was united to this mass by a process of thickened tissue a little to the left of the median line. The finger-tips could be inserted part way between the pelvic mass and the tumor in the abdominal wall. The whole appearance of the structures suggested a newgrowth which it was considered unwise to attempt to remove, owing to the involvement of bowel and bladder in the mass, and because it would have been impossible to close the wound if the portion of the abdominal wall involved were taken out. The abdominal incision was, therefore, closed, and a cut made directly into the suprapubic growth. This was found to be gristle-like, pale yellow, rigid, and nonvascular. There was a deepseated point of degeneration where there was about ½ dram of grayish material undergoing liquefaction. No sinus existed, and there was no pus. A generous piece was removed for microscopic examination, leaving a pit with a firm wall, which was drained with gauze. The upper wound promptly healed without suppuration, leaving a granulating pit in the tumor. The patient was now referred to the Röntgen ray laboratory under the charge of Dr. William S. Newcomet for treatment, which was begun January 25, 1903, and continued first twice a week; then once a week until the end of September, or in all about 9 months. The total number of exposures was 49.

The tube was so placed as to cause the rays to strike the abdominal wall just above the pubis, and enter the pelvis at an angle of 45°, thus avoiding, as far as possible, the pelvic bones. The first 3 exposures produced a marked change in the pit, from which tissue had been cut out. It healed in 4 weeks from beginning treatment, or in 8 weeks after the operation.

[1] Read before the College of Physicians, Philadelphia, December 2, 1903.

The tube used was from Queen's. The spark gap was from 3 inches to 4½ inches. The current was from a 6 cell storage battery, with a 15-inch coil. The distance from the skin surface was 10 inches. There was no burn. I examined the patient on February 23. The pit in the tumor had healed, and the mass above the pubis was almost gone, leaving a small depressed scar in the center. The uterine and tubal mass was smaller and very movable. A very great improvement continued and the pelvic enlargement rapidly disappeared. July and August menstrual periods were missed in 1903, and a miscarriage occurred at about 2½ months, under the care of Dr. C. B. Longnecker. November 30, 1903, a year after coming under observation, examination showed a depressed scar in the abdomen with a brownish area of discoloration about it. The infiltration of the abdominal wall was entirely gone, and no pain or soreness was present. The uterus was forward in normal position and symmetric, freely movable, enlarged to the size of a 2 months' pregnancy, its canal measures 3¾ inches. No tubal or ovarian enlargement could be felt, and no pelvic abnormality, except the increased size of the uterus referred to. The patient's weight had increased 16 pounds during the past 5 months, from 137 pounds to 153 pounds. She was sleeping and eating well, had a florid color, and was feeling better, as she stated, than for 5 years. The patient deserves some credit for patient continuance of Röntgen ray treatment against the advice of her friends.

The question arises in connection with this case, as to whether the pelvic mass and the tumor in the abdominal wall were of the same character. The only tissue examined microscopically was from the latter. If not sarcomatous, the pelvic mass could only have been inflammatory. Constant familiarity with the appearance of intraabdominal inflammation leads me to the conclusion that the condition was not the result of inflammation. Moreover, wellmarked inflammatory disease of the pelvis, not of puerperal origin, does not ordinarily undergo complete resolution, and such masses do not disappear completely in a few months without operative removal or drainage. The mere opening of the abdomen and release of omental adhesions, is not sufficient to count for the disappearance of the pelvic mass. There can be no question of the action of the Röntgen ray on the external portion of the disease, and the inference is a fair one, that the entire result is due to the action of the rays.

The microscopic diagnosis was made by Dr. J. Dutton Steele, in charge of the clinical laboratory of the Presbyterian Hospital. He writes as follows:

> The sections were stained with hematoxylin and eosin. The tumor consists of fibrous tissue fat and areas of closely-packed spindle and round cells. These cells have oval and round deeply staining nuclei, and lie closely packed in a delicate intracellular tissue. In the sections examined, about one-fourth of the tissue is made up of these areas of closely-packed cells. The bloodvessels are not numerous, and there are no blood channels without true walls typical of sarcoma. However, this lack of blood channels would be consistent with a sarcoma developing in dense fibrous tissue. A diagnosis is given of fibrosarcoma.

The result in this case is more favorable so far, than those usually reported. Unfortunately, the usual history in deepseated growths, especially of sarcomatous, is that while there is some early improvement, recurrence takes place, or else the disease continues its onward stride. There is nothing in the present situation to make it justifiable to use the Röntgen ray instead of removing a growth surgically where such removal is physically possible. After such removal, the Röntgen ray may be used with advantage to avoid recurrence. During the past year, 2 other patients with malignant disease of pelvic viscera have presented themselves. One was sarcoma of the right ovary and involved omentum, bowel, and bladder, as well as the sac of an inguinal hernia. Extirpation was abandoned and the Röntgen ray is now being used. The other was a large carcinomatous growth of the right ovary with cystic portions. Its complete removal, while difficult, was successfully accomplished. It had reached a diameter of 9 inches in not more than 7 months, during which time there had also been 4 attacks of peritonitis with vomiting, pain, distention, and fever. This illustrates the fact that these growths are often accompanied by

inflammation, and that the occurrence of secondary inflammation must not be allowed to obscure the original diagnosis. The growth of sarcoma is often very rapid, and a single month may make a difference in size which is astonishing. No time, therefore, should be lost in Röntgen ray treatment. When such growths are first seen, they should be removed immediately, before the rapid infiltration of intestine and other organs makes removal useless, dangerous, or impossible. The reports of partial or temporary improvement of surface growths by the Röntgen ray are even now leading the profession into the pitfall of treating growths by the Röntgen ray *first*. Would that the evidence at hand justified it, but it does not.

THE ISLANDS OF LANGERHANS IN CONGENITAL SYPHILITIC PANCREATITIS.

BY

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It is not my purpose in the present communication to give a detailed study of the lesions of congenital syphilitic pancreatitis. The condition is not important clinically, for it is found usually only in the still-born or in those dying shortly after birth; the pathology of the condition on the other hand, has been thoroughly studied and little can be added to the original description of Birch-Hirschfeld and the later systematic study of Schlesinger. The histologic picture however shows a peculiar relation between the islands of Langerhans and the newly-formed tissue which as it has not been generally recognized and as it offers evidence in confirmation of our newer ideas concerning the anatomic and physiologic independence of these structures, is, I believe, worthy of special consideration. The study of the islands in this condition is also important, because occurring as it does in the fetus, it offers an opportunity to study the structures under adverse conditions of development, thus filling the gap between the normal development and the pathologic changes seen in the adult organ.

Our recently acquired knowledge of the islands is almost entirely due to the work of Opie,[1] who has shown that a certain proportion of the cases of pancreatic diabetes have a definite relation to lesions of the islands of Langerhans. Upon these observations, which have been confirmed by several American and German investigators, is based the assumption that the islands have a physiology distinct from the remainder of the pancreas, and concerned especially with carbohydrate metabolism, therefore of prime importance in the pathology of diabetes. Very substantial support of this anatomic and physiologic independence is offered by the experiments of Ssobolew[2] and Schulze.[3] These investigators working independently have shown that after ligation of the pancreatic duct in animals, the glandular portion of the organ atrophies and is replaced by fibrous tissue while the islands are unchanged and the urine remains free from sugar. Opie has observed a similar condition in the pancreas of man as the result of partial or complete duct obstruction by calculus or cancer.

It is this same picture of a chronic sclerotic inflammation with disappearance of the greater portion of the glandular structure and the persistence of the islands that is seen in the congenital luetic lesion of the pancreas. This persistence of the islands has not, however, been generally recognized, owing probably to the infrequency of the postmortem examination of newly-born children and in part to the fact that our interest in the pathology of the island has only recently been aroused. Previous to this awakening the only references are those of Schlesinger[4] and Condon,[5] who merely mention the presence of the islands; while since, Opie and Ssobolew, the chief supporters of the theory of anatomic independence have offered this persistence of the islands as evidence in support of their view. At the time of their publications, however, our knowledge of the normal development of the islands was incomplete. This gap has been filled by my recent study[6] of the development of the island in the human embryo, and it is in connection with the results of this study that I wish to consider the changes in the syphilitic organ.

Literature of Congenital Syphilitic Pancreatitis.—The first complete study of luetic pancreatitis of the newborn was made by Birch-Hirschfeld[7] in 1875. In the series then reported, lesions of the pancreas were found in 13 of 23 cases examined, but in a later series, in but 29 of 124. The frequency of the lesion in the second series agrees with the observations of subsequent writers.

The gross appearance of the organ is characteristic, the most striking feature being the increase in consistence, which in advanced cases approaches that of cartilage. An increase in size and weight is also quite constant. On section the surface of the organ is hard, white and glistening, the glandular appearance being entirely effaced. Birch-Hirschfeld compares the appearance on section to that of a fibroid; Cruveilhier, to that of a scirrhous cancer. Previous to Birch-Hirschfeld's study this induration of the pancreas in congenital lues had been noted in isolated instances by Osterloh,[8] Cruveilhier,[9] Hecker,[10] Oedmansson,[11] and Wegner.[12] The changes are most marked in the head of the pancreas, a fact which led Mraczek[13] and Beck[14] to consider the lesion to be an extension from the duodenum. Schlesinger states that there is no constant relation to syphilis of other organs, though the pancreas may be adherent to such.

Birch-Hirschfeld (1875) describes the lesion histologically as an increase of connective tissue which compresses and causes atrophy of the glandular elements, without evidence of degeneration. Schlesinger (1898) gives a most complete histologic study, and decides that the increase of connective tissue is of perivascular origin. Contributions to the pathology of the lesion have been made also by Huber,[15] Friedreich,[16] Mraczek, Müller,[17] Baumgarten,[18] Beck, Heubner,[19] Ssobolew, Opie, and Condon. Gummas have been found only by Klebs,[20] Beck, and Birch-Hirschfeld, which is in striking contrast to the syphilitic lesion of the adult pancreas. Baumgarten and Cruveilhier describe a lardaceous appearance, but whether they use this term in the descriptive sense or to refer specifically to amyloid infiltration, is not clear from the text. Some difference of opinion exists concerning the period at which the lesion develops. Birch-Hirschfeld places it late in pregnancy; Schlesinger much earlier, and quotes cases described by Müller and Mraczek, in which it existed at the fifth month. Opie's statement that the almost complete absence of glandular tissue is due to arrested development rather than to degeneration indicates that he favors Schlesinger's view. It may be mentioned that the condition has been found 5 months (Birch-Hirschfeld) and 3½ years (Heubner) after birth. The involvement of the pancreas occurs in order of frequency after that of bone, lung, spleen, and liver.

Material.—My interest in congenital syphilitic pancreatitis was first aroused by Professor Marchand, of Leipzig, at whose suggestion I undertook an investigation of several minor points concerning the development and pathology of the islands of Langerhans. From the material of the Leipzig Institute, 6 specimens were obtained. Later, while completing a study of the embryology of the islands with the aid of material placed at my disposal by Professor Mall, of Baltimore, 2 additional examples were found. A single specimen was obtained from Dr. Flexner's collection of pancreas material, and one also from the collection of Dr. George Blumer. I take this opportunity to thank these gentlemen for placing this unusual material at my disposal.

In all of these 10 specimens the lesion is of the advanced sclerotic type with almost complete disappearance of the glandular elements. The early stages with infiltration of plasma and lymphoid cells is not seen. A careful study of the lesion adds practically nothing new to our knowledge of the general process. Selective stains prove the new tissue to be mainly of the white fibrous variety; the elastic tissue unchanged or, indeed, in some instances less in amount then in the normal pancreas. In 1 case very widespread mucoid degeneration of the new connective tissue was seen. Miliary gummas (syphilome miliare) were found in but one of the 10 specimens.

The most striking feature is the persistence of the islands of Langerhans, despite the general destruction of the glandular acini. Throughout the dense fibrous tissue, with here and there the fragmentary remains of gland tissue, the islands stand out prominently, often surrounded by denser whorls of investing stroma, but apparently uninjured. This appearance is present constantly in all specimens and in all grades of the lesion; and the most careful search fails to reveal, in the islands, evidence of degeneration or atrophy, or the ingrowth of connective tissue. The absolute resistance of the islands to the process so destructive to the secreting portion of the gland is very strong evidence in favor of their anatomic independence, and this condition, if considered in connection with our knowledge of the development of the islands, is very readily explained. While in most instances the islands appear entirely isolated, close examination shows that occasionally an island is connected with a glandular acinus by a stalk-like process of cells. This connecting band is in most instances a solid mass of epithelial cells, though sometimes a semblance of a lumen may be discerned. Opie alone, so far as I am aware, notes this band of cells connecting island and acinus. Upon this observation and the fact that no evidence of degeneration is seen in the island, he bases the assumption that the island in its early development is in connection with the acinus, and that its development is interrupted in syphilitic pancreatitis by the ingrowth of connective tissue, which causes atrophy of the glandular tissue and leaves the more resistant island in its undeveloped state. At the time of Opie's communication our knowledge of the development of the islands was incomplete, and especially so the manner in which the island became independent of the acinus from which it originated. That his assumption is correct, however, is shown by the results of my recent study of the development of these structures in the pancreas of the human embryo. These results may be briefly summarized as follows:

The islands of Langerhans (embryo of 54 mm.) originate through a proliferation and differentiation of the cells of the primitive secreting tubules. The differentiated cells characterized by a rich, finely granular, eosinophilic protoplasm, lie as small round or oval masses in direct continuity with the cells of the tubule. Later (embryo of about the third month), the attached portion becomes constricted, and lengthening, forms a stalk-like, solid process of cells connecting the island with the acinus. At this period, a few entirely isolated islands are present. A separation takes place, apparently brought about by the pressure of the investing connective tissue. Vascularization has now occurred. In still later stages, a progressive vascularization, increase of cells, arrangement of the cells in columns, and appearance of a fine reticulum is observed. The rapidly forming glandular structures finally surround the islands, which then occupy the centers of the lobules.

From this summary it will be seen that in the pancreas of the third month the islands are still connected with the acini by solid processes of cells. The proportion of connective tissue at this time is very great, as the rapid glandular growth does not occur until the fifth and sixth months. Any disease of the pancreas occurring at this time would, therefore, influence the development of the organ, and evidence of this faulty development would be present at any subsequent stage of the lesion.

This seems to be the case in the lesion under consideration. Syphilis of the pancreas has been observed as early as the fifth month (Müller), and although there are no definite observations of its earlier occurrence, the appearance of the islands when compared with the normal development of these structures indicated the possibility of the lesion occurring as early as the third month. The general microscopic picture of the normal pancreas at the end of the third month is very similar to the syphilitic organ at the sixth or seventh month, except that the latter has a larger proportion of connective tissue: *the same stage of development of the islands is seen in both.* In other words, at the latter period we have the development of the third month plus the connective tissue produced by the syphilitic lesion. It seems justifiable, therefore, to conclude that the syphilitic infection occurs at the period (third to fourth month) when the islands are still connected with the gland tubules, and that the newly-formed tissue causes atrophy of the gland acini, but spares the more resistant islands. Thus is explained the similarity of the islands in the 2 conditions. The ultimate factor in this resistance of the islands is their abundant blood supply. That this vascularization of the island is not altered in syphilitic pancreatitis, I have demonstrated by the study of the diseased organ injected with Berlin blue.

The evidence obtained by experiment and by the study of the pancreas of diabetics has already placed the theory of anatomic independence of the islands upon a substantial basis. The study of their development has demonstrated that although they originate from the glandular tissue, they eventually become wholly independent structures, anatomically. It is with the object of adding still further confirmatory evidence, that this communication, which adds nothing essentially new, but attempts to correlate known facts, is made.

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[16] Friedreich: Pankreaskrankheiten, v. Ziemssen's Handb., 1878, viii, 2 Abth., 254.
[17] Müller: Virchow's Archiv, 1883, xcii, 532.
[18] Baumgarten: Virchow's Archiv, 1884, xcvii, 39.
[19] Heubner: Syphilis Hereditaria, 1896, p. 33. Quoted by Schlesinger.
[20] Klebs: Handb. d. Patholog. Anat., Berlin, 1870, Bd. i, 2 Abth., 561.

SOME EXPERIMENTS WITH RADIUM ON BACTERIA.

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The observations enumerated below are so few and so unsatisfactory that their results possess only negative value. They are interesting, however, because they disagree with those which other observers have published in various popular and scientific articles.

The bacteriologic material was put at our disposal by Dr. N. E. Ditman, of the Roosevelt Hospital, and the radium, from the laboratory of the Curies, was obtained

through the courtesy of Dr. George F. Kunz, of the American Museum of Natural History. It weighs 12 mg. and has an estimated radioactivity of 300,000, the unit being uranium. If this valuation is even approximately correct, a point which the writers had no means of determining, their results are the more significant in view of the fact that the previous observations, alluded to above, were made upon radium having a lesser radioactivity. Our exposures were made at night, and, because the radium was in use during the day at the American Museum of Natural History, were necessarily shorter than those of 24 to 72 hours, used by Pfeiffer and Friedberger;[1] and only one of our experiments was made in a dark chamber.

Our results, with one exception and that doubtful, were negative.

EXPERIMENT I.—Four tubes of gelatin, infected at the same time each with 2 oeses of a virulent, 24 hour, bouillon culture of *B. typhosus* were plated in sterile petri dishes. Two of these plate cultures were kept as control and the others were exposed by placing them one upon the other, with the sealed, glass tube containing the radium lying between. Thus the radium was distant about 1 cm. from the culture medium, only the glass of its containing tube and of the petri dish being interposed. Exposure 10¼ hours at room temperature.

Result negative. After 48 hours, visible growth had taken place in all four of the plates, no inhibitory action being noted in those which had been exposed.

EXPERIMENT II.—A 24-hour bouillon culture of *B. typhosus* was exposed to the action of the radium in the following manner: The radium tube and the culture tube were fastened closely together by an elastic band, so that the walls of the tube alone separated the radium from the culture, and they were then put into a light-tight receptacle to obviate the possible interference of light with the action of the radium. Exposure 14 hours at room temperature,

Result, negative. A "hanging drop" preparation disclosed no inhibition of the motility of the exposed bacilli.

EXPERIMENT III.—Two gelatin plates were prepared, each infected with 3 oeses of a bouillon culture of an unidentified saprophyte. One of these was kept as control and the other exposed in the following manner: A board, in which had been cut a groove to hold the radium tube, was cleaned by washing with 95% carbolic acid, alcohol, and sterile water. The radium tube cleansed with alcohol, was placed in the prepared groove, the uncovered gelatin plate inverted over it, and the whole covered by a sterile towel moistened with distilled water. Thus the radium was distant only .5 cm from the culture medium, 1 thickness of glass intervening. Exposure, 8 hours at room temperature.

Result, negative. Vigorous growth had taken place in both plates at the end of 48 hours.

EXPERIMENT IV.—A controlled, gelatin plate culture, freshly planted of *B. pyocyaneus* was exposed (as in Experiment III) for 19 hours at room temperature.

Result, doubtful. Twenty-four hours after the exposure ended, the general growth in the exposed plate appeared to be less luxuriant than that in the control, and an area in the gelatin, corresponding to the portion which had been directly over the radium tube during exposure, was observed to be less clouded by growth than the surrounding medium. Forty-eight hours after the exposure ended, this difference could no longer be detected. In this experiment the radium seemed to have a distinct, though limited, inhibitory action upon the vital activities of the exposed organisms.

EXPERIMENT V.—A controlled, gelatin plate culture, freshly planted, of *Staphylococcus pyogenes aureus* was exposed (as in Experiment III) for 8 hours at room temperature.

Result negative: Growth took place in both plates and no inhibitory action could be observed.

EXPERIMENT VI.—In order to test the action of the radium upon normal, human tissues, the containing tube was bound upon the extensor surface of the forearm, one thickness of a linen handkerchief intervening. Exposure 1½ hours.

Result negative. Within 4 weeks after the exposure no perceptible change had taken place in the exposed tissues. This is noteworthy in view of the fact that Becquerel is reported to have observed a "burn" within 10 days after an exposure for 6 hours through two thicknesses of clothing to radium of about 20,000 activity. Although we were greatly interested, our time was so limited by hospital duties that it seemed unfair any longer to retain the use of the radium, which others with better opportunities for observation were anxious to secure, and we therefore discontinued our work.

CONCLUSION.

The failure in this little series of experiments to adduce positive evidence of any bactericidal or tissue-altering properties of radium may have been due to the interposition of glass between the active substance and the matter to be acted upon, or to the interference of light, or, more probably, to the shortness of the exposures.

Keeping this in mind, it seems, however, fair to say, that these observations tend toward the conclusion that radium, in the amount and of the radioactivity at present obtainable, gives small promise of achieving the brilliant bactericidal and therapeutic results prophesied for it by the enthusiastic paragraphers of the public prints.

[1] R. Pfeiffer and E. Friedberger in Berliner klinische Wochenschrift, July 13 1903.

THE WORLD'S LATEST LITERATURE

Journal of the American Medical Association.

December 19, 1903. [Vol. XLI, No. 25.]

1. An Epidemic of Typhoid Fever from Sewage Pollution of City Water Supply. THOMAS F. HARRINGTON.
2. The United States Pharmacopeia of 1900. CARL S. N. HALLBERG.
3. How Far Should the Specialist in Rhinology and Otology Presume to Treat the Systemic Condition of His Patients? CAROLUS M. COBB.
4. The Early Manifestations of Laryngeal Tuberculosis; Their Frequency and Treatment. H. H. BRIGGS.
5. The Vasomotor System of the Pulp. EUGENE S. TALBOT.
6. The Trend of Gynecologic Work Today. A. PALMER DUDLEY. (Concluded.)
7. The Capacity of a Human Muscle for Work. JESSE GEORGE HOLMES.
8. Dystocia Caused by Double Congenital Cystic Kidneys in the Newborn: A Contribution to the Study of Congenital Cystic Kidney. EDWARD E. MORSE.

1.—Typhoid Epidemic from Sewage Pollution.—T. F. Harrington gives the history of the epidemic at Lowell, arising from the imperfect action of a check valve, which permitted river water loaded with sewage to be sucked into the city supply. The day being Sunday and consumption at the lowest point there was a much wider range of distribution than would otherwise have been possible. Two days after there was a marked increase in cases of enteritis and gastroenteritis in the district separated from the adjoining system by the check valve. A little later typhoid began to be reported with alarming frequency. *B. coli*, hitherto absent, was found in the water. The disease was mild, the deathrate being 4.4%. [H.M.]

2.—See *American Medicine*, Vol. V, No. 21, p. 822.

3, 4.—See *American Medicine*, Vol. V, No. 22, p. 863.

5.—See *American Medicine*, Vol. V, No. 20, p. 784.

6.—See *American Medicine*, Vol. V, No. 20, p. 774.

7.—The Capacity of the Human Muscle for Work.—J. G. Holmes discusses the imperfections of hitherto used tests. A muscle working under normal physiologic conditions is neither loaded nor "after-loaded." A muscle will not contract isotonically nor isometrically under normal physiologic conditions. When a Mosso or a spring ergograph is used, a large part of the energy expended by a muscle during a period of work is lost, the loss occurring in easing back the weight or the spring to its position of rest. A recognition of the conditions under which a muscle works, and the end to be attained is necessary when an interpretation of ergographic results is to be made. A normal contraction consists in contraction, relaxation without load and rest. He describes a new form of ergograph permitting such normotonic contractions and a greater amount of work than any previously devised instrument. A muscle can work over long periods when the conditions are favorable. These experiments confirm Maggiora's conclusion that there is a definite weight with which one can perform the greatest amount of work. The physiologic limit for continuous work is limited by rate, load, and interval or by rest and work. [H.M.]

Boston Medical and Surgical Journal.

December 17, 1903. [Vol. CXLIX, No. 25.]

1. Malaria and Mosquitos of Worcester; A Year's Observations on the Habits of Culex and Anopheles. WM. W. MCKIBBEN.
2. Some Cases of Facial Erysipelas from Erosions of the Nasal Septum. JOHN W. FARLOW.
3. A Case of Gumma of the Fallopian Tube. GEORGE S. WHITESIDE
4. The Indol of the Feces as a Measure of Putrefactive Processes in the Intestines. A. E. AUSTIN.
5. Was He Insane? A Study in Mental Diagnosis. C. A. DREW.

2.—Facial Erysipelas from Erosions of the Nasal Septum.—John W. Farlow says a lesion of the skin, mucous

membrane or neighboring tissue may be the starting point where the germs of erysipelas find lodgment and begin extension. It has been observed that there is a form of facial erysipelas in which there has been no visible injury or point of ingress for the germs. These generally begin near the nose, and he is led to believe that in many instances an erosion within the nasal cavity is the point where the germs have entered the tissues. Erosions are more common than all other lesions of the inside of the nose, and since germ-laden air during respiration constantly passes over these points of erosion, it is fair to assume that they are responsible for cases of facial erysipelas. In support of this the writer reports in some detail, 3 cases. One was a woman of 75, suffering from facial erysipelas; there was spasm of the throat. Nothing of importance could be found except an erosion and crusts of the septum in the right nostril. The erysipelas subsided, and 2 months later another attack began in the same way, when, with the removal of the crusts on the septum and the use of aseptic washes, the attack rapidly subsided. Another was a woman of 40, who had had a number of severe attacks of facial erysipelas. She had marked erosions of the septum, which, after being properly treated, prevented any subsequent attack during the following 9 years of her life. The third patient had facial erysipelas, and presented erosions similar to the other two, and responded likewise to treatment. The author believes it would be wise, in dispensary service, to refer cases of facial erysipelas to the department for diseases of the nose and throat for examination before regular treatment of the condition. [A.B.C.]

3.—Gumma of the Fallopian Tube.—Whiteside says that although he has had the opportunity of examining a large number of syphilitic women he has found but one case of gumma of the adnexa; that syphilitic affections of the tubes is very rare. The symptoms of the affection are dull pain in the ovarian region, a loss of sexual desire, and sterility. When uterine tumors in syphilitic subjects yield to internal administration of potassium iodid and mercurials, it is probable that the uterus also is not exempt from late manifestation of syphilis. In the case reported, a woman, nearly 40, came to him more than a year after the delivery of her last child, during which time she had been under antisyphilitic treatment. She complained of pain in the right iliac fossa, worse at night; pain in the back, headache and malaise, with too profuse and too frequent catamenia. Examination under ether showed on the right side a tumor the size of a lemon, and apparently in the right fallopian tube. Hot douches, rest, and other usual remedies were employed without any success. In view of her history of syphilis, she was put upon a rigorous antisyphilitic mercurial and iodid treatment. She was seen weekly for the next 2½ months, the tumor showed a gradual decrease in size and at the end of 10 weeks had absolutely disappeared. Her symptoms gradually improved until she considered herself well. Two years later there was no sign of return. [W.K.]

4.—Indol.—A. E. Austin states that measuring albuminous decomposition by the amount of indican and ethereal sulfates has led to many errors, because it is a measure not of this process, but of the completeness of the absorption of its products. When diarrhea replaces constipation, indicanuria may disappear. Many have daily stools and an enormous indicanuria. The writer employed the methods of Schmidt and Strassburger for the determination of indol, phenol, etc., and describes the technic and gives a review of the chemic features of his cases. A study of his cases leads him to conclude that the amount of acid in the stomach has little or no effect on the formation of indol, as most of the bacterial action takes place below the ileocecal valve. There may be some connection between the amount of moisture and indol. Calcium oxalate crystals were found in the urine of all his cases, due to increased amount of lime, which failed of elimination in the intestine. He found vastly larger amounts of indol than Baumstark. [H.M.]

5.—Was He Insane?—C. A. Drew reports a criminal case at great length, the man not being a true paranoiac or paretic dement. The phrase "constitutional inferiority with moral perversion" best covers the abnormality displayed. He knew right from wrong, and could act from policy. The fatuous folly of his judgments was beyond dispute. His delusions were not those of psychopathology, but were false beliefs based on his peculiar experiences and his own self-consciousness. The altruistic sense and sense of honor were rudimentary. He was too much responsible to be allowed to prey on the truly insane. Graded responsibility is debatable in medicine, and not recognized by the courts. One cannot generalize about these perverted ones. Each case must be decided on its own merits. There should be provision in each penal institution for those on the line of demarcation between sanity and insanity. It is better that asylum features be introduced into prisons than that the hospital and asylum standards should be lowered by prison necessities. [H.M.]

Medical Record.

December 19, 1903. [Vol. 64, No. 25.]

1. Leprosy in Hawaii. JAMES T. WAYSON.
2. The Diagnosis and Treatment of Intussusception With a Report of Four Cases. HENRY ROTH.
3. An Unappreciated Source of Typhoid Infection. P. B. BARRINGER.
4. Points to be Observed by the Family of a Tuberculous Patient. C. P. AMBLER.

1.—Leprosy in Hawaii.—J. T. Wayson believes that syphilized people are more susceptible to the disease than even the offspring of lepers, that there is but slight predisposition among the children of leprous parents, and that the disease is in no way hereditary. He also believes that it is by means of the spores that it is spread, these becoming lodged in the integument or mucous membrane of predisposed healthy persons. The first lesions are surely local, as there is undoubted evidence of aborted cases, especially in the purely anesthetic form. No specific is known. The Kansatsu Springs of Japan are reported to check materially the advance of the disease. The Leprosy Act of Hawaii was passed in 1865. Up to 1875, 1,587 cases were segregated. In the 10 years ending in June, 1903, there were 888. At least 300 to 400 undetected cases must be at large. The Federal Government is better equipped than the local one to handle such serious conditions. The objections advanced by many were that the "dumping" of mainland lepers would be a source of discontent and riot at the settlement, that the Federal Government would not be as considerate of their modes of living and diet, and might attempt segregation of the sexes. Lepers bear but few children. [H.M.]

2.—Intussusception.—Henry Roth says acute intussusception forms about a third of all varieties of acute intestinal obstruction. In children and infants it is the most common variety of obstruction. More than half of the cases occur in children, and fully half of these are under 12 months old. He reports 4 cases of acute intussusception. The first was a patient of 40, who presented symptoms of intestinal obstruction, and was operated upon 40 hours after their inception. An irreducible ileocolic intussusception was found, the mass was resected, and anastomosis accomplished by a Murphy button. The patient recovered with a fistula at the seat of operation; two subsequent operations were done to close the fistula which, at the time of writing, was not yet accomplished, though the patient was much improved. The second was an infant of 4½ months. It presented the usual symptoms; laparotomy was performed and the neck of the intussusception was found in the transverse colon; it was irreducible and an artificial anus was made. The child died 6 hours after operation. The third was an infant 4½ months, who was brought to the hospital in collapse. Operation was attempted as a last desperate resort, but had to be abandoned. The child died shortly after. An autopsy revealed an ileocecal intussusception. The fourth case was a child of 6 months which, when brought to the hospital, presented such a desperate condition that operation, though considered, was deemed inadvisable. The child died 5 hours after admission. An autopsy revealed an ilcocecal intussusception about 8 inches in length. The writer believes that the disease is frequently overlooked, especially in young children. He gives a somewhat lengthy dissertation upon the subject, and considered the various operative procedures which should be resorted to in these cases. [A.B.C.]

3.—An Unappreciated Source of Typhoid Infection.—P. B. Barringer calls attention to the infection of the road-bed of our American railways through the discharges of typhoid

patients traveling when in the infective stage. The proportion of patients going to their homes during the early stages or the equally infectious convalescent stage is very large. Contract doctors send them away from mines and factories when once a diagnosis is made, and summer resorts show them the door even on suspicion. He estimates that over 370 cases travel over each mile of road in the United States each year. The infection of the road-bed is probably permanent, as the addition day after day of albuminous human fluids makes it a natural culture medium. In America the deathrate is 46.2 per 100,000, while in England it is only 18. The infection influences those living permanently along the road, travelers, and workmen on the road. City water-supplies are contaminated by trains crossing bridges in their vicinity. Trackmen, trainhands, and travellers are infected by means of the clouds of dust which the car raises and draws after it. Over 50% of all typhoid cases occur in the traveling months, the hot, dry, and dusty months, the fruit, and ice, and drink months. The remedy lies in a closet which will retain safely and without offense to the passengers all dejecta passed on the trip, and which can be emptied and cleaned at the end. There can be both comfort and safety at little expense. [H.M.]

4.—Points to be Observed by the Family of a Tuberculous Patient.—C. P. Ambler holds that the family should always be informed of the facts, care being used in advising precaution not to create an aversion toward the patient. The cooperation of the patient can be best secured by showing him that he can infect sound tissue in his own lungs by his sputum. The writer discusses disposal of the expectoration, care of eating and drinking utensils, kissing, employment about foodstuffs of one suffering with the disease, coughing, especially at table, dust, ventilation, permitting children to creep on the floor, etc. Public halls and meeting places should be avoided by the tuberculous patient for both his own and the public good. Members of his family should be from time to time examined. [H.M.]

New York Medical Journal.

December 12, 1903. [Vol. LXXVIII, No. 24.]

1. The Administration of Antitoxin in Diphtheria by the Department of Health During 1902. J. S. BILLINGS, JR.
2. The Röntgen Rays in Therapeutics. MIHRAN K. KASSABIAN.
3. Report of a Case of Rupture of the Uterus in which Hysterectomy was Followed by Recovery. FRANCIS T. STEWART.
4. Some of the More Infrequent Causes of Obstruction of the Common Bile Duct. LEVI JAY HAMMOND.
5. Dry Hot Air in the Treatment of Bright's Disease. CLARENCE EDWARD SKINNER.
6. The Element of Faith in Healing. P. C. KALLOCH.
7. A Case of Poisoning by Hyoscin Hydrobromid. FREDERICK KRAUSS.

1.—Administration of Antitoxin in Diphtheria.—J. S. Billings, Jr., gives a tabulated report of the cases of diphtheria in which antitoxin was administered by inspectors of the Health Department of New York during 1902. The total number of cases injected was 1,512; of this number 1,112 was considered cases of diphtheria. Without deducting the moribund cases, the case mortality is less than 8%. Cardiac paralysis, asphyxia, bronchopneumonia, and sepsis were the most frequent causes of death in the fatal cases. Of the cases injected during the first 48 hours of the disease only 3% proved fatal. A general summary of the physicians' cases since 1895 is also given. Of 8,318 cases considered as diphtheria, the mortality is 12.6%. The author says the higher mortality among the physicians' cases over the inspectors' cases is chiefly due to the fact that the average dose of antitoxin given by physicians is but rarely more than 2,000 units, while the inspectors give 3,000 units or more in all cases over 2 years of age. Of 15,792 cases injected with antitoxin furnished free of charge by the department of health or by its inspectors, 1,860 died, a case fatality of 11.8%. If the cases moribund when injected (722 in number) are deducted, the case mortality is further reduced to 7.5%. Of 1,702 cases injected on the first day of the disease, only 85 patients died (including moribund cases), a case mortality of 4.9%. [C.A.O.]

2.—See *American Medicine*, Vol. VI, No. 14, p. 539.

3.—Rupture of the Uterus.—F. T. Stewart reports a case of rupture of the uterus during labor in a negress of 38, in which hysterectomy was followed by recovery. Seven hours after the rupture occurred the patient was prepared for abdominal section. A portion of the omentum protruded from the vulva. The contaminated omentum was excised, the entire uterus was extirpated, and the vaginal opening was sutured with catgut. The patient recovered completely. The author says that abdominal section in such cases reveals the exact nature and extent of injury, facilitates quick and careful work, and permits thorough cleansing of the peritoneal cavity. A large tear is best treated by hysterectomy, which may be done almost as quickly as suture, and which effectually controls hemorrhage, removes a large sac, which is apt to become septic, and prevents future pregnancies in a womb weakened by a long scar. [C.A.O.]

4.—See *American Medicine*, Vol. VI, No. 14, p. 540.

5.—Hot Air in Bright's Disease.—In discussing this subject C. E. Skinner says that microscopic and chemic examinations have demonstrated that the following phenomena are susceptible of immediate induction by the body hot air treatment: 1. If hyperleukocytosis is not already present the number of white blood corpuscles is increased in different cases from 15% to 50%. If it is present the increase is usually not so great, or it may be entirely nil. 2. The red blood cells are increased from 10% to 20%. 3. The quantity of urine passed in the 24 hours succeeding the treatment is usually increased from 25% to 100% over that passed in the 24 hours preceding. 4. The quantity of urea excreted in the 24 hours succeeding the treatment is increased from 15% to 60% over that excreted in the 24 hours previous. These effects persist, with decreasing intensity, for from 4 to 48 hours, and sometimes longer, the time varying in different diseases and with different patients The functional activity of every organ and tissue in the body is immediately augmented, but this exaltation of function is not followed by a reactionary debility, if good judgment and proper technic have been applied to the administration. Patients frequently continue to improve generally for months after a course of body hot air treatments. A case is reported and the apparatus and technic are reviewed. [C.A.O.]

7.—Hyoscin Hydrobromid Poisoning.—Such a case is reported by Frederick Krauss in a girl of 15. To relax the spasm of accommodation $\frac{1}{120}$ grain of hyoscin hydrobromid was instilled into each eye. This was followed by symptoms of dizziness, flushing of face, dryness of throat, delirium, hallucinations, abnormal mental and physical excitement lasting 7½ hours; recovery being complete without any treatment. [C.A.O.]

Medical News.

December 19, 1903. [Vol. 83, No. 25.]

1. Peripheral Neuritis. A Clinicotherapeutic Review. WILLIAM BROADDUS PRITCHARD.
2. Clinical Experiences With the Enlarged Pharyngeal Tonsil. H. GRADLE.
3. The Surgical Treatment of Dysmenorrhea. WM. E. PARKE.
4. The Dangers of Inflating the Stomach With CO_2 Gas: Its Diagnostic Value. Report of Three Cases With Autopsies. MOSES BEHREND.
5. On the Value of Ureteral Catheterization and Urine Separation With Hemocryoscopy and Urinocryoscopy in Surgical Diseases of the Kidney. WILLIAM E. LOWER.
6. Some Experiments and Conclusions in Hypnotic Therapeutics. W. H. WALLACE.

1.—Peripheral Neuritis.—W. B. Pritchard reports a number of cases at length, and emphasizes the importance of functional rest in all, even to the extent of mechanical enforcement, the value of forced nutrition, especially with fats, both constitutionally and locally, cream, butter, and lanolin by inunction being always indicated; his great confidence in electricity and massage, neither of which, however, should be used empirically, but with the utmost nicety of personal adjustment; the maintenance of an equable surface temperature in sensory neuritis by the use of lamb's wool; the recognition of neurotic habit tendencies which should be met with corrective nerve discipline, the method varying with the patient; that all cases except, perhaps the traumatic and mechanical, are associated with and often dependent upon states of altered metabolism correlating the necessity of tonic, alterative, and nutritional measures. [H.M.]

2.—Enlarged Pharyngeal Tonsils.—H. Gradle calls atten-

tion to the disturbances, especially during sleep, caused by enlargement of the pharyngeal tonsils, and he attributes the greater obstruction during sleep to turgescence of the posterior end of the turbinals—at least the inferior. It has not been sufficiently emphasized that the most mischief spread by adenoids results from attacks of inflammation so frequently occurring when the tonsils are enlarged. This inflammation extends to the nasal passages, to the ears, and not infrequently into the bronchi. He is of opinion that the ordinary conception that impaired hearing results from the adenoids pressing against the eustachian orifice is erroneous; generally it is due to an extension of inflammation. The relation of adenoids to eye affections has not received sufficient attention. Children suffering from phlyctenular keratitis often have hypertrophied pharyngeal tonsils. The striking influence of adenoid growths upon the general nutrition of the body is noticeable. In 20% of children having adenoids, the weight and growth are below par, and the children are frail and anemic. All this malnutrition is, as a rule, corrected by operation. The cause of the abnormal growth of the pharyngeal tonsil, he believes, is due to repeated attacks of coryza in predisposed subjects. The morbid growths begin in the first or second year of life, though often they do not reach an embarrassing degree until a few years later. An important, but not fully solved problem, is the relation of adenoids to scrofula, as in an apparently scrofulous child, adenoids are much more common than in others, but a large number of microscopic examinations of removed adenoids show that 95% contain nothing suspicious of tuberculosis. The writer describes the operative procedure and instruments which he employs in removing adenoid growths. [A.B.C.]

3.—The Surgical Treatment of Dysmenorrhea.—W. E. Parke says the symptom of obstructive dysmenorrhea is pain, which has the cramp-like character of labor pains. Operative treatment should remove the cause. If it is a fibroid tumor, remove it if posssible, amputating the cervix if necessary. If the obstruction is due to cancer, the disease is usually too far advanced for removal and we must be satisfied with scraping out the canal. If it is cicatricial contraction, due to previous operation, dilation should be done and curetage, as the endometrium is always diseased in such cases. Membranous dysmenorrhea should be treated with wide dilation, curetage, and application of pure carbolic acid to the endometrium. Spasmodic dysmenorrhea is characterized by pain which is cramplike, causing the victim to toss about, sweat, sometimes vomit, and even faint, and is usually of short duration. It is probable that the internal os in this condition is unusually sensitive and acts as a sphincter. The simple operation of dilation and curetment finds its greatest field for usefulness in these cases, as the forcible dilation paralyzes or lacerates some of the muscular fibers and thus relieves the spasm, and the drainage canal being thus widened, secretions, and especially clots, are expelled with less muscular effort. Congestive dysmenorrhea is marked by pain of quite different character and does not demand surgical treatment, unless associated with other pathologic conditions requiring operation. Parke describes the technic of dilation and curetment, states that it is not wholly unattended by dangers, such as uterine perforation and injury of abdominal viscera, and should be done with greatest attention to all antiseptic details. Physical examination should always precede the operation to determine the absence of any contraindications. [W.K.]

4.—Dangers of Inflating the Stomach with Carbon Dioxid Gas.—Behrend states that in an exhaustive reviewing of literature, he was unable to find any death reported as due to the use of carbon dioxid gas in inflating the stomach. Ewald points to this danger by saying that the method suffers from the disadvantage that we have no control over the amount of gas produced by the salts, and that disagreeable symptoms frequently arise from the irritation of the gas upon the walls of the stomach and intestines; the degree of tension cannot be regulated at will or increased at a given moment. As further indicating its danger, the writer reports 3 instances in the Philadelphia Hospital in which carbon dioxid gas was used to inflate the stomach for diagnostic purposes, with fatal results. In one instance the patient lived for 20 hours after taking the Seidlitz powder, and at the time of death was exsanguinated. Autopsy showed the immediate cause of death was a rupture of a bloodvessel at the base of an ulcer, from which fatal hemorrhage ensued. In the second case the stomach was not distended by the gas, the patient was much prostrated, and died on the following day. Autopsy showed malignant disease at the cardiac end of the stomach. In the third case no change was noted in the abdomen after the powders were given, but distress and the symptoms of shock were noted as in the other 2 cases. Clinical diagnosis was carcinoma of the esophagus. The patient remained in a semiconscious condition, and died 4 days later. The author concludes that it is evident from these observations that the use of carbon dioxid gas in inflating the stomach is a serious experiment. It is infinitely more dangerous where there is disease of the esophagus and cardiac end of the stomach. This is probably due to pressure within narrow limits. The test, if used at all, must be with discretion, and in selected cases. [A.B.C.]

5.—The Value of Ureteral Catheterization, Urine Separation, Hemocryoscopy, Urinocryoscopy, etc., in Surgical Diseases of the Kidney.—W. E. Lower says: We find the principal reasons for the postoperative deaths of a decade or more ago to be (1) the congenital absence of a second organ, which is assumed to be present; (2) the degeneration of the organs, whereby a partial or total disappearance of the same has occurred; (3) a pathologic condition of the other organ, which is of normal shape and size, but which is functionally more or less inert. To eliminate these factors from the causes of postoperative deaths is the object toward which the clinicians must direct their effort. The objections to catheterization are well known, but not well founded. They are (1) that the method is unsafe; (2) that it is difficult of application. The additional diagnostic value of the cystoscope and catheter are: 1. Whether the bladder or kidney is the seat of the lesion. 2. The presence and location of a stricture of the ureter. 3. The presence and location of a stone in the ureter. 4. A differential diagnosis between diseases of the kidney and surrounding organs. His conclusions are: 1. Before doing a cutting operation upon a kidney—especially a nephrectomy—the presence of a second functionating kidney should be established. 2. The best and safest method for ascertaining the presence of a kidney is by the aid of cystoscopy and ureteral catheterization. 3. The function of the kidney is best determined in order of importance: (*a*) By the freezing point of the urine; (*b*) by phloridzin glycosuria; (*c*) by the quantity of urine excreted; (*d*) by the freezing of the blood. 4. The most reliable method of obtaining the separate urines is by the ureteral catheter. [A.B.C.]

6.—Hypnotic Therapeutics.—W. H. Wallace reports a number of cases in which he has used hypnotism with success. He believes the results are not due so much to suggestion as to concentration, suggestion merely helping to hold the mind. Hypnotism seems to have a definite physiologic action. Strain is put on the vasomotor nerves by concentration, resulting in a paresis of the whole vasomotor system, with diminished blood-pressure. Blood is very easily determined to any portion of the body, because the vessels are wide open, with but one exception. Whereas in normal sleep the brain is anemic, in hypnotic sleep it is congested. Should the patient's attention new be directed to a certain part of his body, there is a rush of blood to the center that presides over that part. Nutrition in the center and in the painful area connected with it is increased, and tissue changes take place and the part is flushed out. [H.M.]

CLINICAL MEDICINE

DAVID RIESMAN A. O. J. KELLY

EDITORIAL COMMENT

Snake Poisons and Antivenin.—Captain G. Lamb, I. M. S., of the Bombay Research Laboratory, has given to the profession the results of his investigations on the *cobra* and *duboia* poisons. A knowledge of these is of vast importance to all who would investigate, or appreciate the value of Calmette's antivenomous serum. Indeed, the results of Captain Lamb's researches have furnished him with data which show important dif-

ferences from those already reported by Cunningham and Calmette. He shows that the action of the cobra poison is primarily, and principally focused on the central nervous system. Its activity is secondarily manifested on the blood, of which it breaks up the red corpuscles and separates the hemoglobin. On the other hand, the action of the duboia poison is mainly, if not solely directed to the circulatory apparatus. The effects are thus tabulated by Captain Lamb: 1. "It affects the coagulability of the blood; injected directly into the blood stream, or in large doses under the skin, it so increases this as to cause extensive intravascular clotting. In small doses it causes, doubtless after a short-lived phase of increased coagulability, a marked and prolonged phase of diminished coagulability. So that in some cases I have noticed the shed blood remains absolutely unclotted even after 24 hours. 2. It has a destructive action on the red blood cells, breaking these up and letting free the coloring matter contained in them. 3. It has a marked destructive action on the capillary walls, rendering them more permeable to their fluid content. 4. It has a marked depressing action on the heart, so marked indeed as to sometimes lead to fatal termination from this action alone. 5. It has no action on the central nervous system, and there is therefore no paralysis ever observed. A depressing practical revelation is contained in the fact that Captain Lamb "has demonstrated in many experiments with different animals that Calmette's serum is of no avail whatever in counteracting the poisonous effects of the duboia venom." He also informs us that this serum has little or no effect in neutralizing the poison of *Bungaris fasciatus*. So that there still remains ample scope for further investigation in this field, for Captain Lamb and probably, indeed, for many others.

REVIEW OF LITERATURE

The Distribution of Nitrogenous Substances in the Urine in Disease.—R. von Jaksch[1] contributes experiments that are a continuation of those on the same subject, published in volume 47 of the *Zeitschrift*. From the present experiments he deduces: (1) 95.85–98.36% of the nitrogen not precipitated by tungstophosphoric acid, is contained in urea; (2) 5.16–8.51% of the nitrogen bodies precipitated by tungstophosphoric acid, consist of purin bodies and ammonia; (3) 83.93–91.07% of the total nitrogen in the urine arises from urea; (4) 1.52–3.61% of the total nitrogen is contained in the amido acids; (5) the amount of total nitrogen multiplied by 2 will give approximately the amount of urea in nonalbuminous urine; (6) the amido acids in the urine may be increased by the ingestion of benzoic acid compounds; (7) the amido acids are increased in hepatic diseases, typhoid fever, diabetes mellitus, and some cases of exophthalmic goiter. [B.K.]

Pulsus Paradoxus.—The pulsus paradoxus is always pathologic, and according to F. Riegel[2] may be divided into 3 groups from the standpoint of causation. The first group is Kussmaul's mediastinopericarditis. This compresses the large vessels mechanically, and is easily diagnosed by the simultaneous swelling of the cervical veins during inspiration. The heart is usually perfectly well—in fact, working stronger to overcome the impediment. In the other 2 groups the heart is diseased. In the second group, represented by stenoses of the upper air passages, capillary bronchitis, pneumonia, pleural exudations, air does not enter the air passages with ease, negative inspiratory pressure is increased, and the inhibitory influence of inspiration on the heart is increased, thus producing the pathologic pulse. The third group includes the weak hearts (diminished resistance power), such as are found in deficient compensation, emphysema, fevers, etc. The 2 latter groups may easily coexist. It is important to determine the exact cause, as the treatment depends absolutely upon it. [E.L.]

Sprue.—P. W. Bassett Smith[3] maintains that, whether this condition is a specific disease or not, the symptoms form a distinct entity, and require a distinctive term. American surgeons, from experience in the Philippines, consider that sprue is a condition which always follows dysentery. The author, however, differs from this opinion, and believes sprue to be a chronic inflammatory condition of bacterial origin, giving rise to a diminished supply of those nitrogenous products which are required in the formation of red blood cells. The cardinal points in diagnosis are: (1) Irregular and chronic diarrhea with dyspepsia; (2) progressive emaciation; (3) extreme secondary anemia; (4) changes in the buccal mucous membrane, with or without aphthae; (5) postmortem, a thinning of the gut, with destruction of the mucous membrane and its absorbent glands. The disease may be primary and insidious in its onset, or secondary, following dysentery. [B.K.]

The Slowing of the Pulse in Icterus; Bradycardia, or Double Rhythm.—L. Ward[1] presents 2 patients with acute icterus having bradycardia as a symptom, and makes the following remarks: Bradycardia in must cases, but especially after convalescence from acute fevers and in icterus, is really a form of pulsus bigeminus. The second cardiac contraction is too weak to produce a radial pulse. It can be seen, however, on the jugular vein, which has twice as many undulations as there are radial pulse-beats. Another explanation is the action of the toxins of the bile on the medulla, as in the digital bigeminal pulse and in Stokes-Adams' disease. This toxic action is favored by a particular individual susceptibility. According to Ward, there are few real bradycardias; most of them, in fact, are tachycardias. [E.L.]

Tendon Reflexes in Inflammations of the Kidney.—A. Lion[2] found the patellar tendon reflex to be increased in a large majority of the cases of nephritis. The cause is to be found in the irritation produced by uremic intoxication. The chronic parenchymatous and severe acute forms show the greatest increase in the knee-jerks. A diminution in the reflex indicates either recovery or a transition to a more favorable chronic form. [B.K.]

Metabolism of Typhoid Fever.—Baduel, Daddi, and Marchetti[3] give results obtained from investigation of 6 cases. It is certain that a proper and restricted diet assures sufficient absorption of fat, nitrogenous, and other matter, including the necessary phosphorus. During the stage of elevated temperature there is a diminution of the oxidative process. But the normal interrelation of phosphorus and nitrogen persists. When convalescence is begun there is a slight tendency to excessive absorption in ratio to the deficiency of the febrile period. With the progress of the disease distinction of nitrogenous compounds is inhibited, and more so if there occurs a delay of convalescence, at which time is noticed a marked retention of azote (albumin) and phosphorus. [T.H.E.]

Clinical Studies of Gastrosuccorrhea.—H. Strauss[4] finds 40 cc. (1.3 oz.) to be the smallest quantity of gastric juice recovered from the stomachs of patients presenting the symptom-complex of gastrosuccorrhea. The secretion is thin, watery, and possibly of a light greenish tinge, with a specific gravity of 1,004 to 1,008, containing free HCl and pepsin. No sarcinas or yeast cells can be found in it. The condition may be acute or chronic, but no etiologic difference exists between these forms. The cause of increased secretion may be intraventricular or extraventricular. Among the former, gastric ulcer plays an important part, the hypersecretion being produced reflexly by the local irritation of the ulcer. Motor insufficiency of the stomach may also be a cause of gastrosuccorrhea, although many cases occur in which no motor disturbance exists. The forms of gastrosuccorrhea due to extraventricular causes are of nervous origin, being caused by irritation of some part of the nervous system standing in close relation with gastric secretion. Therapeutically, there are 4 indications: 1. The stomach should be emptied of surplus secretion, preferably by the stomach tube. 2. Large quantities of carbohydrates should be avoided, and the diet should be made up principally of proteids and fats. 3. Medicinally, silver nitrate is of service, either

[1] Zeit. f. klin Med., Bd. l, p. 167.
[2] Deutsche medicinische Wochenschrift, 1903, xxix, 345.
[3] British Medical Journal, September 19, 1903, p. 641.

[1] La Sémaine Medicale, 1903, xxiii, 117.
[2] Zeit. f. klin Med., Bd.l.
[3] Il Policlinico, Rome, October 10, 1903.
[4] Mitt. a. d. Grenz. d. Med. and Chirurg., Bd. xii, p. 25.

internally, or used in 1 to 1,000 solution to wash out the stomach; injections of atropin are useful in cases of pylorospasm. 4. In cases that steadily lose ground, surgical procedures should be considered, gastroenterostomy being the most effective operation. [B.K.]

Excretion of Ammonia in Human Urine.—A Schittenhelm[1] finds that the relation of nitrogen to ammonia in the urine is unaffected by the amount and form of albumin in the food. The ammonia is increased proportionately, if the amount of fat in the food be increased; this is the result of the overproduction of fatty acids and their decomposition products. The proportion of nitrogen to ammonia rises with the production of hydrochloric acid in the stomach, and falls when the acid secretion stops. Chronic, destructive diseases of the liver produce an increase in the ammonia excretion, which can then be still further increased by the administration of fats. [B.K.]

Typhoid Pericarditis.—Ch. Gaudy and F. Gourand[2] report a case of typhoid fever of apparently benign character in a woman of 30. On the eighth day the character of the disease changed, dry pericarditis developing as a complication. This was characterized by a double friction murmur, which persisted during the entire acute stage of the disease, as well as during the period of beginning apyrexia; suddenly on the twenty-fifth day, and without the slightest warning, the patient died. Fibrinous pericarditis with a very small amount of serum was found. The bacteriologic examination was negative. A critical survey of pericarditis in the course of typhoid fever is given. It is a very rare complication; it may be fibrinous or purulent; sometimes it exists alone, usually it is associated with other heart complications. Its onset is insidious, its symptoms few, its prognosis grave; its cause is probably the bacillus of Eberth. [E.L.]

Influence of Nutrient Enemas on Peristalsis and Secretion.—O. Loewe[3] found by experiments in animals that if nutrient enemas be administered with opium, the peristaltic movements did not extend further than the ileocecal valve. Without opium they were to be observed as high as the middle of the small intestine. Nutrient enemas are, therefore, indicated in disease of the stomach and duodenum, and even in disease of the middle part of the intestinal tract; but are contraindicated in perityphlitis, typhoid fever, and other affections of the lower part of the gastrointestinal tract. [B.K.]

Attempts to Immunize against Dysentery by Inoculation.—K. Shiga[4] has attempted to produce immunity against dysentery by injecting immune serum and .5 cc. of pulverized cultures of dead dysentery bacilli into the skin of the back. A few days later the injection was repeated with 1 cc. of the culture, but no immune serum. Immune bodies were found in the blood of people thus treated for from 20 to 30 days; 10,000 people were treated thus during one epidemic. It did not seem to influence the morbidity, as the individuals became ill just the same, but it did affect the mortality. Of nonimmunized people 30% to 40% died, of immunized very few. [E.L.]

Significance of the Sputum as a Nutritive Medium for the Tubercle Bacilli.—W. Hesse[5] has studied the part which the mucopurulent expectoration plays in the growth of tubercle bacilli. He inoculated the sputum on various culture media, and finds the water agar-agar and glycerin water agar-agar to be the best. The bacilli draw their nutriment from the sputum as well as from these media. The medium must have an alkalinity corresponding to that of the expectoration. The method of cultivation is described, and the author claims that it is a surer method than microscopic examination of the sputum. If a small particle of expectoration containing bacilli be inhaled by a healthy person, the bacilli will multiply, provided the alkalinity of the bronchial mucus is approximately that of the inhaled sputum. This partly explains predisposition to tuberculosis. It also may explain why tuberculosis remains local and curable in one case, while it rapidly spreads in another; in the former it may be assumed that the alkalinity of the bronchial mucus differs materially from that of the inhaled droplet, and development of the bacilli proceeds very slowly. [B.K.]

A Rare Complication of Diabetes Mellitus.—Zandy's[1] patient had a large tumor in the right side of the abdomen. It was smooth and firm, movable with respiration, and not adherent to the abdominal wall. It extended from the right costal margin to below the umbilicus, and almost to the linea alba. It was separated from the liver by a tympanitic area and was not a part of the kidney. He had 5% of sugar. He improved under antidiabetic treatment and refused operation consistently. An examination 3 months later showed absence of the tumor; it had disappeared spontaneously and without any special treatment. The quantity of sugar then amounted to 1%; the mass must have been a hydronephrosis. The author has no explanation to offer for either its formation or disappearance. [E.L.]

Subacute Indurative Pneumonia.—O. K. Williamson and J. G. Emanuel[2] report a case of a girl who had been complaining for 6 weeks previous to her admission, of pain in the right side of the chest, cough, and expectoration. She had had a hemorrhage of a half-pint, following which her expectoration was constantly streaked with blood. There was progressive loss of flesh and strength. Later the expectoration became very profuse and offensive. No tubercle bacilli could be found. The physical signs were those of consolidation at the base of the right lung, with empyema. An abscess was opened and drained, but without improvement, and the patient finally died. At necropsy a large, irregular cavity was found in the right lung, the walls of which contained fibrous tissue. Microscopically, the alveoli in some parts of both lungs were seen to be filled with a coarsely granular material, which in places showed beginning fibrous change, and in other parts, especially in the right lung, had become completely organized. [B.K.]

Simultaneous Presence of Glucose and Levulose in Urine.—A young cooper, who was in the habit of drinking much sweet wine, was taken with acute articular rheumatism. A number of the joints of his lower extremities were affected, as was also his heart, over which a systolic murmur could be heard. His urine showed albumin, and reduced Trommer's and Nylander's solution. The fermentation test showed 1.1% of sugar; the phenylhydrazin test was positive, but with the polariscope the ray of light was not deflected to the right. Five days later the sugar had disappeared, and 2 days later the albumin also. A. Lion[3] concludes that condition was due to the simultaneous presence of a substance deflecting rays to the left. Levulose must have been present in smaller quantities, as its deflecting power is greater than that of dextrose. [E.L.]

Röntgen Ray Investigations of Articular Changes in Acute Rheumatism.—E. Hain[4] finds that in the first few days there is a diffuse brightening of the shadow cast by the bones in acute articular rheumatism, together with a blurring of the structure and contour of the spongy ends of the bones. This is accounted for by an acute softening hyperemia and swelling of the ends of the bones, constituting an osetitis of the epiphyses. During convalescence these characteristics disappear, leaving only a slight permanent atrophy of the articulating surfaces, indicated in the x-ray picture by a slight brightening of the shadow, and a sharp, coarsely meshed structural appearance. [B.K.]

A Case of Rightsided Pulsating Pleurisy.—C. Bendix[5] reports such a case in a woman of 43. It followed acute rheumatic fever. The pulsations were very marked. The heart was displaced to the left, as proved by physical and fluoroscopic examination. Puncture showed purulent fluid and an operation was performed, the patient recovering. The pulsation in such cases is due to forcible heart-action, to the conducting power of the fluid medium and to the chest wall presenting less resistance to the force of the heart at the point of pulsation than at other points. Another point of interest in this case was the location of the pulsation on the right side, such a situation being very rare. [E.L.]

[1] Deut. Arch. f. klin. Med., Bd. lxxvii, p. 517.
[2] Gazette des Hôpitaux, 1903, lxxvi, 375.
[3] Zeit. f. klin. Med., Bd. l, p. 336.
[4] Deutsche medicinische Wochenschrift, 1903, xxix, 327.
[5] Deut. Archiv f. klin. Med., Bd. lxxvii, p. 539.

[1] Deutsche medicinische Wochenschrift, 1903, xxix, 338.
[2] Lancet, September, 19, 1903, p. 814.
[3] Münchener medicinische Wochenschrift, June 30, 1903.
[4] Zeit. für Heilkunde, 1903, Bd. xxiv, Heft viii; Abth. f. Int. Med., Heft iii.
[5] Münchener medicinische Wochenschrift, 1903, l, 855.

GENERAL SURGERY

MARTIN B. TINKER

A. B. CRAIG C. A. ORR

EDITORIAL COMMENT

Subarachnoid Injection.—The injection of a solution of cocain into the subarachnoid space, however ingenious, would seem to any one without the surgical bias a hazardous proceeding, and unfortunately a review of the history of these cases does not dispel our skepticism. That anesthesia produced in this way is often followed by untoward symptoms, such as immediate collapse, then vomiting and agonizing headache, prolonged for days, has not been denied by the most enthusiastic, but these symptoms are made light of, or explained away entirely. The substitution of tropacocain for cocain, in order to lessen the danger, has had but negative results. An excellent picture of the operation and its sequels is given by Bier, who with his assistant, Dr. Hildebrand, courageously submitted to the puncture. Both subsequently suffered the nausea, vertigo, feeble pulse, and unbearable headache, described by almost every one who has used this method, and both were confined to bed for several days. These unpleasant effects were ascribed to the loss of the cerebrospinal fluid entailed by the operation. The experience of Leguen was more disastrous. He reports 2 cases in which death almost immediately followed the injection. With scarcely a sigh, without a convulsive movement or complaint, both patients succumbed when the solution of cocain flowed into the region of the spinal cord. Such facts are sufficient to show how imminent the danger is in these efforts at transcending our common knowledge of the laws of the inner domain of nature. A dispassionate opinion would *a priori* be against experiments so rash, and experience of the treacherous properties of cocain would make one doubtful of the prudence of subjecting the spinal cord to the action of a foreign substance and poison unmodified by a course through the circulation. The subsequent history of these cases of cocainization is veiled in obscurity, perhaps because there are no data, perhaps because sufficient time has not elapsed for the development of the signs of secondary degeneration of the cord, or paralysis, which in our experience is the insurmountable objection to this method, and a result we might naturally expect to follow a mechanical opening of the arachnoid sac, and the placing of an unaccustomed fluid in juxtaposition with the nerve elements. From analogy alone, we can perceive the probability of sclerosis gradually ensuing under such conditions, for the delicate spinal substance, as experience shows, is peculiarly susceptible of this form of degeneration. This view of the danger of this operation, eminently rational as it would seem, has received but little if any consideration at the hands of the enthusiasts. The loss of the cerebrospinal fluid is regarded by many as an unfavorable circumstance to be avoided by every means in our power. There are some surgeons who advise the making of the solution of cocain with this fluid. In this way its loss is prevented, but a new danger—that of septic infection—is introduced. In a great many cases, however, the loss of the cerebrospinal fluid has excited no apprehension, although we have no proof that it can be withdrawn with impunity and no satisfactory knowledge of its uses to the organism, or the consequences of removing a mass around the cord that may be a buffer to it against compression. The symptoms that follow the escape of the spinal fluid—nausea and headache—indicate harm to the arachnoid rather than the physiologic effect of the cocain. These signs, indeed, bear such a striking resemblance to those of meningeal origin that it is strange they should be given so little significance. This indifference is one of the evidences of the state of mind of those surgeons who, rendered reckless by the success of antisepsis, invent these sensational operations which, to minds not void of prudence, seem almost certain to cause subsequent mischief. It is difficult not to believe that these operations at best are only apparently successful, and at any time portentous with ugly possibilities. And lastly, the justification for thinking cocain less dangerous in these cases than ether or chloroform, or some of the excellent methods of local anesthesia, will scarcely appear sound to any cautious observer. Several of the chief advocates in this country when it first came into use, have now given the procedure up, one man stating that he has not used it for over a year, and saying that it has been largely abandoned in the East.

REVIEW OF LITERATURE

Perforation of the Aorta by the Accidental Swallowing of a Pin.—Isambard Owen[1] reports that a man of 53 complained of hemoptysis, pain in the left half of the thorax and over the abdomen, which was partially relieved when the patient was at rest. The pain had attacked him suddenly a week before admission to the hospital, and had continued since then. He had vomited red blood on several occasions. The most plausible explanation, notwithstanding the absence of direct evidence, was that there was an intrathoracic aneurysm and oozing into the esophagus, and the patient was treated accordingly. The patient died suddenly. Necropsy showed on the left posterolateral aspect of the esophagus an oval opening, 1 cm. long and ½ cm. wide. Extending into this opening was the head of an ordinary-sized pin, and at a slightly lower level than the hole in the esophagus was a ragged opening in the aorta. A probe could be passed through both openings at one time. The conclusion was that the pin had been swallowed head downward, the head being arrested in the pouch in the esophagus and the point tilted against the opposite wall, in which situation it penetrated both the esophageal and the aortic walls. [A.B.C.]

Riva-Rocci Sphygmomanometer and Gaertner's Tonometer.—A. Martin[2] discusses the technical advantages and disadvantages of the Riva-Rocci sphygmomanometer, and describes numerous little points, which would improve the apparatus very much, praising especially the Gumprecht modification. He himself has used the Gaertner modification of the Italian apparatus. He emphasizes that to get trustworthy results the ring must be applied exactly as Gaertner directs. Variations in results using one ring must not be laid down as being due to psychic influences. As even slight displacements in a ring may produce considerable variations in the result, in all examinations having blood-pressure changes as their purpose, 2 rings connected by a system of compression should be used. If the results as indicated on both should differ more than 10 mm. they must be discarded. This method must also be used for comparative measurements on both hands. For simple blood-pressure determinations 1 ring suffices. The maximal general blood-pressure (that existing in the large vessels) can be determined accurately only by using the Riva-Rocci apparatus on the arm with a hose 10 cm. wide. If the Gaertner apparatus is used, on the first phalanx of the bent middle finger a slightly lower degree of pressure is obtained, due to the sudden redness and warmth of the finger tip. [E.L.]

Splenectomy in Banti's Disease.—E. Quénu and P. Duval[3] discuss the nature of Banti's disease from the standpoint of reported cases operated upon, and give notes of 2 personal cases, one of which was subjected to splenectomy and the other, seen in consultation, was considered not suitable for operation. The patient operated upon was a woman of 21, who made a good recovery and afterward passed through 2 normal pregnancies. The removed spleen weighed 2,010 gm. (4 lb., 3 oz.), showed marked distention of the vessels, increase in connective tissue, and atrophy or disappearance of the Malpighian bodies. The second patient was a man of 27, who did not have marked splenic enlargement. In conclusion, the authors state that they do not consider it advisable, in the present state of our

[1] British Medical Journal, June 27, 1903.
[2] Münchener medicinische Wochenschrift, June 16 and 23, 1903.
[3] Revue de Chirurgie, October 10, 1903.

knowledge, to operate on all cases of Banti's disease. The indication for operation they believe to be hypersplenomegaly, the splenic tumor to be of considerable size. Operative intervention is thus based on the presence of splenomegaly rather than on the presence of Banti's disease, as such. Splenectomy is the operation of choice. [A.G.E.]

An Aspirating Trocar.—Edward H. Ochsner[1] describes and illustrates by cut, an aspirating trocar which he has devised. It works on the same principle as the metal syringe, the stylet taking the place of the piston in the syringe, and protruding through the barrel with a sharpened point. When the stylet is retracted through the barrel, as the piston syringe, to near the limit of such retraction, it passes an opening which is provided in the barrel, such opening passing through a nipple-like projection on the side of the barrel to which rubber tubing may be attached. Ochsner calls attention to the fact that both the stylet and the barrel must be made of steel and so ground that the parts fit perfectly. Every instrument should be tested in the shop before it is sent out, and again by the surgeon before it is accepted. If made of ordinary trocar metal, instead of steel, the instrument is almost absolutely worthless, He states that the one he is now using has been employed in over 100 gall-bladder operations and numerous other conditions, such as aspiration of synovial and pleuritic effusions, and is still in perfect working order. It can be boiled as any other surgical instrument. [A.B.C.]

Fracture of the Superior End of the Radius in the Adult.—Latarjet and Gazet[2] report 9 cases. The fracture may be produced directly—by a force perpendicular to or parallel to the axis of the radius; or indirectly—by torsion or by muscular action. The osseous lesion may be a fissure, a simple decapitation, a crushing of the head, or a detachment of the muscular origin. If there is no displacement of the fragments, diagnosis is difficult, and rests mainly on the finding of a local point of greatest tenderness, immobility of the joint, etc. When displacement occurs, the forearm is held at an obtuse angle and in semipronation. The point of greatest tenderness is 3 cm. to 4 cm. below the condyle of the humerus. There is slight bulging of the anteroexternal part of the upper forearm. The head of the radius remains immobile when the forearm is rotated, and crepitus may be perceived. If the separation of fragments is considerable, it may be detected. The treatment does not differ from that of other fractures. [B.K.]

Beneficial Results of Gastroenterostomy in Some Cases of Cancer of the Stomach in which the Pylorus is Not Obstructed.—Bilton Pollard[3] holds that doubtless many surgeons have opened the abdomen with intention of either removing the diseased portion of the stomach or performing gastroenterostomy, and have found that in spite of symptoms the growth did not obstruct the pylorus. He reports 3 cases of this kind, in which, in spite of the fact that the pylorus was not obstructed, he did a gastroenterostomy with marked relief from the symptoms of obstruction. This operation he considers valuable as showing that at least temporary relief can be obtained by gastroenterostomy in a case of carcinoma of the stomach with no mechanical obstruction, for although there may be no mechanical obstruction, there is doubtless an obstruction of some kind which interferes with the passage of food from the stomach to the duodenum, and just as in simple ulceration the irritation of food causes pain and vomiting and interference with nutrition, which can be relieved by gastroenterostomy, so also in malignant ulceration, small relief, if only for a time, can be given in a like manner. His conclusions are that the clinical signs afford the most important indications for treatment, and that in cases in which these indicate obstruction to the passage of food from the stomach to the intestines, and in which the malignant disease causes pain and vomiting, the surgeon may perform gastroenterostomy with every hope of benefiting his patient, even if the growth does not obstruct the pylorus. [A.B.C.]

The Etiology of Hydrocele.—F. Barjon and A. Cade[4] have added cases to those already reported until now they report 43 cases classified as follows: Essential hydroceles, 25; symptomatic, 15; congenital, 1; spermatic cysts, 2. In the fluid of 13 of the essential hydroceles they found spermatozoids. In none of the symptomatic were they present. Hence the writers attach some diagnostic importance to their presence. As to the tuberculous nature of hydrocele, inoculations were made from 16 of the 43 cases—10 essential and 4 symptomatic hydroceles and 2 spermatic cysts. In one of the cysts tubercle bacilli were found, the others being negative. Including the cases of Widal and Courmont, this gives negative results in 27 cases of essential hydrocele. [A.G.E.]

Plastic Operation in Exstrophy of the Bladder.—S. Spassokutski[1] reports a case operated upon according to Rutkowski's suggestion, that is, by forming the anterior bladder-wall from the bowel. The utilized section of the gut consisted of the lower two-thirds of the sigmoid flexure, the upper third having been cut off and united by means of a Murphy button with the rectum. Feces thus passed from the upper sigmoid flexure direct into the rectum. The next step of the operation consisted in forming a new anterior bladder-wall with part of the excluded sigmoid flexure. This being done, the new urinary receptacle was complete, and performed its function in a satisfactory manner. The author considers both procedures, the transplantation of the upper sigmoid flexure into the rectum, and the plastic formation of a bladder-wall from the lower sigmoid gut to be easy and safe, since aseptic requirements may be rigidly fulfilled and the plastic operation is done extraperitoneally. The sigmoid bowel, he says, rapidly adapts itself to the novel function of a reservoir for the urine. [L.J.]

Irreducible Dislocation of the Shoulder-joint.—A. F. Jonas[2] reports 7 cases. His plan of treatment is as follows: First, manipulation, using the forearm as a lever, rotating upward and inward, abduction and adduction, taking care not to injure the vessels and nerves, and avoiding fracture of the humerus. Second, thorough incision of the capsule and removal of all cicatricial tissue; all muscular attachments that offer restraint are severed, the vessels are protected with a retractor, the head of the bone is brought into place by means of an elevator, assisted by manipulation and traction. Third, if reduction is not accomplished by this means, the head of the humerus should be resected. This should be avoided if possible, on account of the resultant flail-like condition of the arm, and yet it must be done (*a*) when the humeral head and neck become too extensively stripped of their attachments, for experience shows that necrosis occurs in about 16% of such cases; (*b*) when osseous union has occurred between the head and ribs; (*c*) when after a division of all the restraining soft parts, the head rests upon the point of the acromion process. [A.B.C.]

Lessons from 50 Operations for Cancer of the Tongue.—A most thorough discussion of cancer of the tongue is given by W. H. A. Jacobson.[3] It contains more valuable points than can even be mentioned in a brief abstract. Precancerous conditions are first considered, by these being meant certain conditions in which the disease is the result, today, but not necessarily this day next week, of irritation and inflammation only. Among these are classed bald tongue, ulcers, cracks, fissures, leukoplakia, warts, old persistent glossitis with numerous sulci and chronic enlargement of the tongue. The diagnosis between cancerous and precancerous conditions is dwelt upon. Points to be impressed upon patients are: (1) The certainty that these lesions will become cancerous; (2) the power of speech that patients will retain; (3) the rapidity of healing which follows an early operation upon the tongue. Regarding the methods of operating, Jacobson says he is familiar with only 2, Whitehead's intrabuccal and Syme's through the floor of the mouth. The former is considered to be much superior. Removal of the glands is advised as a matter of routine, this including the submaxillary, those of the anterior triangle, especially the submental (a group often overlooked), and the deep cervical glands. The operation should be performed 2 to 4 weeks after that upon the tongue. The advisability of operating upon enlarged glands that appear

[1] Annals of Surgery, May, 1903.
[2] Lyon Médical, September 13, 1903.
[3] British Medical Journal, June 13, 1903.
[4] Lyon Médical, July 5, 1903.

[1] Chirurgia, June, 1903.
[2] Annals of Surgery, May, 1903.
[3] The Practitioner, June, 1903.

some time after the operation upon the tongue is a difficult question to decide. Jacobson says it is no use to operate when the glands under the upper third of the sternomastoid, reaching to the mastoid process behind and to the angle of the jaw in front, are involved. Operation will be futile when any of the infected glands are soft and necrotic, and when both anterior angles contain enlarged glands. [A.G.E.]

Repair of Ruptured Crucial Ligaments.—Mayo Robson[1] reports that a miner of 41, by a landslide in a coalpit, received an injury to the left knee. He was treated for 6 weeks in a hospital and was later admitted to the Leeds Infirmary. The knee was swollen, but free from tenderness on manipulation. When the muscles were braced up the bones were in good position, but so soon as they relaxed the tibia fell backward until stopped by the ligamentum patellæ. On manipulation, the head of the tibia could be brought forward in front of the femur, and there was also very free lateral movement of the head of the femur. There was fluid in the joint and the patella floated. It was evident the crucial ligaments had been ruptured. The joint was opened by a large anterior U-shaped flap, which severed the ligamentum patellæ; both crucial ligaments were found completely ruptured, being torn from their upper attachments, and the ends being somewhat shreddy. They were sutured in position by means of catgut ligatures, the anterior being sutured to the synovial membrane and tissue on the inner side of the external condyle and the posterior, which was too short, and therefore split in order to lengthen it, was fixed by suture to the synovial membrane and cartilage on the outer side of the internal condyle. The wound was closed, some pain followed the operation, and there was considerable effusion into the joint. This was let out by removing a stitch, and progress was uneventful. Three weeks after the operation plaster-of-paris was applied, and he was allowed to go about on a Thomas' splint. The plaster was removed after a month and massage instituted. Recovery was complete, joint function being entirely restored. This operation was in 1895, and in 1898 an operation was performed on another patient for a like condition, the result being equally as satisfactory. [A.B.C.]

Gonorrheal Pyelitis and Nephropyelitis.—M. Wladimirsky[2] has studied 40 cases of kidney disease from Gerhardt's clinic, and has found 8 of them associated with a previous history of gonorrhea; 4 were nephropyelitis following stricture. He relates the case histories of the other 4 minutely. He considers pyelitis and nephropyelitis rare complications of gonorrhea, but thinks that in spite of the difficulty of making a differential diagnosis it may be possible in some cases. Other constitutional diseases, especially tuberculosis and syphilis which often coexist, are very difficult to exclude. But even in cases where the pyelitis can be connected with the gonorrhea, the question remains, Is it due to the gonococcus, or is it a mixed infection? This point it is impossible to solve, and the expression "gonorrheal pyelitis," therefore refers to a coexistence of the two lesions, rather than to a positive causal relation. [E.L.]

Our Present Knowledge of Diseases of the Pancreas.—B. G. A. Moynihan,[3] in a very valuable review of the diseases of the pancreas, treats the subject under the following headings: (1) Experimental work on the pancreas; (2) the signs and symptoms of pancreatic disease; (3) cysts of the pancreas; (4) calculus; (5) pancreatitis—acute, subacute, and chronic. The many good points made cannot be enumerated in an abstract and only a few of the statements regarding pancreatitis will be mentioned. Moynihan thus depicts a characteristic case of acute pancreatitis: "The patient is generally very stout; there is commonly a history of gallstones or indigestion or alcohol. He is suddenly seized with pain in the epigastrium; the pain is agonizing and intolerable; collapse follows, and vomiting sets in. The pulse is rapid and thin; the temperature is slightly elevated, but may be irregular. Jaundice occurs frequently. There is no intestinal obstruction; flatus and often feces passing naturally. At the end of 24 hours the epigastrium which before was tender and rigid, now shows evidence of slight distention, and is more resistant. Cyanosis of the face, abdominal wall, or thighs may be observed. In the most acute cases death occurs in from 3 to 5 days; when suppuration, with or without hemorrhage occurs, the fatal issue results in from 7 to 10 days." If early diagnosis be made, it is reasonable to suppose that drainage of the pancreatic region from behind would prove of value. Subacute pancreatitis must be treated by drainage, preferably through a posterior incision. The only effective and certain treatment of chronic pancreatitis consists in cholecystotomy with prolonged drainage. [A.G.E.]

Causes of Acute Abdominal Pain, Exclusive of Traumatism.—J. Lynn Thomas,[1] in his paper, includes all those conditions comprehended under the designation of acute intestinal obstruction, and that most important class—perforations or rupture of the viscera in the abdominal cavity covered by peritoneum. The assemblage of symptoms which in cases of acute abdominal pain forms the basis of operative interference are: Pain, condition of the abdominal parietes and of the abdominal contents, facial expression, pulse, temperature, and vomiting. All of these the author discusses separately, and points out their significance. Pain in the right hypochondriac region is suggestive of biliary, renal, or pulmonary disorder; in the left hypochondrium, of renal or pulmonary affection; in the epigastrium, of gastric disorder. When pain is in the umbilical region and operation is deemed wise, the incision should be made in the median line and below the umbilicus. Pain in the region of McBurney's point leads one to think of appendicitis or volvulus; in the ovarian region of the female, of disease of the ovary or tubal pregnancy. The author mentions 2 cases of thrombosis of the mesenteric vein, and 10 cases of perforating gastric ulcer which he has operated upon. [A.B.C.]

Nerve Anastomosis: Facial and Hypoglossal.—In a woman of 38, who was suffering with caries of the petrous portion of the temporal bone of otitic origin, W. Korte[2] was forced to divide the facial nerve at the point where it emerges from the stylomastoid foramen, as it interfered with thorough removal of all the diseased bone. A direct nerve fixation was impossible, and upon the strength of Manasse's advice, who during animal experimentation had seen complete recoveries after union of facial with spinal accessory nerve, he sewed the exposed distal end to the hypoglossal nerve, it being more accessible than the accessory nerve. A complete paralysis with reaction of degeneration in the muscles supplied by both nerves followed and lasted for upward of 6 months, when the first signs of returning muscle power appeared. Since then active muscle power, as well as electric irritability, have increased slowly but steadily, until now 11 months after the operation there are no reactions of degeneration, but only quantitative dimunition to both currents. During movement of one set of muscles, there are always associated movements of the other set. Both Korte and Bernhardt,[2] who attended the patient later, advise wherever possible to make use of the spinal accessory nerve, as it is of less importance functionally than the hypoglossal. [E.L.]

Reduction of Old Dislocation of the Humerus.—M. Cavaillon[3] reports the case of an epileptic who 6 months before had received during a convulsion a subcoracoid dislocation of the left humerus. M. Jaboulay decided to attempt reduction by manipulation. With the aid of several assistants this was accomplished, though the head of the bone appeared to be firmly fixed. The scapula was immobilized by means of a sheet passing around the trunk and held by 2 aids. Adhesions were broken by movements of rotation, abduction, and circumduction, these being made slowly, progressively, and without sudden jerks. Traction of the arm in abduction was then made, followed by the use of the humerus as a lever of the first class, the power being applied at the elbow and the fulcrum, consisting of a rolled compress placed under the upper third of the bone. Temporary paralysis of the median nerve followed, but lasted only a short time, and the final result was practically perfect function of the arm. Delbet's statistics of 28 collected cases of arthrotomy with 2 deaths, and 34 cases of resection with 5 deaths are quoted as arguments in favor of attempts at reduction. [A.G.E.]

Perforating Ulcer of the Duodenum.—Bayard Holmes[4]

[1] Annals of Surgery, May, 1903.
[2] Dissertation, Berlin, 1902.
[3] The Practitioner, August, 1903.

[1] British Medical Journal, July 25, 1903.
[2] Deutsche medicinische Wochenschrift, April 23, 1903.
[3] Lyon Médical, August 23, 1903.
[4] Medicine, August, 1903.

reports the case of a man of 66, who, after quite typical symptoms of perforation, had been kept by the family physician under the influence of morphin until the day following. When operation was performed 32 hours after perforation, general peritonitis was present and death occurred the following day. Holmes reports the case because it again emphasizes the complacency with which physicians are accustomed to meet the most alarming emergencies threatening the lives of their patients. In the presence of agonizing manifestations of abdominal distress, the hypodermic should be withheld until the probable pathology and the possibilities of surgical relief are considered. The case is interesting from a pathologic standpoint in that, in addition to the 2 duodenal ulcers, one of which had not perforated, the ventral surface of the pyloric region of the stomach was studded with numerous small excavations which were taken to be beginning gastric ulcers. [A.G.E.]

Hernia of the Bladder Complicating Inguinal Hernia.—G. B. Ferguson[1] reports that a young man had a left, recurrent, irreducible, inguinal hernia after operation for radical cure. The hernia was large and at operation was found largely omental. The neck of the sac was closed, though its total extirpation was impracticable. At the end of the operation a thin, blue, distended cyst, the size of a pigeon's egg, was noticed immediately adjacent to the spermatic cord, and adherent to the remains of the sac. It was thought to be a hydrocele of the cord and was punctured. Fluid escaped and a finger introduced into the cyst passed, at a deeper level, through a constricted neck, into the bladder. The cyst wall was extremely thin. The opening was closed with fine silk, a catheter tied into the bladder for a few days, and the patient made a good recovery. The author states that the mechanism of the condition was plain. After the first operation there was inflammation with suppuration, and an adhesion formed between the remains of the sac and the bladder, the former of which in its redescent drew down with it a diverticulum of the bladder. The author mentions a similar case recently seen by Bower, and a case lately reported by Pollard. [A.B.C.]

Diaphragmatic Hernia; Death from Acute Distention.—This case is reported by T. L. Chadbourne[2] from the Ohio Hospital for Epileptics. The patient was a male epileptic of 30, who died rather suddenly with a syndrome of symptoms consisting of pain in the stomach, dyspnea, and abdominal distention. The illness dated only from the previous day. Autopsy showed great distention of the intestines, and a large defect in the left half of the diaphragm through which had passed the entire stomach, the omentum, and a large part of the colon. Death is supposed to have been due to paralysis of the heart resulting from distention of the intestine. [A.G.E.]

Partial Hepatectomy for Removal of Riedel's Lobe.—C. B. Lockwood[3] defines this as a tongue-shaped piece of healthy liver which hangs from the right lobe. It may be united to the right lobe by a broad thick base, or by a base which has a broad shallow groove which is best seen in front, or by a distinct neck, in which case it hangs from the neck like a huge polypus. He mentions an instance in which another surgeon had operated on a woman who complained of symptoms pointing to gallbladder disease, and a tumor could be felt in the gallbladder region. No stone was found and the abdominal wound was closed. The symptoms did not abate, and the author performed the second operation. He found a soft, but distended, gallbladder this was drained. The tumor, however, proved to be a Riedel's lobe. Another case is mentioned in which a young woman complained of pain in the appendiceal region, and there was a tumor which was diagnosed a displaced kidney, and a pad and support was ordered. Pain continued, and the appendix, which was found healthy, was removed. At this operation the supposedly displaced kidney was found to be a Riedel's lobe of the liver. The operation did not relieve the symptoms, and a second laparotomy was performed, and the lingual lobe, which had a thick broad base, was removed. The incisions in the liver were so made as to form anterior and posterior flaps, and these were united by suture. The gallbladder was normal. The patient recovered and the symptoms were relieved. [A.B.C.]

Sublingual Growth in Infants.—Under this title S. Amberg[1] reports what he believes to be the first recorded case of Riga's disease in the United States. The patient, seen at the Johns Hopkins Hospital Dispensary, was a male of 7 months, who for 4 weeks had had a tumor under the tongue. The growth was attached to the frenulum, and was 1.5 cm. in diameter and 5 mm. thick. It was easily removed with scissors. Amberg gives a review of the literature regarding the affection in question, which occurs most frequently in southern Italy, 23 of the 31 references being to Italian articles. The structure of these growths indicates that they are inflammatory in nature. The etiology is obscure. Prognosis is favorable. [A.G.E.]

Cancer of the Prostate and Suprapubic Prostatectomy.—Reginald Harrison[2] states that his belief is that carcinoma of the prostate is much more common than generally supposed. To differentiate cancer of the prostate and ordinary hypertrophy of that organ is not easy. He gives at some length the symptoms produced by each and calls more especial attention to the different picture presented in the cystoscopic examination of these 2 conditions. He asserts that malignant disease of the prostate is frequently of slow growth. It is little short of a calamity to submit a person to prostatectomy when the enlarged organ is malignant, yet within the past 2 years he has made 2 such mistakes and reports them that others may avoid a similar error. The histories of the cases are reported at considerable length. In any case of malignant disease of the prostate which is recognized, instead of refusing any aid to the patient whatever, recourse should be had to the Röntgen ray treatment. While this has not definitely accomplished sufficiently good results to excite high hopes it nevertheless has given relief in a number of cases and may yet accomplish more than we now know. He reports a number of cases in which he has performed suprapubic prostatectomy with good results. He says there can be no doubt that in a large majority of these cases the prostatic urethra is more or less damaged if not entirely removed. He raises the question of producing stricture in this way. He has seen one case in which there was some evidence of such condition. [A.B.C.]

Pancreatic Cyst.—A. E. Halstead[3] reports this case which is interesting because the patient was under observation for 8 years, the tumor at first being the size of an orange. During the 8 years the tumor grew materially and pressure symptoms finally decided its removal. A probable diagnosis of ovarian cyst was made. Operation showed that the cyst originated in the tail of the pancreas to which it was attached by a pedicle the size of a thumb. Its content was 3 pints of thick, reddish-brown fluid which contained fat-splitting and starch-reducing ferments. Complete recovery followed operation. An unusual feature was that the cyst caused no symptoms except those due to pressure. [A.G.E.]

Richter's Hernia.—James W. Fraser[4] reports the case. A woman of 44 suffered from the symptoms of subacute intestinal obstruction. She was subject to "bilious attacks," and regarded this as one in an aggravated form. Vomiting and constipation persisting, it was believed that an obstruction in some form existed, and laparotomy was performed on the ninth day from the onset of the symptoms. The cause of the trouble was found to be a small Richter's hernia in the right femoral opening, which held a loop of the small intestine in that situation. The patient made an uneventful recovery. The author quotes Treves as stating, in an analysis of 53 cases, that 50% were not diagnosed nor operated on and that all these died. In a number of other undiagnosed cases the herniated part of the bowel sloughed, causing first an abscess and then a fecal fistula. A third of the 53 cases had typical signs of acute strangulation, but in a tenth there was an action of the bowels early in the attack; in the rest there were motions from time to time, and in 3 there was diarrhea. Vomiting was usually not severe and became less in the later stages. The hernial tumor was difficult to feel and more difficult to reduce. [A.B.C.]

[1] British Medical Journal, July 25, 1903.
[2] American Journal of the Medical Sciences, August, 1903.
[3] Lancet, July 25, 1903.

[1] American Journal of the Medical Sciences, August, 1903.
[2] British Medical Journal, July 4, 1903.
[3] Chicago Medical Recorder, July, 1903.
[4] Lancet, July 11, 1903.

TREATMENT

SOLOMON SOLIS COHEN
H. C. WOOD, JR. L. F. APPLEMAN

REVIEW OF LITERATURE

Aortic Affections in Children.—M. Mery[1] states that rheumatic infection constitutes the most frequent cause of lesions of the cardiac and vascular systems in children. He recognizes 2 sorts of aortic affections: In the first, the infectious agents localize themselves on the valves and produce aortic insufficiency, with or without contraction; in the second, the inflammation affects the aorta itself and causes aortic dilation, and nearly always an insufficiency. Mery reports 2 cases illustrative of these 2 conditions. The first case was in a patient aged 10 who, when first seen, was suffering from rheumatic pains in the limbs and aortic insufficiency. His temperature ranged from 100° F. to 102° F. Administration of the salicylates caused reduction of the temperature and disappearance of the pains. Several days later a new murmur was heard for the first time in the aortic region, which was transmitted to the vessels of the neck, showing that contraction of the aortic leaflets had occurred. Still later, a mitral systolic murmur developed, which was transmitted toward the axilla. The patient also developed chorea, more marked on the left side. The prognosis in these cases is often dependent upon the state of the pericardium; in this case the pericardium was healthy, but owing to the intensity of the lesions the prognosis was unfavorable. In the second patient, aged 12, was found an inflammation of the aorta with dilation, causing insufficiency of the aortic valve and dilation of the heart. The trouble began by violent palpitations, which came on suddenly, accompanied by vague pains in the right knee. These pains in the limbs in children are often manifestations of rheumatic infection. The treatment of cardiac and vascular complications of rheumatism consists in complete rest to the heart; avoidance of violent exercise, the application of a counterirritant to the precordium, and the internal use of sodium salicylate at the onset. If the heart fails, tincture of strophanthus may be administered cautiously in the dose of 1 drop or 2 drops. [L.F.A.]

Sialogogs: Their Therapeutic Employment.—W. G. A. Robertson[2] refers to those substances which exert a local sialocinetic action and he gives the result of investigations as to whether the secretion induced by them varied in amount, alkalinity or starch-converting power. The experiments were made in the evening on account of physiologic variations normally occurring during the day. He gives a table of 48 substances, each masticated for 30 minutes, the saliva so secreted, being measured every 2 minutes. Bitter substances, as calumba, cusparia, gentian, and cinchona, exert a distinctly stimulating action, while pyrethrum, ginger, and colchicum stand still higher. Horse-radish and black pepper, citric and tartaric acids hold the foremost places. The alkalinity remained practically the same throughout the experiments. Catechu, rhubarb, alum, and borax, check the converting action of ptyalin. Alkaline salts, as soda, are not so inhibitory as acids. Pepper and horse-radish produce the most sugar. In persons suffering from amylaceous dyspepsia great benefit and even cure can be obtained by slow mastication. In aggravated cases Robertson advises chewing for 10 minutes after meals one of the more potent and palatable sialogogs, as ptyalin remains active in the stomach for from 45 to 60 minutes. In hyperchlorhydria we should aim to secure the digestion of the amylaceous constituents of the meals before the free acidity has had time to check proteolysis. Besides this, the alkalinity of the saliva swallowed delays the period when free acid appears. When gastric secretion is diminished the saliva stimulates a more copious flow. [H.M.]

Dietetic Treatment of Chronic Nephritis.—The diet found the most serviceable in chronic nephritis by Victor C. Vaughan[3] is, excepting cream and butter, wholly of vegetables. Meat in any and every form and eggs and milk are forbidden. This diet, both theoretically and clinically, best accomplishes the desired object, which is to alter profoundly the proteids in the circulating blood. The cream should not contain more than 1% proteid, and should be limited to 500 gm. (1 pint) daily. Among the cereals corn-meal mush is preferred, but oatmeal or cracked wheat may be substituted. Plenty of sugar is allowed for the mush and zwieback, and butter and potatoes complete the substantials of the ration. Peas and beans, either fresh or canned, green vegetables, fruits and melons are also allowed. There is no difficulty in living upon such a diet, and in a few weeks patients lose all desire for meat and eggs and wonder why they were formerly so fond of them. Vaughan says that a scientific demonstration of the value of any diet in chronic nephritis must consist in determining the relative toxicity of the blood-serum of the patient, under different diets, upon animals. This has not been done and offers a promising field of research. [A.G.E.]

Hemophilia.[1]—This condition is usually hereditary. Neither hygiene nor social conditions have any influence on it. The hemorrhages are external or interstitial, and are characterized by their frequency and duration. Examination of the blood reveals no special alteration; it is similar in character to that seen in posthemorrhagic anemia. The disease is very grave. According to Litten, 60% of patients suffering from hemophilia die before the age of 8, 11% only passing 22 years. The treatment is first prophylactic. The patient should be cautioned to avoid falls, contusions, and wounds. He should undergo no surgical operation. Hayem recommends heat as a hemostatic measure; his observations having shown that an elevation of the temperature to 122° F. renders the blood in these cases nearly normal in coagulability. Sodium sulfate has also been recommended during the intervals between hemorrhages in 2-grain doses every 2 hours. Small doses of quinin sulfate may be administered at the same time. This treatment should be continued 8 days. For the next 8 days, ergot and tannin should be administered as follows:

Ergotin	5 cc.	(75 m.)
Tannin	2.5 gm.	(37 gr.)
Syrup of conirey	180 cc.	(6 oz.)

One dessertspoonful after each meal.

During the period of hemorrhage, the best remedy is calcium chlorid in doses of from 2 gm. to 4 gm. (30 gr. to 60 gr.) in 24 hours. In gastrointestinal hemorrhages, this drug may be added to hot enemas to control the bleeding. The internal administration of adrenalin is of no value; this drug should be reserved for those cases in which it can be applied directly. The patient should remain in bed and make as few movements as possible. After the bleeding has been stopped, iron and arsenic should be administered. [L.F.A.]

Serum Therapy in the Typhoid Fever of Children.—A. Josias[2] reports that the average deathrate from typhoid among children in Parisian hospitals where they are treated by cold bathing and drugs, averages 14.2%, while in the Bretonneau Hospital, where they are treated by antityphoid serum of Chantemesse and cold bathing (72° F.) it is only 4%. Of the 50 children so treated a few had eruptions similar to those after use of other serums. When treated at the onset the dose given was 1 cc. to every 30 kilos of weight. If the fever is at its height, the patient adynamic, delirious, or ataxic, the dose must be half or less. He injects into the forearm with strict asepsis, covering the point with surgical wool. For 24 hours after, the diet should be only water and 2 or 3 liters of a light fruit drink. In the second 24 hours a liter of milk may be added; in the third 24 hours, 2 liters, and on the fourth day milk and broth may be given. When the temperature rises to 102.6° a bath should be given, otherwise cold sponging is sufficient. As a rule, the temperature descends on the day of injection, and continues to fall until convalescence. This occurred in fully one-third of the cases, and in none did the temperature afterward attain a dangerous pyrexia. Patients inoculated before the seventh day made a quick recovery. In a few grave cases the serum did not seem to influence either temperature or duration. In cases responding by a gradual fall of temperature a mild relapse occurred, for which there seemed no other reason than

[1] Journal des Praticiens, Vol. xvii, No. 43, 1903, p. 676.
[2] Scottish Medical and Surgical Journal, July, 1903.
[3] Northwest Medicine, September, 1903.

[1] Journal des Praticiens, Vol. xvii, No. 36, 1903, p. 569.
[2] Medical Press and Circular, July 29, 1903.

the elimination of the serum from the system. Young children sometimes complain of severe pain in the bowel several days after injection, creating a suspicion of peritonitis. [H.M.]

The Oat Cure in Severe Diabetes Mellitus.—C. von Noorden[1] states that diabetic subjects show a considerable decrease in the quantity of sugar excreted when allowed nothing but large amounts of oats; butter, and simple proteids may be allowed, but no other carbohydrates, and no meat. With the lessening of the sugar there is a simultaneous decrease in the amount of acetone and ammonia. Care must be taken in returning to the ordinary diabetic diet, as acetone is likely to return in large quantities. This diet is prepared by cooking oat flakes or oat flour for a long time in water, to which is added salt, butter, and a vegetable proteid—or, after cooling, the beaten whites of eggs. The oat cure begins by giving daily, 250 grams of oats, 100 grams of egg albumen, and 300 grams of butter. A soup is prepared from these substances which is administered every 2 hours. Occasionally a little cognac or wine and a small amount of strong black coffee is permitted. Von Noorden reports 5 patients treated in this manner, and publishes tables showing the effect of variations in this diet upon the various urinary elements. He concludes that while this method is excellent in a certain number of cases, it is not advisable in all cases, and in some may be harmful. [W.E.R.]

Benign Postoperative Jaundice.—R. deBovis[2] reports 2 cases of jaundice following surgical and obstetric operations. The first case was in a young man upon whom deBovis operated for a small inguinal hernia. Chloroform was used as an anesthetic and the operation lasted about a half hour. Healing occurred by first intention. On the second day, jaundice appeared which by the third day had increased in intensity. The urine was characteristic of this condition. The temperature and pulse were normal. Toward the sixth day, it began to disappear rapidly. The second case was in a woman in whom there was rigidity of the os during labor due to thickening and cicatrization as a result of previous labors. In order to facilitate delivery, the tissues were incised under anesthesia. Three days later jaundice appeared, which was accompanied by a slight decrease in temperature. It diminished gradually and when discharged 12 days later it had entirely disappeared. Similar cases are referred to which have been reported by various writers. DeBovis believes that aside from jaundice due to injuries to the liver and to chloroform intoxication which is of a grave prognosis, there is a form of jaundice following operations, which is benign in character and of short duration due to simple biliary retention by reflex action. [L.F.A.]

Epidural Injections in the Treatment of Enuresis.—Georg Kapsammer[3] discusses the etiology and therapeutics of the different forms of enuresis, excepting that due to organic change, and then gives the history of 37 patients treated by epidural injections of 4 cc. to 10 cc. of a ¼% to ½% cocain solution, or of 3 cc. to 20 cc. of physiologic salt solution, as suggested by Cathelin. In 25 cases the treatment resulted in cure. Cocain was used in 14 cases, and normal saline solution in the others. Of the 25 patients cured, 19 had nocturnal enuresis and 6 nocturnal and diurnal enuresis. In 6 cases, various methods had been previously used without success. In 1 case the patient was well after 14 months, in another after 10 months, in another after 8 months, in 2 after 6 months, in 6 after 5 months, in 6 after 4 months, in 2 after 3 months, in 5 after 2 months, and in 1 after 1 month. In 8 cases the cure was established after the first injection; in 2 cases after the second injection; in 1 case after the third injection, though the last 3 were continent after the first injection. Four were cured after 2 injections. In 1 case 13 injections of cocain were given, in another 12 injections of serum. In 6 other cases the symptoms improved, but the results were of so short duration that they were not included in the statistics. The 6 remaining patients were still under treatment. Kapsammer was unable to distinguish any difference in the effect of cocain and of saline solutions. He made 300 epidural injections, with reaction in only 2 cases. In the first case there was vomiting immediately after the injection; in the second case there was vomiting the following day and pain at the site of injection. Both children were well the next day. Kapsammer believes the injections act by producing trauma in the paths of the sacral nerves, whereby the tone of the sphincter reflexly becomes either increased or diminished. He looks upon the method as free from danger, but emphasizes the fact that the operation should be done with the same aseptic precaution as in laparotomy. [J.H.W.R.]

Treatment of Syphilis by Intramuscular Injections of Hermophenyl.—Nicolles[1] recommends hermophenyl as one of the best soluble compounds of mercury for intramuscular injection in the treatment of syphilis. This preparation is an organic compound containing 40% of mercury which is very soluble in water. It is used in all stages of syphilis in the dose of 1 cc. (16 minims) of a 1% solution. In grave cases, the strength of the solution may be increased. No symptoms of intoxication have been seen after its use. [L.F.A.]

The Chewing-gum Cure.—Bergmann[2] has discovered in chewing-gum a new remedy for many serious complaints. According to him, this article, so commonly used for the purpose of occupying the mind, has a wonderful power to relieve such obstinate conditions as obesity, dropsy, as well as milder affections as pharyngitis, etc. He states that in sore throat the constant bathing of the inflamed parts with the soothing salivary secretion is capable of greatly allaying the irritation. In hyperacidity of the gastric secretion the swallowing of large quantities of alkaline saliva necessitated by chewing, acts both as an antacid and as a sedative to the inflamed gastric mucosa. Its value in dropsy depends upon the loss of water through expectoration of the secreted saliva. He states that it is possible to eliminate in this manner from 400 cc. to 1,000 cc. per day. According to him, a similar action makes it valuable in cases of excessive corpulence. [H.C.W.]

The Therapeutic Uses of Lecithin.—Wood[3] publishes a summary of our knowledge concerning lecithin. Lecithin, it will be remembered is a phosphorus holding substance found in the central nervous system as well as other tissues of the body and occurring in large amounts in the yolks of eggs. It has been shown to have a favorable influence on nutritive processes and has been used with asserted good results in tuberculosis, neurasthenia and chlorosis. It has been given both hypodermically and by the mouth. The dose employed should be from 0.1 gms. to 0.3 gm. (1 gr. to 5 gr.) [H.C.W.]

FORMULAS, ORIGINAL AND SELECTED.

Hair Dyes.[4]—For persons who dread becoming gray-haired or who wish to change the color of the hair, the following methods may be employed: To obtain a black color, silver nitrate is one of the best substances to employ. It is employed as follows:

Silver nitrate	4 gm.	(1 dr.)
Lead acetate	1 gm.	(16 gr.)
Rose water	100 cc.	(3½ oz.)
Cologne water	.36 cc.	(6 m.)

Before using this, the hair should be washed with soap and water to remove the grease, and then allowed to dry. After the application, the skin is washed with salt water to prevent its discoloration.

Two liquids are frequently employed, as follow:

No. 1.	Silver nitrate	4 gm.	(1 dr.)
	Distilled water	45 cc.	(12 dr.)
No. 2.	Pyrogallic acid	3 gm.	(45 gr.)
	Alcohol	10 cc.	(2½ dr.)
	Distilled water	40 cc.	(10 dr.)

To obtain a brownish discoloration, reduce the quantity of pyrogallic acid to 1 gm. (15 gr.). This preparation is irritating to the skin.

To obtain a blond discoloration, hydrogen dioxid water is most frequently employed. This must be applied for several days in succession. It tends to make the hair brittle. Another preparation is obtained by boiling 155 gm. (5 oz.) of rhubarb in 1 pint of white wine until the quantity is reduced one-half; to apply, dip the hair in this solution and allow it to dry. [L.F.A.]

[1] Berliner klinische Wochenschrift, September, 7, 1903.
[2] La Semaine Médicale, Vol. xxiii, No. 36, 1903, p. 293.
[3] Wien. klin. Woch., Nos. 29 and 30, 1903.

[1] Bulletin Général de Thérapeutique, Vol. cxlv, No. 3, 1903, p. 108.
[2] Die Therapie der Gegenwart, 1903, v, p. 200.
[3] Merck's Archives, 1903, 5, 257.
[4] Journal des Praticiens, Vol. xvii, No. 43, 1903, p. 679.

THE PUBLIC SERVICE

Health Reports.—The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended December 18, 1903:

	SMALLPOX—UNITED STATES.	Cases	Deaths
California:	San Francisco.....Nov. 29-Dec. 6.....	1	
Illinois:	Belleville.....Dec. 5-12.....	1	
	Chicago.....Dec. 4-11.....	1	
Louisiana:	Baton Rouge.....Nov. 28-Dec. 5.....	1	
	New Orleans.....Dec. 5-12.....	2	imp'rt'd
Massachusetts:	Boston.....Nov. 28-Dec. 5.....	1	
	North Adams.....Dec. 5-12.....	1	
Michigan:	Port Huron.....Dec. 5-12.....	1	
New Hampshire:	Manchester.....Dec. 5-12.....	2	
New Jersey:	Camden.....Dec. 5-12.....	1	
New York:	New York.....Dec. 5-12.....	2	
Ohio:	Cincinnati.....Dec. 4-11.....	4	
	Dayton.....Dec. 5-12.....	1	
	Youngstown.....Dec. 5-12.....	12	
Pennsylvania:	Altoona.....Nov. 30-Dec. 12.....	3	
	Carbondale.....Nov. 30-Dec. 7.....	2	
	Erie.....Dec. 5-12.....	3	
	Johnstown.....Dec. 5-12.....	3	2
	McKeesport.....Dec. 5-12.....	2	
	Norristown.....Dec. 5-12.....	1	
	Philadelphia.....Dec. 5-12.....	67	16
	Pittsburg.....Dec. 5-12.....	25	8
	Reading.....Dec. 7-14.....	1	
Tennessee:	Memphis.....Dec. 5-12.....	20	
Utah:	Ogden.....Nov. 1-30.....	1	
Wisconsin:	Milwaukee.....Nov. 28-Dec. 12.....	11	
	SMALLPOX—FOREIGN.		
Colombia:	Barranquilla.....Nov. 22-29.....		2
Brazil:	Rio de Janeiro.....Nov. 8-15.....	36	35
Ecuador:	Guayaquil.....Nov. 14-21.....		1
France:	Lyons.....Nov. 14-21.....		1
	Paris.....Nov. 21-28.....		7
	Rouen.....Nov. 1-30.....		3
Great Britain:	Glasgow.....Nov. 27-Dec. 5.....	20	3
	London.....Nov. 14-28.....	10	
	Manchester.....Nov. 21-28.....	4	
	Newcastle-on-Tyne..Nov. 21-28.....	1	1
	Nottingham.....Nov. 21-28.....	2	
Italy:	Catania.....Nov. 19-26.....		4
Mexico:	Monclova.....Dec. 10.....	1	
Russia:	Moscow.....Nov. 14-21.....	3	1
	St. Petersburg.....Nov. 14-21.....	59	
	Warsaw.....Oct. 31-Nov. 7.....		1
Turkey:	Constantinople.....Nov. 15-22.....		6
	YELLOW FEVER—UNITED STATES.		
Texas:	Laredo.....Dec. 8-15.....	7	2
	YELLOW FEVER—FOREIGN.		
Brazil:	Rio de Janeiro.....Nov. 8-15.....	3	1
Ecuador:	Guayaquil.....Nov. 21-28.....		1
Mexico:	Coatzacoalcos.....Nov. 28-Dec. 5.....	1	
	CHOLERA—FOREIGN.		
India:	Calcutta.....Nov. 1-14.....		50
Japan:	Nagasaki.....Nov. 10-20.....	33	18
Straits Settlements:	Singapore.....Oct. 24-31.....		35
	PLAGUE—FOREIGN.		
Africa:	Cape Colony.....Oct. 17-24.....	2	
Brazil:	Rio de Janeiro.....Oct. 8-15.....	40	17
Egypt:	Alexandria.....Nov. 7-13.....		1
	Samallut.....Nov. 7-13.....	1	1
India:	Bombay.....Nov. 3-17.....		103
	Calcutta.....Nov. 1-14.....		35
	Karachi.....Nov. 1-8.....	7	7
Japan:	Yokohama.....Oct. 31-Nov. 7.....	1	1

Changes in the Medical Corps of the U. S. Army for the week ended December 19, 1903:

PINQUARD, JOSEPH, contract surgeon, now at Vinita, I. T., will proceed to San Francisco, Cal., and report for transportation to the Philippine Islands.

PRENTICE, ARTHUR D., contract surgeon, now at San Francisco, Cal., will report to the commanding general, department of California, for transportation to the Philippine Islands.

DONAHEY, WILLIAM J., sergeant first class, Army and Navy General Hospital, Hot Springs, Ark., will proceed to Manila, P. I.

GRAY, Major WILLIAM W., surgeon, is detailed to represent the medical department of the Army at the meeting of the Southern Surgical and Gynecology Society, to be held at Atlanta, Ga., December 15 to 17.

VAN DUSEN, First Lieutenant JAMES W., assistant surgeon, leave granted on surgeon's certificate, November 23, is extended one month on account of sickness.

SHOCKLEY, Major A. W., assistant surgeon, leave granted November 6 is extended ten days.

So much of orders of November 19 as relate to Contract Surgeon George Newlove is amended so as to direct him to proceed to New York City on December 18 and report on board the transport Kilpatrick, to proceed to Manila, P. I.

BANTA, First Lieutenant WILLIAM P., assistant surgeon, is granted leave for one month, to take effect upon return of the First Squadron, First Cavalry, from target practice.

COWPER, HAROLD W., contract surgeon, now at Buffalo, N. Y., will proceed to San Francisco, Cal., and report for transportation to the Philippine Islands.

HARTSOCK, First Lieutenant FREDERICK M., assistant surgeon, will report to Major William H. Arthur, surgeon, president of the examining board at the Army Medical Museum Building, Washington, D. C., for examination for advancement.

OLIVER, ROBERT T., contract examining and supervising dental surgeon, is relieved from duty in the division of the Philippines, and will proceed to West Point, N. Y., and report to the superintendent of the U. S. Military Academy for duty, to relieve Contract Examining and Supervising Dental Surgeon John H. Hess, U. S. Army, who will proceed to San Francisco, Cal., and report for transportation to the Philippine Islands.

KENDALL, Major WILLIAM P., surgeon, having completed the duty for which he was ordered to Washington, D. C., will proceed to New York City for the purpose of consulting with the medical supply officer in that city in regard to the purchase of instruments and equipment for the new operating-room at the U. S. General Hospital, Presidio, and upon the completion of this duty will return to his proper station.

CRABTREE, First Lieutenant GEORGE H., assistant surgeon, is granted leave for fifteen days, from December 21.

The following named officers will report to Lieutenant-Colonel George H. Torney, deputy surgeon-general, president of the examining board at the U. S. Army General Hospital, Presidio, for examination for advancement: First Lieutenant George P. Peed, assistant surgeon; First Lieutenant Henry D. Thomason, assistant surgeon.

The following named officers will report to Major William H. Arthur, surgeon, president of the examining board at the Army Medical Museum Building, Washington, D. C., for examination for advancement: First Lieutenants Walter D. Webb, Wilfred Turnbull, and Ralph S. Porter, assistant surgeons.

Changes in the Public Health and Marine-Hospital Service for the week ended December 17, 1903:

BAILHACHE, PRESTON H., surgeon, detailed to represent the Service at the "Convention to Consider the Questions Involved in Mosquito Extermination," to be held in New York, December 16—December 4, 1903.

IRWIN, FAIRFAX, surgeon, granted leave of absence for two days from December 24—December 17, 1903.

BROOKS, S. D., surgeon, to rejoin station at Savannah, Ga.—December 16, 1903.

WHITE, J. H, surgeon, granted leave of absence for five days from December 17—December 16, 1903.

CARRINGTON, P. M., surgeon, three days' leave of absence from December 15, 1903, under paragraph 189 of the regulations.

GUITERAS, G. M., surgeon, granted leave of absence for three months from December 19—December 16, 1903.

PERRY, J. C., passed assistant surgeon, detailed to represent the Service at the "Convention to Consider the Questions Involved in Mosquito Extermination," to be held in New York, December 16—December 15, 1903.

GREENE, J. B., passed assistant surgeon, upon being relieved at Cleveland, Ohio, by Passed Assistant Surgeon H. S. Mathewson, to proceed to Habana, Cuba, for duty in office of U. S. Consul-General, relieving Assistant Surgeon F. E. Trotter—December 16, 1903.

MATHEWSON, H. S., passed assistant surgeon, relieved from duty at Detroit, Mich., and directed to proceed to Cleveland, Ohio, and assume command of the Service at that port, relieving Passed Assistant Surgeon J. B. Greene—December 16, 1903.

VON EZDORF, R. H., passed assistant surgeon, relieved from duty at Laredo, Tex., and directed to proceed to Washington, D. C., and report at Bureau—December 15, 1903.

BILLINGS, W. C., assistant surgeon, granted leave of absence for fourteen days from December 13—December 14, 1903.

KERR, J. W., assistant surgeon, to proceed to Ellis Island, New York, N. Y., and report to Surgeon G. W. Stoner for duty—December 12, 1903.

GOLDBERGER, JOS., assistant surgeon, to report to director of Hygienic Laboratory for duty—December 8, 1903.

TROTTER, F. E., assistant surgeon, upon being relieved from duty at Habana, Cuba, by Passed Assistant Surgeon J. B. Greene, to proceed to San Francisco, Cal., and report to medical officer in command for duty and assignment to quarters—December 16, 1903.

LLOYD, B. J., assistant surgeon, to proceed to Concord, Cal., for special temporary duty—December 15, 1903.

STIMSON, A. M., assistant surgeon, granted leave of absence for seven days from December 8, 1903, under paragraph 191 of the regulations.

FOSTER, A. D., assistant surgeon, to proceed to Ellis Island, New York, and report to Surgeon G. W. Stoner for temporary duty—December 11, 1903.

BALLARD, J. C., acting assistant surgeon, granted leave of absence for five days from December 24—December 16, 1903.

SAFFORD, M. V., acting assistant surgeon, granted leave of absence for four days from December 14, 1903, under paragraph 210 of the regulations.

STEARNS, H. H., acting assistant surgeon, granted leave of absence for fourteen days from December 18, 1903—December 15, 1903.

MAGUIRE, E. S., pharmacist, department letter of November 21, granting Pharmacist Maguire leave of absence for thirty days from November 1, 1903, amended so as to read thirty days from December 1—December 12, 1903.

GIBSON, R. H., pharmacist, granted leave of absence for eight days from December 24—December 15, 1903.

RYDER, L. W., pharmacist, department letter of December 9, granting Pharmacist Ryder leave of absence for fifteen days from December 10, amended to read fifteen days from December 7—December 11, 1903.

Board Convened.

Board convened to meet in Philadelphia, Pa., December 17, 1903, for the physical examination of an officer of the Revenue Cutter Service. Detail for the Board—Surgeon Fairfax Irwin, chairman; Assistant Surgeon W. A. Korn, recorder.

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